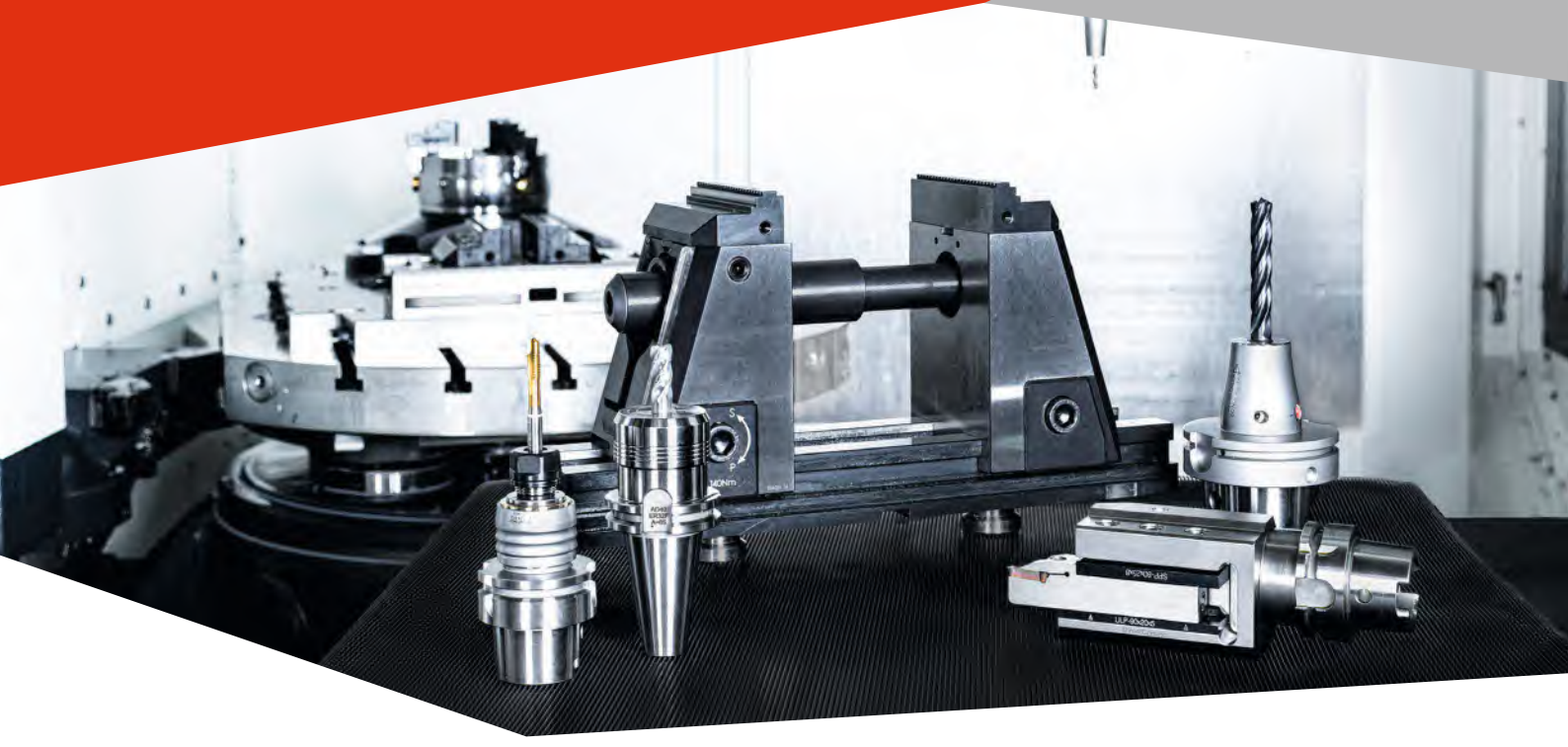


eCatalog

Cutting Tools and Clamping Technology



Tooling a Sustainable Future

ceratizit.com

CERATIZIT GROUP

Empowering Industries with Tungsten Carbide

Sustainably. Securely. Globally.

We are a globally leading high-technology engineering group specialized in cutting tools and hard material solutions.



PLATINUM Top 1%

ecovadis

Sustainability Rating

NOV 2025

100+ years
of innovation
in hard materials

Top 1%
in sustainability performance
(EcoVadis Platinum)

Full control
of the value chain – from raw material to finished tool

1,000+
patents

~7,000+
employees

100+
in R&D

CERATIZIT GROUP



Global Presence

Today we are one of the **world's largest players** in the **carbide industry**.

Because **we are where you are.**



17 **CERATIZIT**
Production

70+ **Sales**

9 **CB-CERATIZIT***
Production

4 **Global Tungsten & Powder**
Carbide, powder & recycling

* Joint venture

Expert for machining and full-range supplier of high-quality tool systems

As a leading global manufacturer of precision tools, CERATIZIT develops specific tool solutions that are precisely tailored to its customers' manufacturing requirements – supported by a broad portfolio of more than 75,000 tools for turning, drilling, milling, and clamping technology, as well as comprehensive application expertise



Complete tool portfolio



Application Specialist



Global production and sales network

Core products

- ▲ General Machining
- ▲ Automotive
- ▲ Aerospace
- ▲ Hydraulics
- ▲ Consumer Electronics
- ▲ Heavy Machining
- ▲ Transport Industry
- ▲ and more …

Services

- ▲ Project Engineering
- ▲ Regrinding Service
- ▲ ToolSupply
- ▲ Cutting Data & CAD
- ▲ Technical Training & Advice
- ▲ Global Technical Center Network for
- ▲ Training
- ▲ ToolSelect

Industries served

- ▲ Standard tools
- ▲ Semi-standard tools
- ▲ Special tools

All from a single source

CERATIZIT GROUP


140Nm
ULP-90x20xS

CERATIZIT Cutting Tools Product Portfolio

The more complex the manufacturing, the more valuable a portfolio where the best choice is immediately apparent.

With clearly defined product lines and product families, CERATIZIT's new portfolio structure leads precisely to the right solution. The result is less searching, faster decisions, and greater process reliability.



CERATIZIT GROUP

CoreLine

Gold standard with the CoreLine

CERATIZIT's CoreLine is a clearly structured, immediately available product line for all common machining tasks in industrial metal cutting—developed to simplify selection and accelerate decisions. It stands for reliable quality, easy procurement, and high delivery reliability. In addition, it offers technical variants with which customers can achieve either the best price-performance ratio or higher productivity, depending on their needs. The result: a faster and more transparent route to the right solution, more efficient processes, and noticeably more agile decisions in production.

Find more information online ›

Advanced Lines

Advanced Lines bundle performance specialists

Names already established in the CERATIZIT world will in future represent entire product families and stand for clear application and performance profiles: **MonsterMill** addresses high-performance milling, **EcoCut** bundles multifunctional tools, **WTX** stands for solid-carbide drilling, **SilverLine** for solid-carbide milling, **MaxiMill** for indexable-insert milling, and **HyPower** for clamping and adapter technology. The shift towards performance promises that can be read from the product family name simplifies communication and supports quick, reliable decisions.

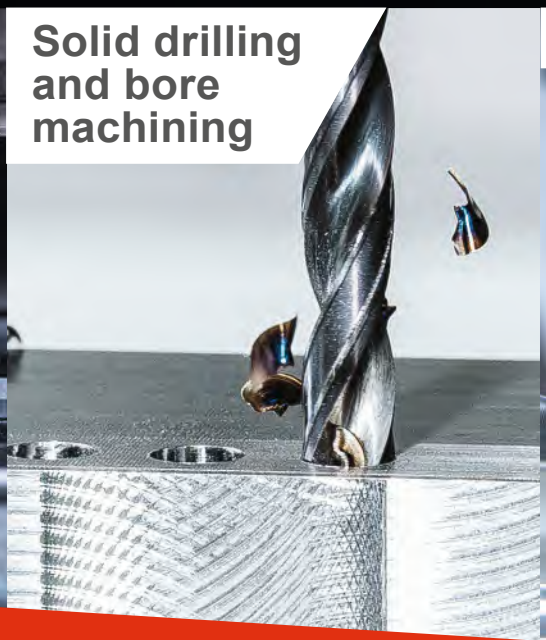
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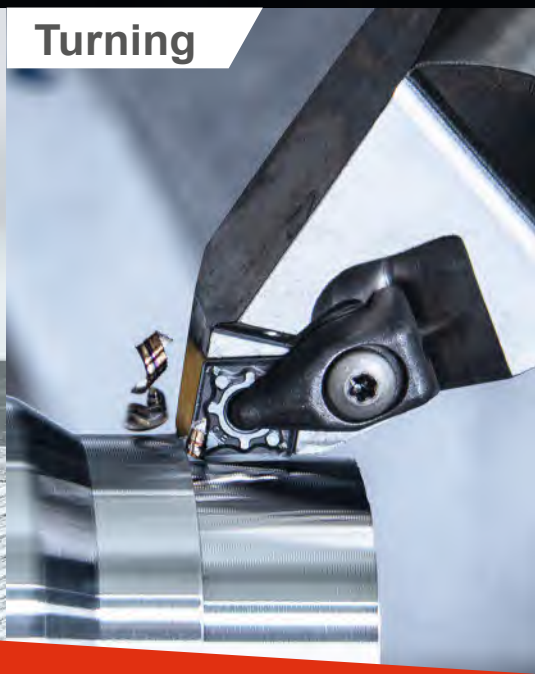


Explore All Our Application Areas

Whether milling, solid drilling and bore machining, turning, threading, boring or clamping technology, we offer a wide selection of innovative, state-of-the-art products for every area of application.







CERATIZIT GROUP

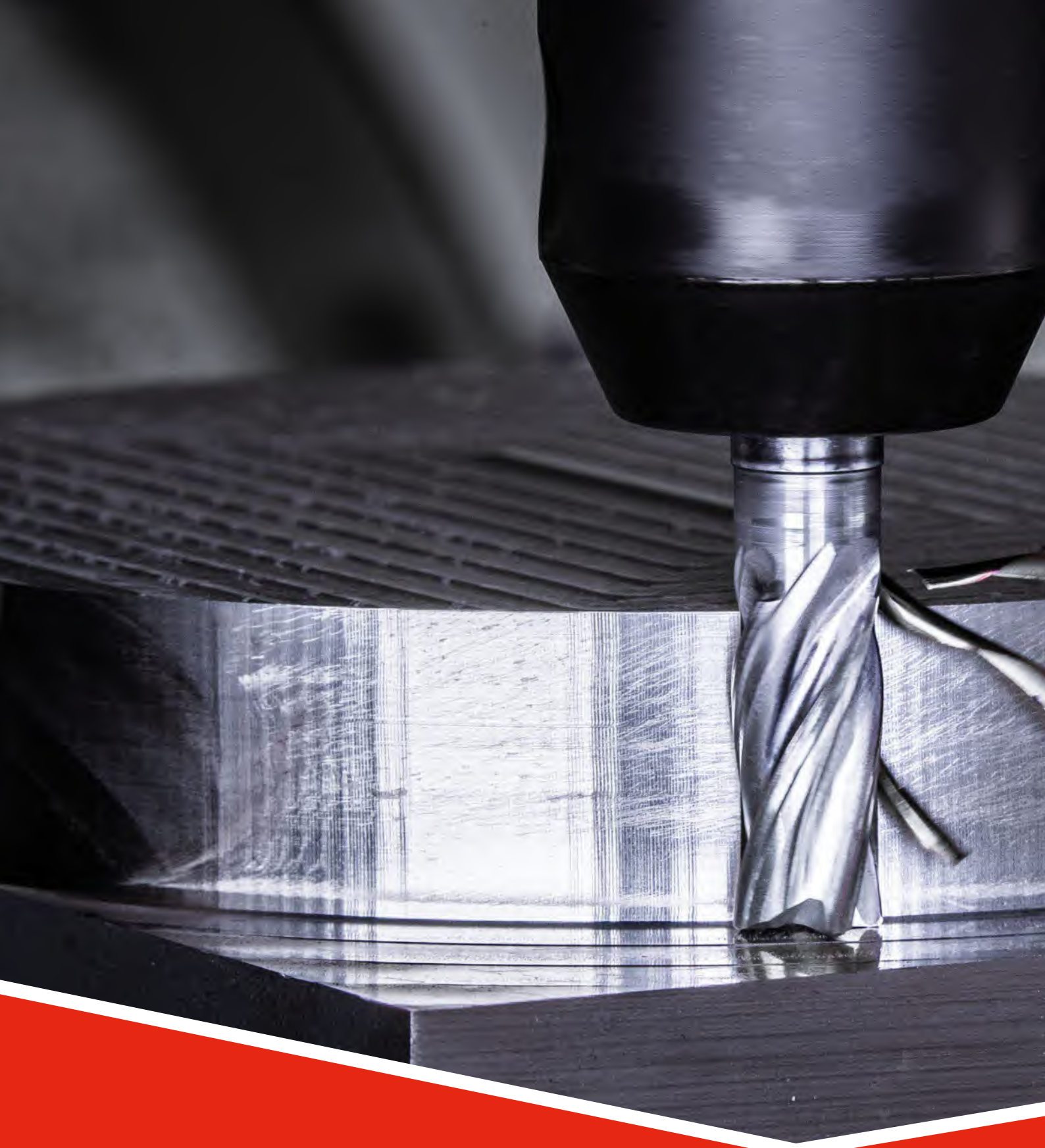


Threading



Clamping technology





CERATIZIT GROUP

Solid Milling



Contents

→ Explanation of symbols
→ Toolfinder
→ Content overview
→ Product program
Technical information
→ Selection guide for cutters for plastic, fiberglass, carbon fiber
→ Cutting data
→ Feedrate guide
→ Trochoidal milling
→ General information
→ Version description
→ Coatings

Explanation of symbols

Shank


Shank type


Overall length: extra-short / short / medium / long / extra-long


Axial through coolant


Radial through coolant

Cutting edge preparation


Square end


Corner chamfer (CHW = chamfer width in inch)


Corner radius


Full radius


Type of cutting edge



Application



High-volume machining



High-feed milling



Hard machining


Machining example


The red arrows indicate the possible feed directions



Cutting edge geometry
λ_s = Helix angle
γ_s = Rake angle



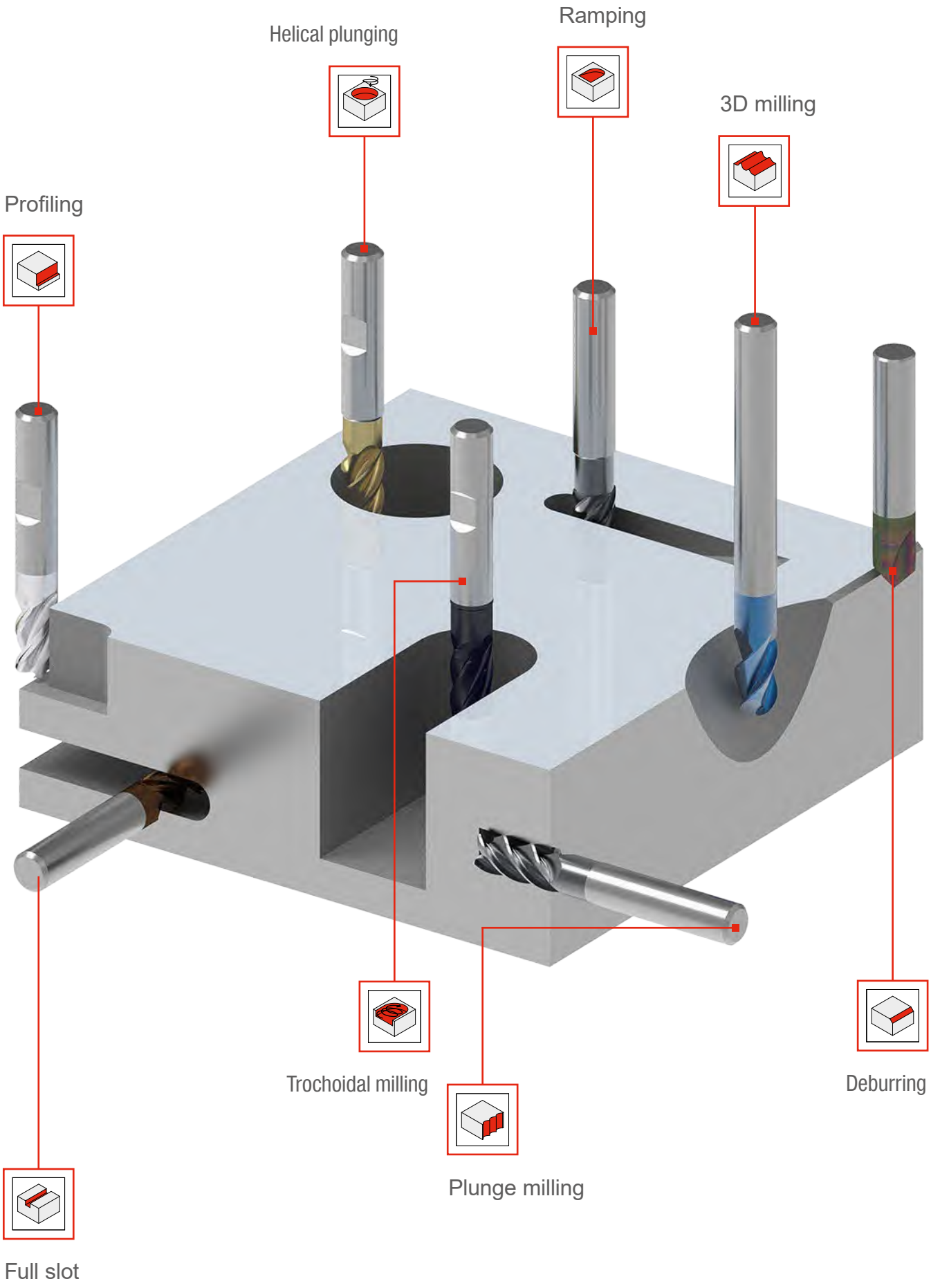
Variable helix angle



Unequal Helix

ZEFP = Number of teeth
● = **Main application**
○ = Secondary application

Toolfinder


Helical plunging
Ramping
3D milling
Profiling
Trochoidal milling
Deburring
Plunge milling
Full slot

Toolfinder

P – Steel

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNImax SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI	MonsterMill PCR-UNI SilverLine	SilverLine
CoreLine	SCR MCR CCR-UNI Micro cutters MultiLock N MultiChange PCR-UNI MultiChange N/NF	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N	SCR 3D Finish N Micro cutters MultiLock N MultiChange N	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N	CCR-UNI	MonsterMill PCR-UNI	MultiLock N MultiChange N

M – Stainless steel

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill S-Cut UNI SilverLine	MonsterMill S-Cut UNI SilverLine	MonsterMill S-Cut UNI SilverLine		MonsterMill S-Cut UNImax SilverLine	MonsterMill S-Cut UNI		SilverLine
CoreLine	ICR CCR-VA Micro cutters	ICR	ICR	3D Finish N Micro cutters	Micro cutters	CCR-VA		

K – Cast iron

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI SilverLine	SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNImax SilverLine	MonsterMill PCR-UNI MonsterMill S-Cut UNI	MonsterMill PCR-UNI SilverLine	SilverLine
CoreLine	SCR MCR CCR-UNI Micro cutters MultiLock N MultiChange PCR-UNI MultiChange N/NF	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N	SCR 3D Finish N Micro cutters MultiLock N MultiChange N	SCR MCR MultiLock N MultiChange PCR-UNI MultiChange N		MonsterMill PCR-UNI	MultiLock N MultiChange N

Toolfinder

N – Non-ferrous metals

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill PCR-ALU AluLine	MonsterMill PCR-ALU AluLine	MonsterMill PCR-ALU AluLine	AluLine	MonsterMill PCR-ALU AluLine	MonsterMill PCR-ALU	MonsterMill PCR-ALU AluLine	AluLine
CoreLine	CCR-AL PCD milling cutters Micro cutters MultiChange PCR-ALU MultiChange NF	CCR-AL PCD milling cutters MultiChange PCR-ALU	CCR-AL MultiChange PCR-ALU	PCD milling cutters 3D Finish N Micro cutters MultiChange W MultiChange N	PCD milling cutters Micro cutters MultiChange PCR-ALU	CCR-AL	MultiChange PCR-ALU	MultiChange N

S – Heat-resistant alloys

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill TCR MonsterMill ISO-S MonsterMill CCR-Ti	MonsterMill TCR MonsterMill ISO-S	MonsterMill TCR MonsterMill ISO-S	MonsterMill TCR MonsterMill ISO-S	MonsterMill TCR MonsterMill ISO-S	MonsterMill ISO-S MonsterMill CCR-Ti		
CoreLine	CCR-VA Micro cutters MultiLock N	CCR-VA MultiLock N		3D Finish N Micro cutters MultiLock N	Micro cutters MultiLock N			MultiLock N

H – Hardened steel < 55 HRC

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill CCR-H					MonsterMill CCR-H		
CoreLine	BlueLine H	BlueLine H	BlueLine H	BlueLine H	BlueLine H			BlueLine H

Toolfinder

H – Hardened steel > 55 HRC

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill HCR MonsterMill CCR-H			MonsterMill HCR		MonsterMill HCR		
CoreLine								

O – Non-metal materials

	Profiling 	Helical plunging 	Ramping 	3D milling 	Full slot 	Trochoidal milling 	Plunge milling 	Deburring 
Advanced	MonsterMill FRP MonsterMill FRP CR	MonsterMill FRP MonsterMill FRP CR	MonsterMill FRP MonsterMill FRP CR		MonsterMill FRP MonsterMill FRP CR			
CoreLine	PCD milling cutters	PCD milling cutters	PCD milling cutters	PCD milling cutters 3D Finish N	PCD milling cutters			

Overview of solid carbide milling cutters

Tools – Universal machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	N	2	3–12		●	●	●	○	○			■	■			■		■	
→	N	3	3–20		●	●	●	○	○			■	■	■		■		■	
→	N	4	3–20		●	●	●	○	○				■			■		■	
→	N	4	3–20		●	●	●	○					■			■		■	
→	N	4	6–20		●	●	●	○	○				■			■	■	■	
→	N	4	3–20		●	●	●	○	○					■		■		■	
→	N	5	6–20		●	●	●	○	○				■	■		■		■	
→	N	6	6–25		●	●	○	○	○			■				■		■	
→	N	6	6–20		●	●	○	○	○			■				■		■	
→	NF	4	3–20		●	●	○	○	○				■			■		■	
→	NR	4	3–20		●	●	○	○	○				■			■		■	
→	N	2	3–20		●		●	○		○					■	■		■	
→	N	3	4–20		●	○	●	○							■	■		■	
→	N	4	3–20		●	○	●	○							■	■		■	
→	N	4	6–16		●	○	●	○		○					■	■		■	
→	N	5	4–12		●	●	●		○								60° 90°	■	
→	UNI	4		1/8"–1"	●	●	●	○	○			■		■		■		■	
→	UNI	5		1/8"– 1 1/4"	●	●	●		○			■		■		■		■	

Overview of solid carbide milling cutters

Tools – Universal machining

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Cooling	coated	uncoated
→		CCR UNI	6		1/4"–1"	●	●	●		○			■		■		■		■	
→		CCR UNI	7		1/4"–1"	●	●	●		○			■		■		■		■	
→		CCR UNI	9		1/4"–1"	●	●	●		○			■		■		■		■	
→		UNI	4		1/8"–1"	●	●	●	○	○						■	■		■	
→		PCR UNI	4	5–20		●	○	●							■		■		■	
→		S-Cut UNI	4	3–20		●	●	●	○	○			■		■		■		■	
→		S-Cut UNImax	4	3–20		●	●	●	○					■			■		■	
→		S-Cut UNI	5	6–20		●	●	●	○	○					■		■		■	
→		CCR UNI	5–6	6–20		●	○	●		○				■	■		■		■	
→		3D Finish N	4	10		●	●	●	●	●	○	●					■		■	
→		3D Finish N	3–4	6–16		●	●	●	●	●	○	●					■		■	
→		3D Finish N	3	6–10		●	●	●	●	●	○	●					■		■	
→		3D Finish N	2	10		●	●	●	●	●	○	●					■		■	
→		3D Finish N	3	4–12		●	●	●	●	●							■		■	
→		N	2	0,2–2,0		●	●	●	●	●	○	○	■		■	■	■		■	
→		MultiLock N	4	12–25		●	○	●	○	●						■			■	
→		MultiLock N	4–6	12–25		●	○	●	○	●					■			■	■	

Overview of solid carbide milling cutters

Tools – Universal machining

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→		MultiLock N	**5–6**	12–25		●	○	●		●					■			■	☐	
→		MultiLock N	**4**	12–16		●	○	●	○										☐	
→																				
→		Multi Change PCR UNI	**4**	10–20		●	○	●							■				☐	
→		Multi Change N	**3–4**	8–20		●		●						■					☐	
→		Multi Change N	**6**	8–20		●	○	●					■						☐	
→		Multi Change NF	**4–6**	8–20		●	○	●	●					■					☐	
→		Multi Change N	**4**	10–20		●	○	●	●							■			☐	
→		Multi Change N	**4**	8–20		●	○	●	●						■				☐	
→		Multi Change N	**6**	8–20		●	○	●							■			■	☐	
→		Multi Change N	**4**	8–20		●	○	●	●										☐	
→		Multi Change N	**4–6**	10–20		●	○	●	●										☐	
→		Multi Change N	**6**	10–20		●	○	●	●										☐	
→		Multi Change PCR ALU	**4**	10–20					●										☐	
→		Multi Change W	**3**	10–20					●									■	☐	
→		N	**2**	0,5–12		●	○	●	○	○			■	■			■		☐	
→		N	**3**	1–12		●	○	●	○	○				■			■		☐	
→		N	**3**	3–20		●	○	●	○					■			■		☐	

Overview of solid carbide milling cutters

Tools – Universal machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	N	3	3–20		○	●	○	○	●	○	○		■			■		■	
→	N	3	2–20		●	○	●	●	○	○	●	■				■		■	■
→	N	3	0,5–10		●	●	●	●	●	●		■	■			■		■	■
→	N	4	2–12		●	○	●	○	○		○	■				■			■
→	N	4	2–16		●	○	●	○	○			■				■		■	
→	N	4	3–20		●	●	●	○	○			■				■		■	
→	N	4	2–6		●	○	●	○	○				■			■		■	
→	N	4	1,5–6		●	○	●	○	○	○	○		■			■		■	
→	N	4	3–25		●	○	●	○	○	○	○		■			■		■	
→	N	4	3–20		●	●	●	○	○				■			■		■	
→	N	4	2–12		○	●	○	●	●		●			■		■		■	
→	N	4	6–20		●	●	●						■			■		■	
→	N	4	3–20		●	●	●	○	○					■		■		■	
→	N	5	6–20		●	○	●		○				■			■		■	
→	N	6	4–20		●	○	●		○			■				■		■	
→	N	6	8–20		●	●	○	○	○			■				■		■	
→	N	6–8	6–20		○	●	●		○					■		■		■	
→	NTR	3–4	6–20		●	○	●	○					■			■		■	

Overview of solid carbide milling cutters

Tools – Universal machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm / inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	NR	4	3–20	●	●	●	○	○				■			■		■	
→	NR	4–5	4–25	●	○	●	○	○		○		■			■		■	
→	NR	4–6	6–25	○	●	○	○	●		○		■			■		■	
→	N	2	0,1–20	●	○	●	○	○	○	○				■	■		■	
→	N	2	0,5–16	●	○	●	○	○	○	○				■	■		■	
→	N	2	1–12	●	○	●	○	○	○	○				■	■		■	
→	N	2	3–20	●	○	●	●	○						■	■		■	
→	N	4	3–20	●	○	●	○	○		○				■	■			■
→	N	4	3–20	●	●	●	○							■	■		■	
→	N	4	6–20	●	○	●	○	○	○	○				■	■		■	
→	N	2	0,5–16	●	○	●	○	○	○	○			■		■		■	
→	N	4	4–12	●	○	●	○	○	○	●							■	■
→	N	6–10	11–40	●	○	●											■	
→	UNI	4	0,5–6	●	●	●	○	○									■	
→	UNI	4	3–12	●	●	●		○									■	
→	KSJ		6–12,7	●	●	●	●	●	○	○								■
				Z1 / Z3														
→	ZYA		3–16	●	●	●	●	●	○	○								■
				Z1 / Z3 / Z6 / Z9														
→	SKM		3–13	●	●	●	●	●	○	○								■
				Z1 / Z3 / Z6 / Z9															

Overview of solid carbide milling cutters

Tools – Universal machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Cooling	coated	uncoated
→	KSK	Z3 / Z6	6–12,7		●	●	●	●	●	○	○								□
→	WRC	Z1 / Z3 / Z6 / Z9	3–16		●	●	●	●	●	○	○								□
→	KEL	Z1 / Z3 / Z6 / Z9	3–16		●	●	●	●	●	○	○								□
→	SPG	Z1 / Z3 / Z6 / Z9	3–12,7		●	●	●	●	●	○	○								□
→	TRE	Z1 / Z3 / Z6 / Z9	3–16		●	●	●	●	●	○	○								□
→	WKN	Z3 / Z6	3–12,7		●	●	●	●	●	○	○								□
→	RBF	Z1 / Z3 / Z6 / Z9	3–16		●	●	●	●	●	○	○								□
→	KUD	Z1 / Z3 / Z6 / Z9	2,9–16		●	●	●	●	●	○	○								□
→		**24–128**	15–100		●	●	●	●	●		●								□
→																			
→																			

Inch Cutting tools – Universal Machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Cooling	coated	uncoated
→	UN	2		1/16"–1"	●	●	●	●	●							S642		□	
→	UN	2		1/8"–3/4"	●	●	●	●	●							S642		□	
→	UN	3		1/16"–1"	●	●	●	●	●							S643		□	
→	UN	3		1/8"–1"	●	●	●	●	●							S643		□	
→	UN	4		1/32"–1"	●	●	●	●	●							S644		□	

Overview of solid carbide milling cutters

Inch Cutting tools – Universal Machining

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	UN	4		1/8"–1"	●	●	●	●	●								S644		
→	UN	5		1/8"–1"	●	●	●										S645		
→	UN	5		1/8"–3/4"	●	●	●	○	●								P117		
→	UN	3–5		3/4"–1"	●	●	●		●								P121		
→	UN	2		1/16"–1"	●	●	●	●	●								S662		
→	UN	3		1/8"–1"	●	●	●	●	●								S663		
→	UN	4		1/32"–1"	●	●	●	●									S664		
→	UN	4		0.005"–0.120"	●	●	●	●	●								P501		
→	UN	4		0.005"–0.120"	●	●	●	●	●								P504		
→	UN	4		0.005"–0.120"	●	●	●	●	●								P503		
→	UN	4		0.005"–0.120"	●	●	●	●	●								P506		
→	UN	2		0.031"–0.188"	●	●	●	●	●								P251		
→	UN	2		0.031"–0.188"	●	●	●	●	●								P252		
→	UN	2		0.031"–0.188"	●	●	●	●	●								P253		
→	UN	2		0.033"–0.188"	●	●	●	●	●								P254		

Overview of solid carbide milling cutters

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
Tools – ISO-P and ISO-K (steel and cast iron)																				
→		SCR	4–6	3–20		●	○	●	○	○	○	○		■	■		■		■	
→		SCR	3–4	3–16		●	○	●	○	○	○	○				■	■		■	
→		MCR	3–4	1–16		●	○	●	○	○	○			■			■		■	
Imperial tools – ISO-P and ISO-K (steel and cast iron)																				
→		UN	4		1/8"–1"	●		●							■		■	P120	■	
→		UN	4		1/8"–1"	●		●					■				■	P190	■	
→		UN	4		3/16"–1"	●		●							■		■	P191	■	
→		UN	3		3/16"	●		●							■		■	P100	■	
→		UN	4		1/4"–3/4"	●		●							■		■	P100	■	
→		UN	5		1"	●		●							■		■	P100	■	
→		UN	3		3/16"	●		●							■		■	P101	■	
→		UN	4		1/8"–1"	●		●							■		■	P101	■	
→		UN	5		1"	●		●					■				■	P101	■	
→		ST	2		1/8"–1/2"	●	●	●	●	●						■	■	P250	■	
→		UN	2		0.010"–0.156"	●		●										P137	■	■
→		UN	4		0.010"–0.156"	●		●										P139	■	■
→		UN	2		1/8"–1/2"	●		●									60°	P132	■	■
→		UN	4		1/4"–1/2"	●		●									60°	P133	■	■

Overview of solid carbide milling cutters

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
Imperial tools – ISO-P and ISO-K (steel and cast iron)																				
→		UN	2		1/8"–1/2"	●		●									90°	P134	□	□
→		UN	4		1/4"–1/2"	●		●									90°	P135	□	□
→		UN	2		1/4"–1/2"	●		●									120°	P130	□	□
→		UN	4		1/4"–1/2"	●		●									120°	P131	□	□
Tools – ISO-M (stainless steel)																				
→		ICR	3–5	1,5–20		○	●	○	○	●	○	○							□	
→		CCR VA	5–6	6–20		○	●			●									□	
Tools – ISO-N (non-ferrous metals)																				
→		W	2	0,2–3,0					●										□	□
→		W	2	2–12					●										□	□
→		W	3	2–20					●										□	□
→		W	3	2–20					●										□	
→		W	3	2–20					●										□	□
→		W	3	6–20					●										□	
→		W	4	2–20					●										□	
→		W	4	3–25					●										□	□
→		WF	3	3–12					●										□	
→		WR	3	6–20					●										□	

Overview of solid carbide milling cutters

Tools – ISO-N (non-ferrous metals)

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	W	6	6–20					●											
→	W	2	3–20					●											
→	AL-R	3	16–25					●											
→	AL	2	2–12					●			○								
→	W	4	4–16					●			●						60° 90°		
→	PCR ALU	4	5–20					●											
→	CCR AL	4	6–20					●											
→	W	2	3–20					●											
→	W	2	2,7–25					●											
→	W	2	3–25					●											
→	W	3	3–25					●											
→	W	2	3–20					●											
→	AL		3–6		○	○	○	●	○		●								
→	AL	4	3–12					●											
→	W	2	3–10					●			●								
→	W	1–2	2–12					●			●								
→	W	4	6–20					●			●								
→	W	1–2	2–20					●			●								

Overview of solid carbide milling cutters

Tools – ISO-N (non-ferrous metals)

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	W	1–2	2–20					●			●			○		○			□
→	W	4–10	10–32					●			●		○			○	○		□
→	W	3	16–25					●			●	○				○	○		□
→	W	2–3	10–25					●			●		○				○		□
								M5 – M12											
→	W	2–6	10–32					●			●		○				○		□
								M5 – M16											
→	W	4–10	10–32					●			●		○				○		□
								M5 – M16											
→	W	2–3	10–16					●			●				○		○		□
								M5 – M8											
→	W	2–3	6–20					●			○	○				○	○		□
→	W	10–22	40–125					●			●		○				○		□
→	W	5–16	40–50					●			○		○				○		□
→	W	10–22	40–125					●			○		○				○		□
→	W	20–32	63–100					●			○		○				○		□
→			63–100														○		

Imperial tools – ISO-N (non-ferrous metals)

	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	AL	2		1/8"–1"				●				○				○	S142	□	□
→	AL	3		1/8"–1"				●				○				○	P109	□	
→	AL	3		3/16"–1"				●				○		○		○	P362	□	
→	AL	3		1/8"–1"				●						○		○	P119	□	

Overview of solid carbide milling cutters

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
Imperial tools – ISO-N (non-ferrous metals)																				
→		AL	2		3/16"–1/2"				●						■		■	P102	■	
Tools – ISO-S (super alloys and titanium)																				
→		ISO-S	4	3–20					●						■		■		■	
→		ISO-S	5	3–16					●						■		■		■	
→		ISO-S	6–8	6–16					●						■		■		■	
→		CCR ISO-S	6	6–20					●						■		■		■	
→		ISO-S	4	2–16			○		●							■	■		■	
→		ISO-S	6		1/4"–1"		○		●						■		■		■	
→		CCR ISO-S	6		1/4"–1"		○		●				■		■		■		■	
→		TCR	4–5	4–20			○	○	●						■		■		■	
→		TCR	4	2–16			○	○	●							■	■		■	
→		TCR	2–5	2–16			○	○	●						■		■		■	
→		CCR Ti	5	6–20			○	○	●						■		■		■	
Tools – ISO-H (hardened materials)																				
→		HCR	2–4	0,2–12							●				■		■		■	
→		HCR	2–4	0,2–12							●					■	■		■	
→		CCR H	6	6–20							●				■		■		■	
→		BlueLine H	2	0,2–3,0							●		■		■	■	■		■	
→		BlueLine H	2	0,5–20							●			■			■		■	

Overview of solid carbide milling cutters

Tools – ISO-H (hardened materials)

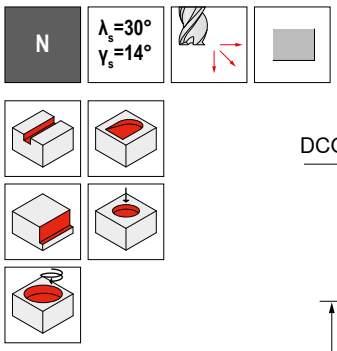
	Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
→	BlueLine H	4	1–16		●					●									
→	BlueLine H	4–6	3–20		○					●									
→	BlueLine H	4–10	2–20		●					●									
→	BlueLine H	6–10	5–20		○					●									
→	BlueLine H	2	1–6		○					●									
→	BlueLine H	2	0,5–16		○					●									
→	BlueLine H	2	0,1–20		○					●									
→	BlueLine H	3	3–12		●					●									
→	BlueLine H	4	2–20		○					●									
→	BlueLine H	2	1–6		○					●									
→	BlueLine H	2	0,5–16		○					●									
→	BlueLine H	2	0,8–12		○					●									
→	BlueLine H	5–8	4–16		●					●							60° 90°		
→	H	6–8	4–25		●	●	●	○	○	●	●								
→	HR	4–5	6–20		○	●	○												
→	HR	4–5	6–20		●	●	●												
→	HR	4–5	6–25		●	○	●												
→	H	2	0,2–20		●	○	●	○	○	○	○								

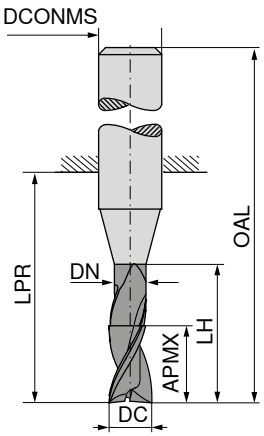
Overview of solid carbide milling cutters

		Tool type	Number of teeth ZEFP	Diameter Ø DC mm	Diameter Ø DC inch	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Feature	coated	uncoated
Tools – ISO-H (hardened materials)																				
→		H	2	0,4–6		●	○	●	○	○	○	○			■		■		■	
→		H	2	2–12		●	○	●	○	○	○	○			■		■		■	
Cutting tools – ISO-O (Plastics and Composite Materials)																				
→		FRP	8	6,0–12,7								●		■			■		■	
→		FRP CR		6,0–12,7								●		■			■		■	
→		W		2–20								●					■	■		□
→		W		2–20								●					■	■		□
→		W	1	1,5–16					●			●					■			□
→		W	2	2–12					●								■		■	
→		N	2	2–12		●	○	●	○	○		●					■			□

SilverLine – End mill – N

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≈DIN 6527



DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 558 ...
3.0	8	2.8	15	21	57	6	2	**03200**
4.0	11	3.8	15	21	57	6	2	**04200**
5.0	13	4.8	21	21	57	6	2	**05200**
6.0	13	5.8	21	21	57	6	2	**06200**
8.0	19	7.8	27	27	63	8	2	**08200**
10.0	22	9.8	32	32	72	10	2	**10200**
12.0	26	11.8	38	38	83	12	2	**12200**

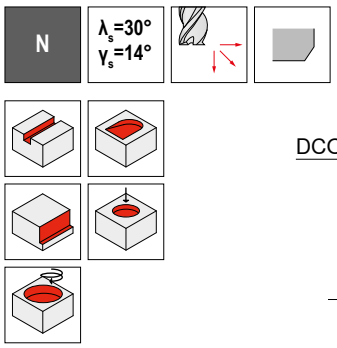
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M	●
K	●
N	○
S	○
H	
O	

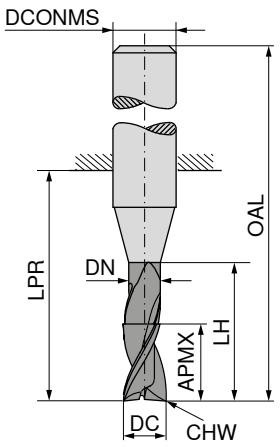


→ Find the cutting data standard values here.

SilverLine – End mill – N

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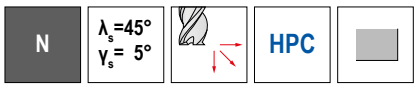
DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 958 ...
3.0	8	2.8	15	21	57	6	0.1	2	**03200**
3.5	11	3.3	15	21	57	6	0.1	2	**03700**
4.0	11	3.8	15	21	57	6	0.1	2	**04200**
5.0	13	4.8	21	21	57	6	0.1	2	**05200**
6.0	13	5.8	21	21	57	6	0.1	2	**06200**
8.0	19	7.8	27	27	63	8	0.1	2	**08200**
10.0	22	9.8	32	32	72	10	0.1	2	**10200**
12.0	26	11.8	38	38	83	12	0.1	2	**12200**

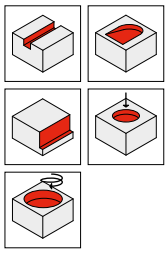
P	●
M	●
K	●
N	○
S	○
H	
O	

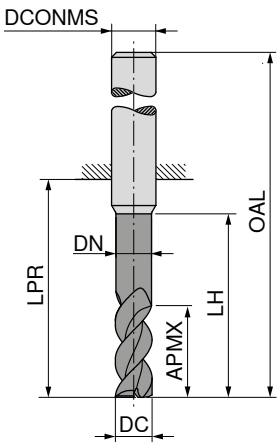
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SilverLine – End mill – N

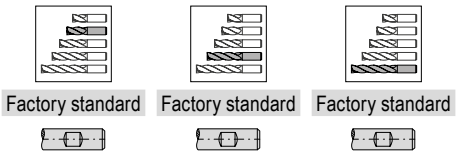
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DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 992 ...	SA 50 992 ...	SA 50 992 ...
3.0	8	2.9	15	21	57	6	3		03200	
3.5	11	3.4	16	21	57	6	3		03700	
4.0	8	3.9	15	18	54	6	3	04100		
4.0	11	3.9	16	21	57	6	3		04200	
4.0	16			26	62	6	3			04400
4.5	13	4.4	19	21	57	6	3		04700	
5.0	9	4.9	16	18	54	6	3	05100		
5.0	13	4.9	19	21	57	6	3		05200	
5.0	17			26	62	6	3			05400
5.5	13	5.4	19	21	57	6	3		05700	
6.0	10	5.9	17	18	54	6	3	06100		
6.0	13	5.9	19	21	57	6	3		06200	
6.0	18			26	62	6	3			06400
6.5	19	6.3	25	27	63	8	3		06700	
7.0	19	6.8	25	27	63	8	3		07200	
7.5	19	7.3	25	27	63	8	3		07700	
8.0	12		20	22	58	8	3	08100		
8.0	19	7.8	25	27	63	8	3		08200	
8.0	24			32	68	8	3			08400
8.5	22	8.2	30	32	72	10	3		08700	
10.0	14	9.7	24	26	66	10	3	10100		
10.0	22	9.7	30	32	72	10	3		10200	
10.0	30			40	80	10	3			10400
12.0	16	11.7	26	28	73	12	3	12100		
12.0	26	11.7	36	38	83	12	3		12200	
12.0	36			48	93	12	3			12400
16.0	22	15.5	32	34	82	16	3	16100		
16.0	32	15.5	42	44	92	16	3		16200	
16.0	48			60	108	16	3			16400
20.0	26	19.5	40	42	92	20	3	20100		
20.0	38	19.5	52	54	104	20	3		20200	
20.0	60			76	126	20	3			20400

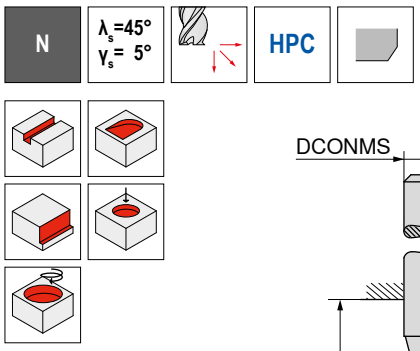
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M	●	●	●
K	●	●	●
N	○	○	○
S	○	○	○
H			
O			

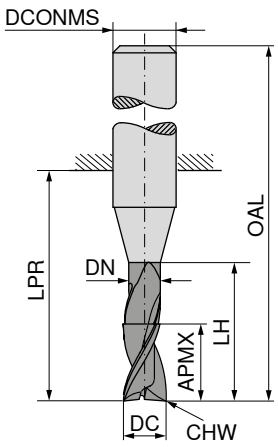


→ Find the cutting data standard values here.

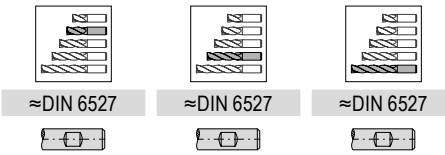
SilverLine – End mill – N

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DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 966 ...	SA 50 966 ...	SA 50 966 ...
3.0	8	2.9	15	21	57	6	0.1	3		03200	
3.5	11	3.4	16	21	57	6	0.1	3		03700	
4.0	8	3.9	15	18	54	6	0.1	3	04100		
4.0	11	3.9	16	21	57	6	0.1	3		04200	
4.0	16			26	62	6	0.1	3			04400
4.5	13	4.4	19	21	57	6	0.1	3		04700	
5.0	9	4.9	16	18	54	6	0.1	3	05100		
5.0	13	4.9	19	21	57	6	0.1	3		05200	
5.0	17			26	62	6	0.1	3			05400
5.5	13	5.4	19	21	57	6	0.1	3		05700	
6.0	10	5.9	17	18	54	6	0.2	3	06100		
6.0	13	5.9	19	21	57	6	0.2	3		06200	
6.0	18			26	62	6	0.2	3			06400
6.5	19	6.3	25	27	63	8	0.2	3		06700	
7.0	19	6.8	25	27	63	8	0.2	3		07200	
7.5	19	7.3	25	27	63	8	0.2	3		07700	
8.0	12	7.8	20	22	58	8	0.2	3	08100		
8.0	19	7.8	25	27	63	8	0.2	3		08200	
8.0	24			32	68	8	0.2	3			08400
8.5	22	8.2	30	32	72	10	0.2	3		08700	
9.0	22	8.7	30	32	72	10	0.2	3		09200	
9.5	22	9.2	30	32	72	10	0.2	3		09700	
10.0	14	9.7	24	26	66	10	0.2	3	10100		
10.0	22	9.7	30	32	72	10	0.2	3		10200	
10.0	30			40	80	10	0.2	3			10400
12.0	16	11.7	26	28	73	12	0.2	3	12100		
12.0	26	11.7	36	38	83	12	0.2	3		12200	
12.0	36			48	93	12	0.2	3			12400
14.0	18	13.7	28	30	75	14	0.2	3	14100		
14.0	26	13.7	36	38	83	14	0.2	3		14200	

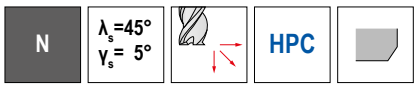
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M	●	●	●
K	●	●	●
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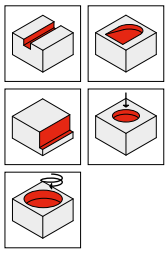
→ Find the cutting data standard values here.

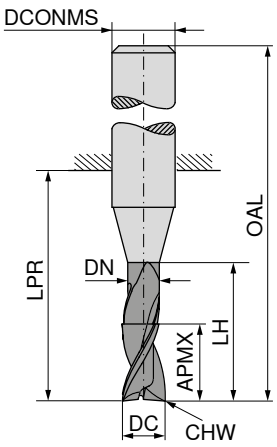
Continued on next page

SilverLine – End mill – N

The versatile tool for universal application







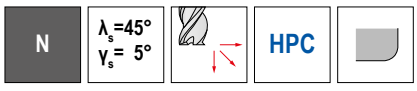


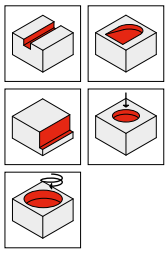
DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	≈DIN 6527 SA 50 966 ...	≈DIN 6527 SA 50 966 ...	≈DIN 6527 SA 50 966 ...
14.0	42			54	99	14	0.2	3			**14400**
16.0	22	15.5	32	34	82	16	0.2	3	**16100**		
16.0	32	15.5	42	44	92	16	0.2	3		**16200**	
16.0	48			60	108	16	0.2	3			**16400**
20.0	26	19.5	40	42	92	20	0.2	3	**20100**		
20.0	38	19.5	52	54	104	20	0.2	3		**20200**	
20.0	60			76	126	20	0.2	3			**20400**
P									●	●	●
M									●	●	●
K									●	●	●
N									○	○	○
S									○	○	○
H											
O											

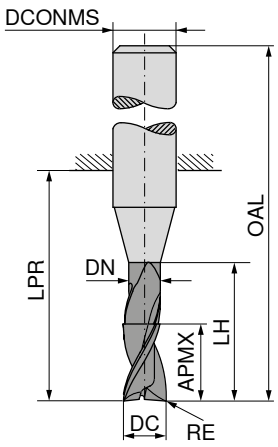
→ Find the cutting data standard values here.

SilverLine – End mills with corner radius – N

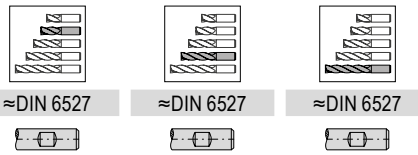
The versatile tool for universal application











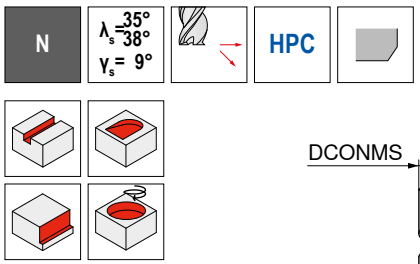
DC f8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 967 ...	SA 50 967 ...	SA 50 967 ...
4.0	0.5	8	3.9	15	18	54	6	3	**04105**		
4.0	0.5	11	3.9	16	21	57	6	3		**04205**	
4.0	0.5	16			26	62	6	3			**04405**
5.0	0.5	9	4.9	16	18	54	6	3	**05105**		
5.0	0.5	13	4.9	19	21	57	6	3		**05205**	
5.0	0.5	17			26	62	6	3			**05405**
6.0	0.5	10	5.9	17	18	54	6	3	**06105**		
6.0	0.5	13	5.9	19	21	57	6	3		**06205**	
6.0	0.5	18			26	62	6	3			**06405**
8.0	1.0	12	7.8	20	22	58	8	3	**08110**		
8.0	1.0	19	7.8	25	27	63	8	3		**08210**	
8.0	1.0	24			32	68	8	3			**08410**
10.0	1.0	14	9.7	24	26	66	10	3	**10110**		
10.0	1.0	22	9.7	30	32	72	10	3		**10210**	
10.0	1.0	30			40	80	10	3			**10410**
12.0	1.5	16	11.7	26	28	73	12	3	**12115**		
12.0	1.5	26	11.7	36	38	83	12	3		**12215**	
12.0	1.5	36			48	93	12	3			**12415**
16.0	2.0	22	15.5	32	34	82	16	3	**16120**		
16.0	2.0	48			60	108	16	3			**16420**
20.0	2.0	26	19.5	40	42	92	20	3	**20120**		
20.0	2.0	60			76	126	20	3			**20420**

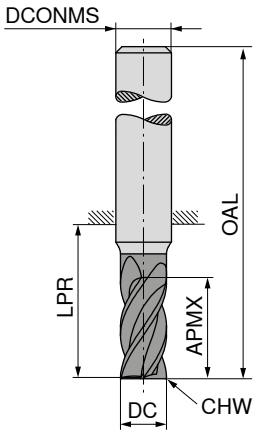
P	●	●	●
M	●	●	●
K	●	●	●
N	○	○	○
S	○	○	○
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→ Find the cutting data standard values here.

SilverLine – End mill – N

The versatile tool for universal application









≈DIN 6527 ≈DIN 6527 ≈DIN 6527 ≈DIN 6527



SA SA SA SA

DC f8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	50 972 ...	50 973 ...	50 972 ...	50 973 ...
3.0	5	14	50	6	0.1	4	03100	03100		
3.0	8	21	57	6	0.1	4			03200	03200
3.5	8	18	54	6	0.1	4	03600	03600		
3.5	11	21	57	6	0.1	4			03700	03700
4.0	8	18	54	6	0.1	4	04100	04100		
4.0	11	21	57	6	0.1	4			04200	04200
4.5	9	18	54	6	0.1	4	04600	04600		
4.5	13	21	57	6	0.1	4			04700	04700
5.0	9	18	54	6	0.1	4	05100	05100		
5.0	13	21	57	6	0.1	4			05200	05200
5.5	10	18	54	6	0.1	4	05600	05600		
5.5	13	21	57	6	0.1	4			05700	05700
6.0	10	18	54	6	0.1	4	06100	06100		
6.0	13	21	57	6	0.1	4			06200	06200
7.0	12	22	58	8	0.2	4	07100	07100		
7.0	21	27	63	8	0.2	4			07200	07200
8.0	12	22	58	8	0.2	4	08100	08100		
8.0	21	27	63	8	0.2	4			08200	08200
9.0	14	26	66	10	0.2	4	09100	09100		
9.0	22	32	72	10	0.2	4			09200	09200
10.0	14	26	66	10	0.2	4	10100	10100		
10.0	22	32	72	10	0.2	4			10200	10200
11.0	16	28	73	12	0.3	4	11100	11100		
11.0	26	38	83	12	0.3	4			11200	11200
12.0	16	28	73	12	0.3	4	12100	12100		
12.0	26	38	83	12	0.3	4			12200	12200
14.0	16	28	73	14	0.3	4	14100	14100		
14.0	26	38	83	14	0.3	4			14200	14200
15.0	22	34	82	16	0.3	4		15100		
15.0	36	44	92	16	0.3	4				15200

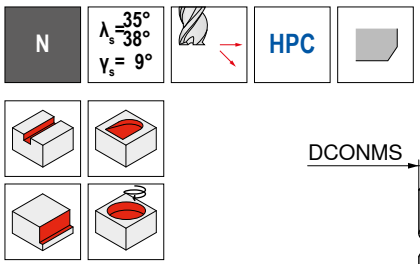
P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O				

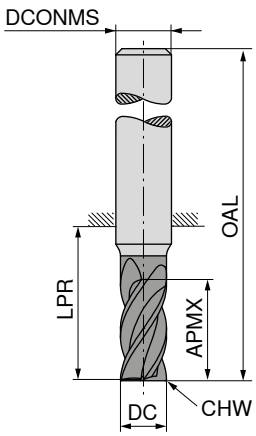
→ Find the cutting data standard values here.

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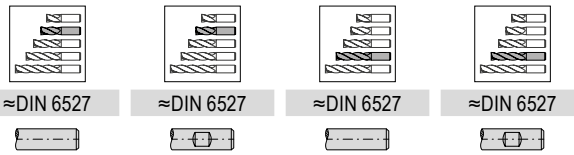
SilverLine – End mill – N

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DC f8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 972 ...	SA 50 973 ...	SA 50 972 ...	SA 50 973 ...
16.0	22	34	82	16	0.3	4	16100	16100		
16.0	36	44	92	16	0.3	4			16200	16200
18.0	22	34	82	18	0.3	4		18100		
18.0	36	44	92	18	0.3	4				18200
20.0	26	42	92	20	0.3	4	20100	20100		
20.0	41	54	104	20	0.3	4			20200	20200

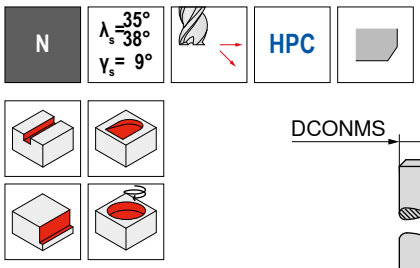
P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O				

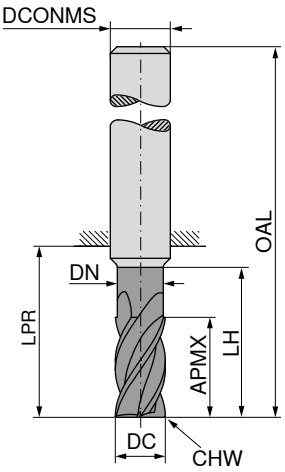


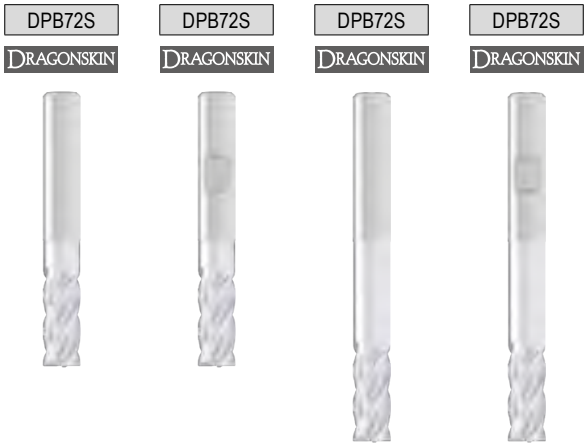
→ Find the cutting data standard values here.

SilverLine – End mill – N

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DIN 6527 | DIN 6527 | DIN 6527 | DIN 6527



SA | SA | SA | SA

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	50 974 ...	50 975 ...	50 974 ...	50 975 ...
3.0	6.5	2.8	9	19	55	6	0.1	4	**03200**	**03200**		
3.0	6.5	2.8	15	22	58	6	0.1	4			**03400**	**03400**
4.0	8.5	3.8	12	19	55	6	0.1	4	**04200**	**04200**		
4.0	8.5	3.8	20	26	62	6	0.1	4			**04400**	**04400**
5.0	10.5	4.8	15	22	58	6	0.1	4	**05200**	**05200**		
5.0	10.5	4.8	25	34	70	6	0.1	4			**05400**	**05400**
6.0	13.0	5.8	18	22	58	6	0.1	4	**06200**	**06200**		
6.0	13.0	5.8	30	34	70	6	0.1	4			**06400**	**06400**
8.0	17.0	7.7	24	28	64	8	0.2	4	**08200**	**08200**		
8.0	17.0	7.7	40	44	80	8	0.2	4			**08400**	**08400**
10.0	21.0	9.7	30	34	74	10	0.2	4	**10200**	**10200**		
10.0	21.0	9.7	50	54	94	10	0.2	4			**10400**	**10400**
12.0	25.0	11.6	36	40	85	12	0.3	4	**12200**	**12200**		
12.0	25.0	11.6	60	64	109	12	0.3	4			**12400**	**12400**
14.0	29.0	13.6	42	46	91	14	0.3	4	**14200**	**14200**		
14.0	29.0	13.6	70	74	119	14	0.3	4			**14400**	**14400**
16.0	33.0	15.5	48	52	100	16	0.3	4	**16200**	**16200**		
16.0	33.0	15.5	80	84	132	16	0.3	4			**16400**	**16400**
18.0	38.0	17.5	54	58	106	18	0.3	4	**18200**	**18200**		
18.0	38.0	17.5	90	94	142	18	0.3	4			**18400**	**18400**
20.0	42.0	19.5	60	64	114	20	0.3	4	**20200**	**20200**		
20.0	42.0	19.5	100	104	154	20	0.3	4			**20400**	**20400**

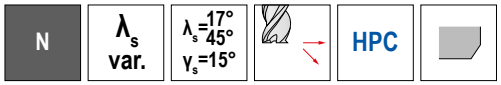
P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O				

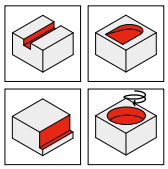
→ Find the cutting data standard values here.

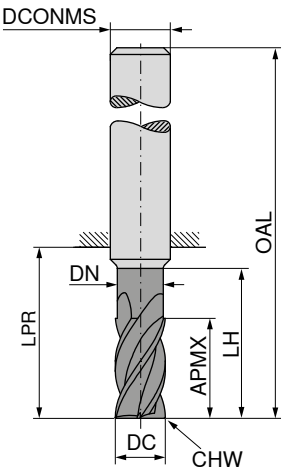
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▲ Ideal for high-volume milling















DIN 6527

DIN 6527





DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 976 ...	SA 50 977 ...
3.0	8	2.8	13	21	57	6	0.1	4	**03200**	**03200**
4.0	11	3.8	17	21	57	6	0.1	4	**04200**	**04200**
5.0	13	4.8	19	21	57	6	0.1	4	**05200**	**05200**
6.0	13	5.8	19	21	57	6	0.1	4	**06200**	**06200**
8.0	21	7.7	25	27	63	8	0.2	4	**08200**	**08200**
10.0	22	9.7	30	32	72	10	0.2	4	**10200**	**10200**
12.0	26	11.6	36	38	83	12	0.3	4	**12200**	**12200**
14.0	26	13.6	36	38	83	14	0.3	4	**14200**	**14200**
16.0	36	15.5	42	44	92	16	0.3	4	**16200**	**16200**
20.0	41	19.5	52	54	104	20	0.3	4	**20200**	**20200**

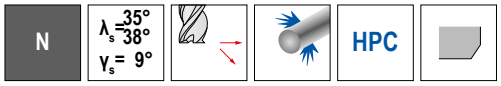
P	●	●
M	●	●
K	●	●
N	○	○
S		
H		
O		

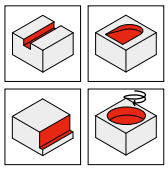
→ Find the cutting data standard values here.

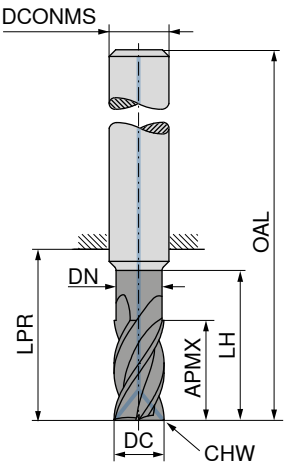
SilverLine – End mill – N

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▲ Coolant outlet in the chip flutes







DPB72S

DRAGONSKIN





DIN 6527



SA

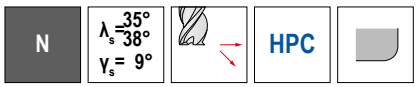
DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	50 978 ...
6.0	13	5.8	19	21	57	6	0.1	4	**06200**
8.0	21	7.7	25	27	63	8	0.2	4	**08200**
10.0	22	9.7	30	32	72	10	0.2	4	**10200**
12.0	26	11.6	36	38	83	12	0.3	4	**12200**
16.0	36	15.5	42	44	92	16	0.3	4	**16200**
20.0	41	19.5	52	54	104	20	0.3	4	**20200**

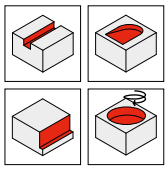
P	●
M	●
K	●
N	○
S	○
H	
O	

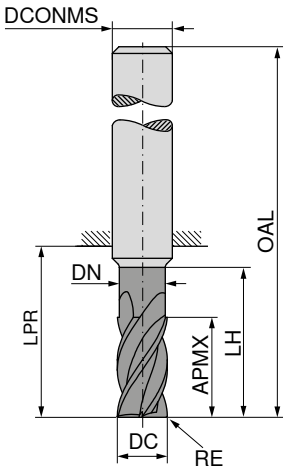
→ Find the cutting data standard values here.

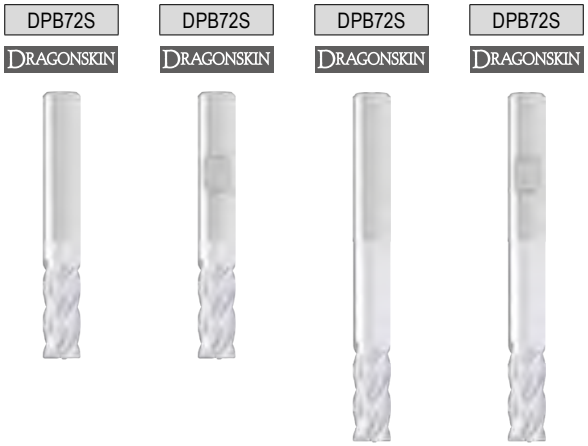
SilverLine – End mills with corner radius – N

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DC f8	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	SA	SA	SA	SA
mm	mm	mm	mm	mm	mm	mm	mm		50 970 ...	50 971 ...	50 970 ...	50 971 ...
3.0	0.10	8.0	2.8	13	21	57	6	4	03201	03201		
3.0	0.40	8.0	2.8	13	21	57	6	4	03204	03204		
3.0	0.50	8.0	2.8	13	21	57	6	4	03205	03205		
3.0	1.00	8.0	2.8	13	21	57	6	4	03210	03210		
3.0	0.30	6.5	2.8	15	22	58	6	4			03403	03403
3.0	0.50	6.5	2.8	15	22	58	6	4			03405	03405
3.0	0.80	6.5	2.8	15	22	58	6	4			03408	03408
4.0	0.10	11.0	3.8	17	21	57	6	4	04201	04201		
4.0	0.40	11.0	3.8	17	21	57	6	4	04204	04204		
4.0	0.50	11.0	3.8	17	21	57	6	4	04205	04205		
4.0	1.00	11.0	3.8	17	21	57	6	4	04210	04210		
4.0	0.40	8.5	3.8	20	26	62	6	4			04404	04404
4.0	0.50	8.5	3.8	20	26	62	6	4			04405	04405
4.0	0.80	8.5	3.8	20	26	62	6	4			04408	04408
5.0	0.10	13.0	4.8	19	21	57	6	4	05201	05201		
5.0	0.50	13.0	4.8	19	21	57	6	4	05205	05205		
5.0	1.00	13.0	4.8	19	21	57	6	4	05210	05210		
5.0	0.50	10.5	4.8	25	34	70	6	4			05405	05405
5.0	0.80	10.5	4.8	25	34	70	6	4			05408	05408
6.0	0.10	13.0	5.8	19	21	57	6	4	06201	06201		
6.0	0.50	13.0	5.8	19	21	57	6	4	06205	06205		
6.0	1.00	13.0	5.8	19	21	57	6	4	06210	06210		
6.0	1.50	13.0	5.8	19	21	57	6	4	06215	06215		
6.0	0.60	13.0	5.8	30	34	70	6	4			06406	06406
6.0	0.80	13.0	5.8	30	34	70	6	4			06408	06408
6.0	1.00	13.0	5.8	30	34	70	6	4			06410	06410
8.0	0.15	21.0	7.7	25	27	63	8	4	08202	08202		
8.0	0.50	21.0	7.7	25	27	63	8	4	08205	08205		
8.0	1.00	21.0	7.7	25	27	63	8	4	08210	08210		
8.0	1.50	21.0	7.7	25	27	63	8	4	08215	08215		
P									●	●	●	●
M									●	●	●	●
K									●	●	●	●
N									○	○	○	○
S									○	○	○	○
H												
O												

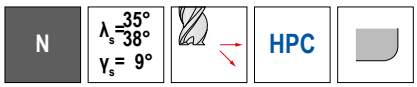


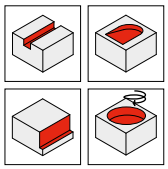
→ Find the cutting data standard values here.

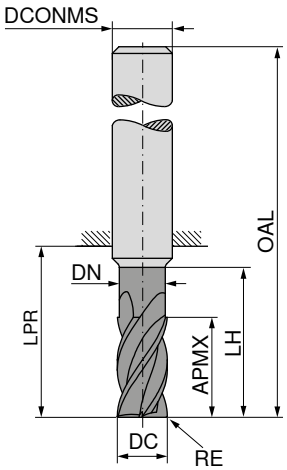
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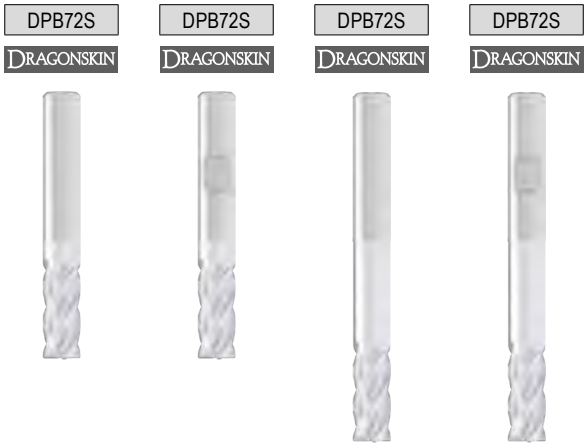
SilverLine – End mills with corner radius – N

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DC f8	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	SA	SA	SA	SA
mm	mm	mm	mm	mm	mm	mm	mm		50 970 ...	50 971 ...	50 970 ...	50 971 ...
8.0	2.00	21.0	7.7	25	27	63	8	4	08220	08220		
8.0	0.80	17.0	7.7	40	44	80	8	4			08408	08408
8.0	1.00	17.0	7.7	40	44	80	8	4			08410	08410
8.0	1.50	17.0	7.7	40	44	80	8	4			08415	08415
8.0	2.00	17.0	7.7	40	44	80	8	4			08420	08420
10.0	0.15	22.0	9.7	30	32	72	10	4	10202	10202		
10.0	0.50	22.0	9.7	30	32	72	10	4	10205	10205		
10.0	1.00	22.0	9.7	30	32	72	10	4	10210	10210		
10.0	1.50	22.0	9.7	30	32	72	10	4	10215	10215		
10.0	2.00	22.0	9.7	30	32	72	10	4	10220	10220		
10.0	0.50	21.0	9.7	50	54	94	10	4			10405	10405
10.0	1.00	21.0	9.7	50	54	94	10	4			10410	10410
10.0	1.50	21.0	9.7	50	54	94	10	4			10415	10415
10.0	2.00	21.0	9.7	50	54	94	10	4			10420	10420
12.0	0.20	26.0	11.6	36	38	83	12	4	12202	12202		
12.0	0.50	26.0	11.6	36	38	83	12	4	12205	12205		
12.0	1.00	26.0	11.6	36	38	83	12	4	12210	12210		
12.0	1.50	26.0	11.6	36	38	83	12	4	12215	12215		
12.0	2.00	26.0	11.6	36	38	83	12	4	12220	12220		
12.0	3.00	26.0	11.6	36	38	83	12	4	12230	12230		
12.0	4.00	26.0	11.6	36	38	83	12	4	12240	12240		
12.0	0.50	25.0	11.6	60	64	109	12	4			12405	12405
12.0	1.00	25.0	11.6	60	64	109	12	4			12410	12410
12.0	1.50	25.0	11.6	60	64	109	12	4			12415	12415
12.0	2.00	25.0	11.6	60	64	109	12	4			12420	12420
12.0	3.00	25.0	11.6	60	64	109	12	4			12430	12430
12.0	4.00	25.0	11.6	60	64	109	12	4			12440	12440
14.0	0.30	26.0	13.6	36	38	83	14	4	14203	14203		
14.0	1.00	26.0	13.6	36	38	83	14	4	14210	14210		
14.0	2.00	26.0	13.6	36	38	83	14	4	14220	14220		

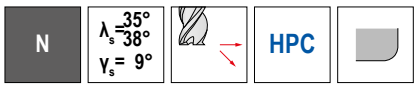
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M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
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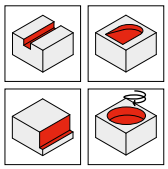
→ Find the cutting data standard values here.

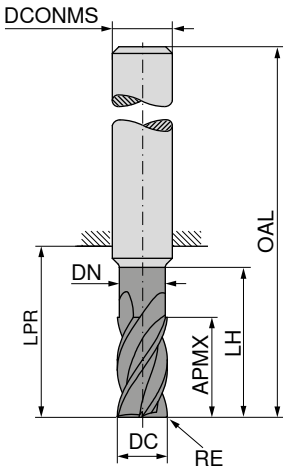
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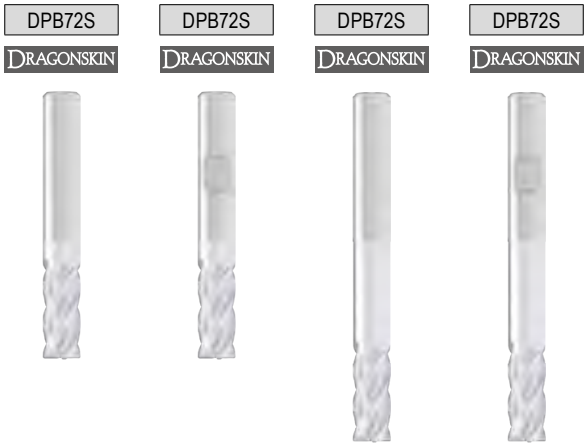
SilverLine – End mills with corner radius – N

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Factory standard | Factory standard | Factory standard | Factory standard



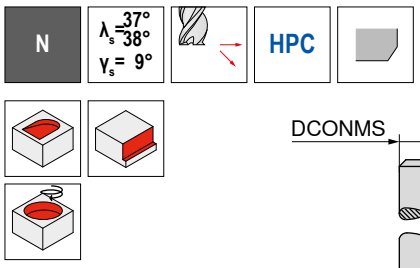
DC f8	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	SA	SA	SA	SA
mm	mm	mm	mm	mm	mm	mm	mm		50 970 ...	50 971 ...	50 970 ...	50 971 ...
14.0	3.00	26.0	13.6	36	38	83	14	4	14230	14230		
14.0	4.00	26.0	13.6	36	38	83	14	4	14240	14240		
14.0	1.00	29.0	13.6	70	74	119	14	4			14410	14410
14.0	2.00	29.0	13.6	70	74	119	14	4			14420	14420
14.0	3.00	29.0	13.6	70	74	119	14	4			14430	14430
14.0	4.00	29.0	13.6	70	74	119	14	4			14440	14440
16.0	0.30	36.0	15.5	42	44	92	16	4	16203	16203		
16.0	1.00	36.0	15.5	42	44	92	16	4	16210	16210		
16.0	2.00	36.0	15.5	42	44	92	16	4	16220	16220		
16.0	3.00	36.0	15.5	42	44	92	16	4	16230	16230		
16.0	4.00	36.0	15.5	42	44	92	16	4	16240	16240		
16.0	1.00	33.0	15.5	80	84	132	16	4			16410	16410
16.0	2.00	33.0	15.5	80	84	132	16	4			16420	16420
16.0	3.00	33.0	15.5	80	84	132	16	4			16430	16430
16.0	4.00	33.0	15.5	80	84	132	16	4			16440	16440
18.0	1.00	36.0	17.5	42	44	92	18	4		18210		
18.0	2.00	36.0	17.5	42	44	92	18	4		18220		
18.0	3.00	36.0	17.5	42	44	92	18	4		18230		
18.0	4.00	36.0	17.5	42	44	92	18	4		18240		
20.0	0.30	41.0	19.5	52	54	104	20	4	20203	20203		
20.0	1.00	41.0	19.5	52	54	104	20	4	20210	20210		
20.0	2.00	41.0	19.5	52	54	104	20	4	20220	20220		
20.0	3.00	41.0	19.5	52	54	104	20	4	20230	20230		
20.0	4.00	41.0	19.5	52	54	104	20	4	20240	20240		
20.0	1.00	42.0	19.5	100	104	154	20	4			20410	20410
20.0	2.00	42.0	19.5	100	104	154	20	4			20420	20420
20.0	3.00	42.0	19.5	100	104	154	20	4			20430	20430
20.0	4.00	42.0	19.5	100	104	154	20	4			20440	20440

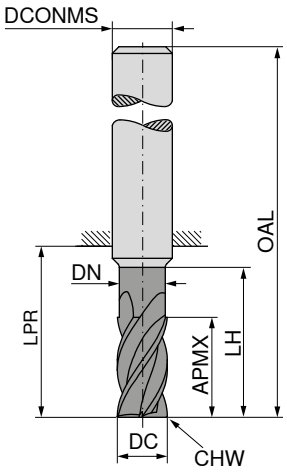
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K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
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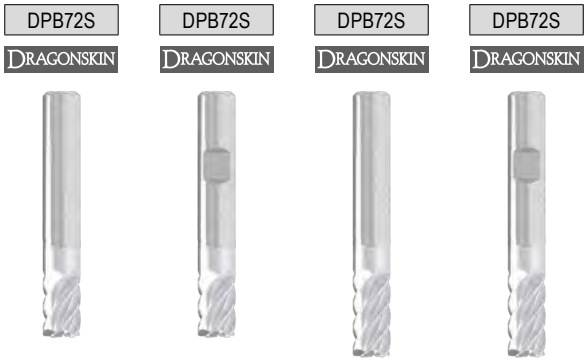
→ Find the cutting data standard values here.

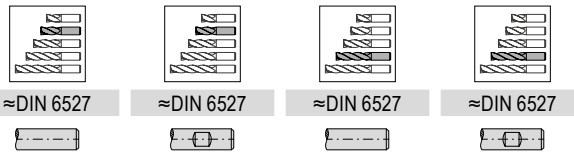
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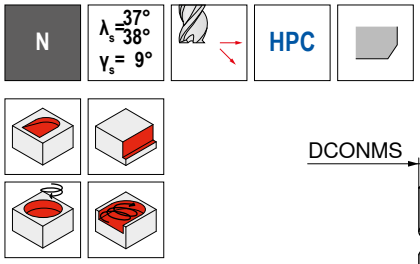
DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 993 ...	SA 50 995 ...	SA 50 994 ...	SA 50 996 ...
6	10			18	54	6	0.1	5	06100	06100		
6	13	5.8	19	21	57	6	0.1	5			06200	06200
8	12			22	58	8	0.2	5	08100	08100		
8	21	7.7	25	27	63	8	0.2	5			08200	08200
10	14			26	66	10	0.2	5	10100	10100		
10	22	9.7	30	32	72	10	0.2	5			10200	10200
12	16			28	73	12	0.3	5	12100	12100		
12	26	11.6	36	38	83	12	0.3	5			12200	12200
16	22			34	82	16	0.3	5	16100	16100		
16	36	15.5	42	44	92	16	0.3	5			16200	16200
20	26			42	92	20	0.3	5	20100	20100		
20	41	19.5	52	54	104	20	0.3	5			20200	20200
P									●	●	●	●
M									●	●	●	●
K									●	●	●	●
N									○	○	○	○
S									○	○	○	○
H												
O												

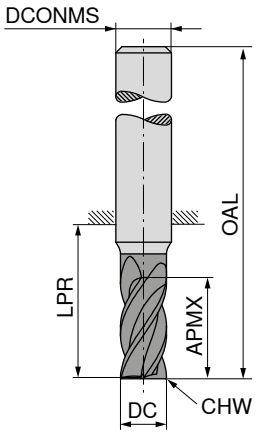
→ Find the cutting data standard values here.

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▲ Cutting depth: 3 x DC











≈DIN 6527 ≈DIN 6527





DC e8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 50 999 ...	SA 50 949 ...
6	19	26	62	6	0.1	5	**06200**	**06200**
8	25	32	68	8	0.2	5	**08200**	**08200**
10	31	40	80	10	0.2	5	**10200**	**10200**
12	37	48	93	12	0.3	5	**12200**	**12200**
16	49	60	108	16	0.3	5	**16200**	**16200**
20	61	76	126	20	0.3	5	**20200**	**20200**

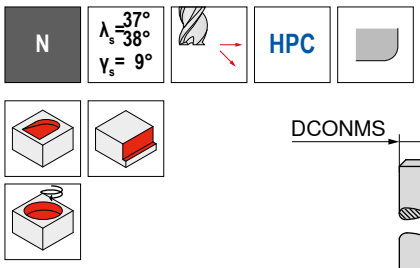
P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H		
O		

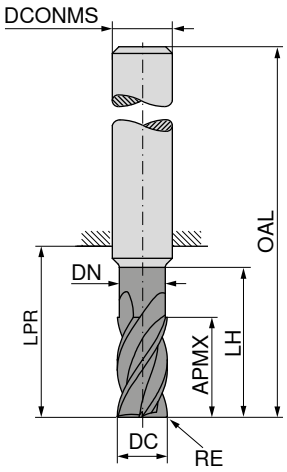


→ Find the cutting data standard values here.

SilverLine – End mills with corner radius – N

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Factory standard | Factory standard




DC e8	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	SA	SA
mm	mm	mm	mm	mm	mm	mm	mm		50 997 ...	50 998 ...
6	0.2	13	5.8	19	21	57	6	5	06202	06202
6	0.5	13	5.8	19	21	57	6	5	06205	06205
6	1.0	13	5.8	19	21	57	6	5	06210	06210
8	0.2	21	7.7	25	27	63	8	5	08202	08202
8	0.5	21	7.7	25	27	63	8	5	08205	08205
8	1.0	21	7.7	25	27	63	8	5	08210	08210
8	1.5	21	7.7	25	27	63	8	5	08215	08215
10	0.2	22	9.7	30	32	72	10	5	10202	10202
10	0.5	22	9.7	30	32	72	10	5	10205	10205
10	1.0	22	9.7	30	32	72	10	5	10210	10210
10	1.5	22	9.7	30	32	72	10	5	10215	10215
10	1.6	22	9.7	30	32	72	10	5	10216	10216
10	2.0	22	9.7	30	32	72	10	5	10220	10220
12	0.3	26	11.6	36	38	83	12	5	12203	12203
12	0.5	26	11.6	36	38	83	12	5	12205	12205
12	1.0	26	11.6	36	38	83	12	5	12210	12210
12	1.5	26	11.6	36	38	83	12	5	12215	12215
12	1.6	26	11.6	36	38	83	12	5	12216	12216
12	2.0	26	11.6	36	38	83	12	5	12220	12220
12	2.5	26	11.6	36	38	83	12	5	12225	12225
16	0.3	36	15.5	42	44	92	16	5	16203	16203
16	0.5	36	15.5	42	44	92	16	5	16205	16205
16	1.0	36	15.5	42	44	92	16	5	16210	16210
16	1.5	36	15.5	42	44	92	16	5	16215	16215
16	1.6	36	15.5	42	44	92	16	5	16216	16216
16	2.0	36	15.5	42	44	92	16	5	16220	16220
16	2.5	36	15.5	42	44	92	16	5	16225	16225
16	3.0	36	15.5	42	44	92	16	5	16230	16230
20	0.3	41	19.5	52	54	104	20	5	20203	20203
20	0.5	41	19.5	52	54	104	20	5	20205	20205

P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H		
O		

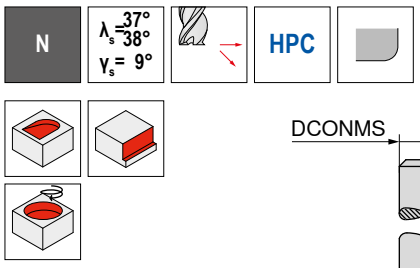


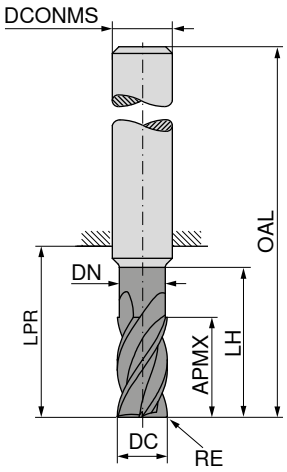
→ Find the cutting data standard values here.

Continued on next page

SilverLine – End mills with corner radius – N

The versatile tool for universal application










Factory standard | Factory standard




DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 997 ...	SA 50 998 ...
20	1.0	41	19.5	52	54	104	20	5	**20210**	**20210**
20	1.5	41	19.5	52	54	104	20	5	**20215**	**20215**
20	2.0	41	19.5	52	54	104	20	5	**20220**	**20220**
20	2.5	41	19.5	52	54	104	20	5	**20225**	**20225**
20	3.0	41	19.5	52	54	104	20	5	**20230**	**20230**
20	4.0	41	19.5	52	54	104	20	5	**20240**	**20240**

P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H		
O		

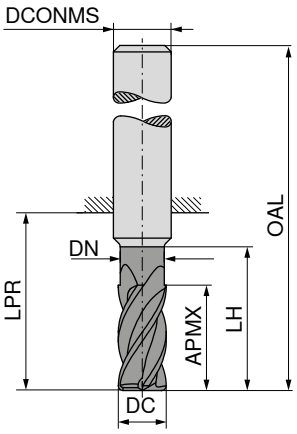
→ Find the cutting data standard values here.

SilverLine – High-precision finishing milling cutters – N

The versatile tool for universal application

▲ With max. taper of 0.008 mm for high precision and parallelism of vertical walls

N | λ_s=48° γ_s=50° γ_s=13° | HPC



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≈DIN 6527



Factory standard



SA



SA

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	50 991 ...	50 991 ...
6.0	13	5.6	19	21	57	6	6	**06700**	
6.0	10	5.8	18	22	58	6	6	**06200**	
6.0	13	5.8	27	31	67	6	6		**06400**
6.0	13	5.8	36	40	76	6	6		**06900**
6.0	15	5.6	42	44	80	6	6		**90000**
8.0	19	7.6	25	27	63	8	6	**08700**	
8.0	13	7.7	24	28	64	8	6	**08200**	
8.0	17	7.7	36	40	76	8	6		**08400**
8.0	17	7.7	48	53	89	8	6		**08900**
8.0	20	7.6	62	64	100	8	6		**90100**
10.0	22	9.6	30	32	72	10	6	**10700**	
10.0	16	9.7	30	34	74	10	6	**10200**	
10.0	21	9.7	45	49	89	10	6		**10400**
10.0	25	9.6	58	60	100	10	6		**10900**
10.0	21	9.7	60	64	104	10	6		**90200**
12.0	26	11.5	36	38	83	12	6	**12700**	
12.0	19	11.6	36	40	85	12	6	**12200**	
12.0	25	11.6	54	58	103	12	6		**12400**
12.0	30	11.5	73	75	120	12	6		**12900**
12.0	25	11.6	72	76	121	12	6		**90300**
16.0	32	15.0	42	44	92	16	6	**16700**	
16.0	25	15.5	48	52	100	16	6	**16200**	
16.0	33	15.5	72	76	124	16	6		**16400**
16.0	33	15.5	96	100	148	16	6		**16900**
16.0	40	15.0	100	102	150	16	6		**90400**
20.0	38	19.0	52	54	104	20	6	**20700**	
20.0	32	19.5	60	64	114	20	6	**20200**	
20.0	42	19.5	90	94	144	20	6		**20400**

P	●	●
M	●	●
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N	○	○
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→ Find the cutting data standard values here.

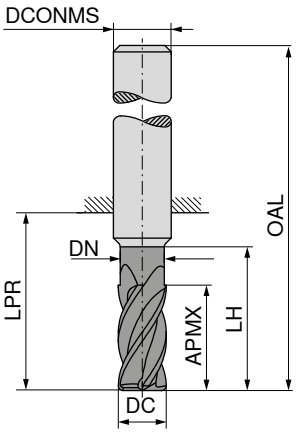
Continued on next page

SilverLine – High-precision finishing milling cutters – N

The versatile tool for universal application

▲ With max. taper of 0.008 mm for high precision and parallelism of vertical walls

N | λ_s=48° κ_r=50° γ_s=13° | HPC






DPB72S DRAGONSKIN | DPB72S DRAGONSKIN




≈DIN 6527 | Factory standard




DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 50 991 ...	SA 50 991 ...
20.0	50	19.0	98	100	150	20	6		**20900**
20.0	42	19.5	120	124	174	20	6		**90500**
25.0	40	24.5	75	80	136	25	6	**25200**	
25.0	52	24.5	113	118	174	25	6		**25400**
25.0	52	24.5	150	154	210	25	6		**25900**

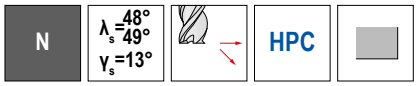
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M	●	●
K	○	○
N	○	○
S	○	○
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→ Find the cutting data standard values here.

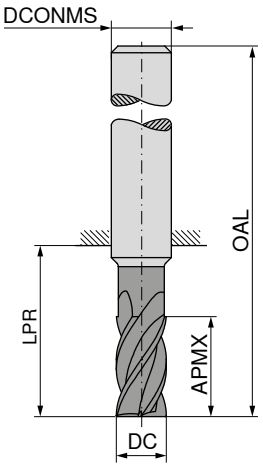
SilverLine – Finishing milling cutters – N

The versatile tool for universal application

- With max. taper of 0.01 mm for high precision and parallelism of vertical walls
- 50 323 ... Long type = cutting depth 3xDC
- 50 323 ... Extra-long type = cutting depth 4xDC













Factory standard | Factory standard





DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 323 ...	SA 50 323 ...
6	19	27	63	6	6	**06200**	
6	25	31	67	6	6		**06400**
8	25	35	71	8	6	**08200**	
8	33	40	76	8	6		**08400**
10	31	43	83	10	6	**10200**	
10	41	49	89	10	6		**10400**
12	37	49	94	12	6	**12200**	
12	49	57	102	12	6		**12400**
16	49	63	111	16	6	**16200**	
16	65	75	123	16	6		**16400**
20	61	77	127	20	6	**20200**	
20	81	93	143	20	6		**20400**

P	●	●
M	●	●
K	○	○
N	○	○
S	○	○
H		
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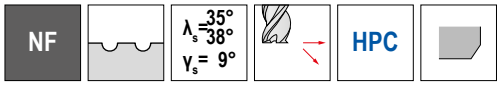


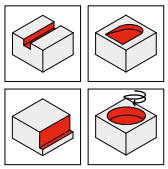
→ Find the cutting data standard values here.

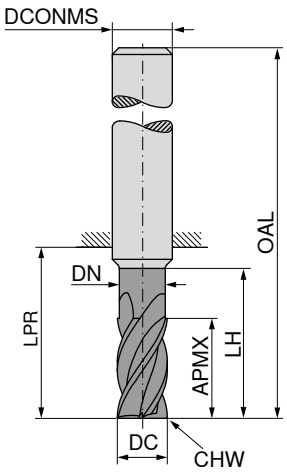
SilverLine – Roughing-finishing milling cutters – NF

The versatile tool for universal application

▲ With flat cord profile







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DIN 6527



SA

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	50 969 ...
3.0	8	2.8	13	21	57	6	0.1	4	**03200**
3.5	11	3.3	17	21	57	6	0.1	4	**03700**
4.0	11	3.8	17	21	57	6	0.1	4	**04200**
4.5	13	4.3	19	21	57	6	0.1	4	**04700**
5.0	13	4.8	19	21	57	6	0.1	4	**05200**
5.5	13	5.3	19	21	57	6	0.1	4	**05700**
6.0	13	5.8	19	21	57	6	0.1	4	**06200**
7.0	21	6.7	25	27	63	8	0.2	4	**07200**
8.0	21	7.7	25	27	63	8	0.2	4	**08200**
10.0	22	9.7	30	32	72	10	0.2	4	**10200**
12.0	26	11.6	36	38	83	12	0.3	4	**12200**
14.0	26	13.6	36	38	83	14	0.3	4	**14200**
16.0	36	15.5	42	44	92	16	0.3	4	**16200**
20.0	41	19.5	52	54	104	20	0.3	4	**20200**

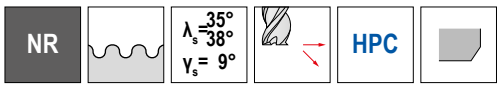
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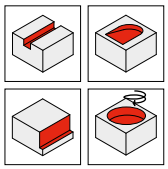
→ Find the cutting data standard values here.

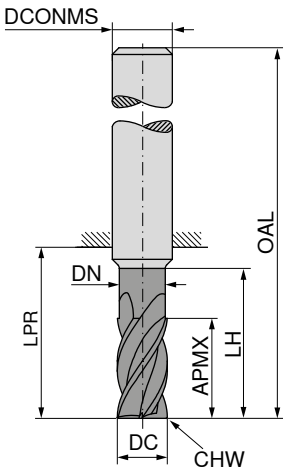
SilverLine – Roughing milling cutters – NR

The versatile tool for universal application

▲ With round cord profile







DPB72S

DRAGONSKIN





DIN 6527



SA

DC d11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	50 979 ...
3.0	8	2.8	13	21	57	6	0.1	4	**03200**
3.5	11	3.3	17	21	57	6	0.1	4	**03700**
4.0	11	3.8	17	21	57	6	0.1	4	**04200**
4.5	13	4.3	19	21	57	6	0.1	4	**04700**
5.0	13	4.8	19	21	57	6	0.1	4	**05200**
5.5	13	5.3	19	21	57	6	0.1	4	**05700**
6.0	13	5.8	19	21	57	6	0.1	4	**06200**
7.0	21	6.7	25	27	63	8	0.2	4	**07200**
8.0	21	7.7	25	27	63	8	0.2	4	**08200**
10.0	22	9.7	30	32	72	10	0.2	4	**10200**
12.0	26	11.6	36	38	83	12	0.3	4	**12200**
14.0	26	13.6	36	38	83	14	0.3	4	**14200**
16.0	36	15.5	42	44	92	16	0.3	4	**16200**
20.0	41	19.5	52	54	104	20	0.3	4	**20200**

P	●
M	●
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N	○
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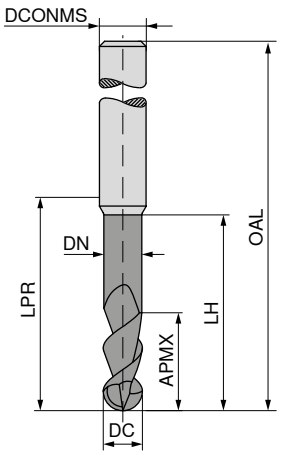
→ Find the cutting data standard values here.

SilverLine – Ball-nosed end mills – N

The versatile tool for universal application












Factory standard | Factory standard




DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 963 ...	SA 50 963 ...
3.0	4	2.8	10	14	50	6	2	03115	
3.0	7			24	60	6	2		03415
4.0	8	3.8	12	18	54	6	2	04120	
4.0	10			39	75	6	2		04420
5.0	9	4.8	16	18	54	6	2	05125	
5.0	12			39	75	6	2		05425
6.0	10	5.7	16	18	54	6	2	06130	
6.0	12			64	100	6	2		06430
7.0	11	6.6	20	22	58	8	2	07135	
8.0	12	7.6	20	22	58	8	2	08140	
8.0	14			64	100	8	2		08440
10.0	14	9.6	24	26	66	10	2	10150	
10.0	18			60	100	10	2		10450
12.0	16	11.5	26	28	73	12	2	12160	
12.0	22			55	100	12	2		12460
14.0	18	13.3	28	30	75	14	2	14170	
16.0	22	15.2	32	34	82	16	2	16180	
16.0	30			102	150	16	2		16480
20.0	26	19.0	40	42	92	20	2	20110	
20.0	38			100	150	20	2		20410

P	●	●
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O		

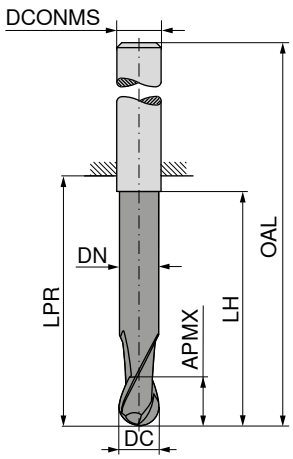


→ Find the cutting data standard values here.

SilverLine – Ball-nosed end mills – N

The versatile tool for universal application

N | λ_s=45° γ_s=10° | HPC







≈DIN 6527



SA

DC f8 mm	DN mm	LH mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	50 953 ...
4.0	3.9	16	11	21	57	6	3	**04200**
5.0	4.9	19	13	21	57	6	3	**05200**
6.0	5.9	19	13	21	57	6	3	**06200**
8.0	7.8	25	19	27	63	8	3	**08200**
10.0	9.7	30	22	32	72	10	3	**10200**
12.0	11.7	36	26	38	83	12	3	**12200**
16.0	15.5	42	36	44	92	16	3	**16200**
20.0	19.5	52	38	54	104	20	3	**20200**

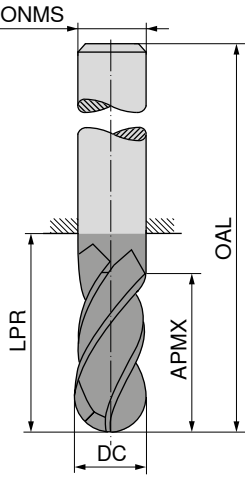
P	●
M	○
K	●
N	○
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→ Find the cutting data standard values here.

SilverLine – Ball-nosed end mills – N

The versatile tool for universal application

N | λ_s =35° 38° γ_s = 7° | HPC






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Factory standard | Factory standard




NEW

DC f8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 50 990 ...	SA 50 990 ...
3	5	47	75	3	4		03415
3	8	21	57	6	4	03215	
4	8	47	75	4	4		04420
4	11	21	57	6	4	04220	
5	9	47	75	5	4		05425
5	13	21	57	6	4	05225	
6	10	64	100	6	4		06430
6	13	21	57	6	4	06230	
8	12	64	100	8	4		08440
8	19	36	72	8	4	08280	
10	14	60	100	10	4		10450
10	22	32	72	10	4	10250	
12	16	55	100	12	4		12460
12	26	38	83	12	4	12260	
16	32	44	92	16	4	16280	
20	38	54	104	20	4	20210	

P	●	●
M	○	○
K	●	●
N	○	○
S		
H		
O		

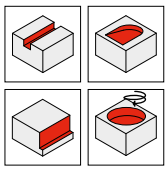
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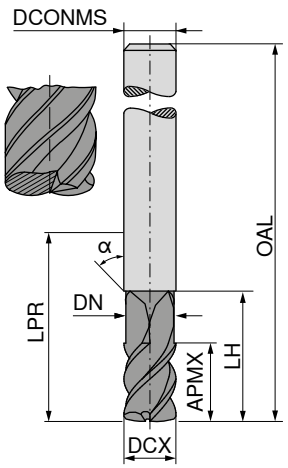
SilverLine – Torus face cutters – N

The versatile tool for universal application

▲ APMX does not correspond to the maximum cutting depth
▲ r_{3D} = corner radius to be programmed









Factory standard | Factory standard

DCX f8 mm	r3D mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	α°	DCONMS h6 mm	ZEFP	SA 50 989 ...	SA 50 989 ...
6.00	1.12	6	5.5	21	21	57	45	6	4	**06110**	
6.00	1.12	6	5.5	64	64	100	45	6	4		**06410**
8.00	1.23	8	7.4	27	27	63	45	8	4	**08110**	
8.00	1.23	8	7.4	64	64	100	45	8	4		**08410**
10.00	1.17	10	9.2	32	32	72	45	10	4	**10115**	
10.00	1.17	10	9.2	60	60	100	45	10	4		**10415**
12.00	1.86	12	11.0	32	38	83	45	12	4	**12115**	
12.00	1.86	12	11.0	65	65	110	45	12	4		**12415**
16.00	2.47	16	15.0	38	44	92	45	16	4	**16120**	
16.00	2.47	16	15.0	65	102	150	45	16	4		**16420**

P	●	●
M	○	○
K	●	●
N	○	○
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O		

→ Find the cutting data standard values here.

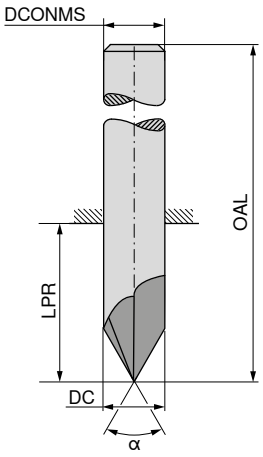
SilverLine – NC deburring cutters – N

The versatile tool for universal application

▲ 50 326 / 50 327 – point angle α = 60°
▲ 50 324 / 50 325 – point angle α = 90°

N | λ_s=0° γ_s=5°





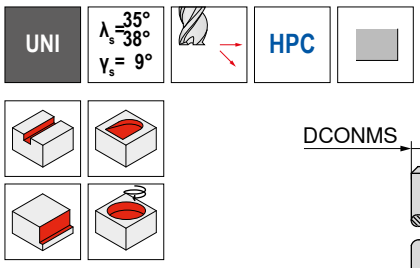


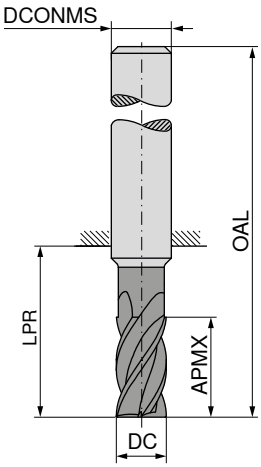
DC h6 mm	OAL mm	LPR mm	DCONMS h6 mm	ZEFP	α = 60° Factory standard SA 50 326 ...	α = 60° Factory standard SA 50 327 ...	α = 90° Factory standard SA 50 324 ...	α = 90° Factory standard SA 50 325 ...
4	50	22	4	5	**04000**		**04000**	
6	55	19	6	5	**06000**	**06000**	**06000**	**06000**
8	58	22	8	5	**08000**	**08000**	**08000**	**08000**
10	60	20	10	5	**10000**	**10000**	**10000**	**10000**
12	70	25	12	5	**12000**	**12000**	**12000**	**12000**
P					●	●	●	●
M					●	●	●	●
K					●	●	●	●
N								
S					○	○	○	○
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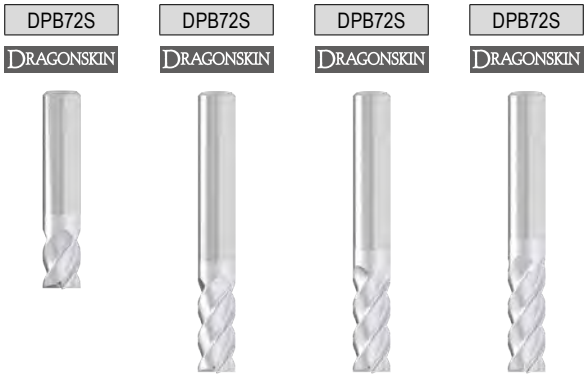
→ Find the cutting data standard values here.

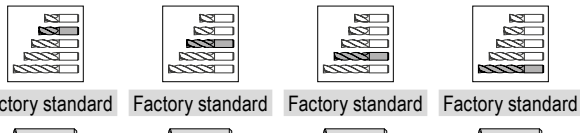
SilverLine – End mill – UNI

The versatile tool for universal application











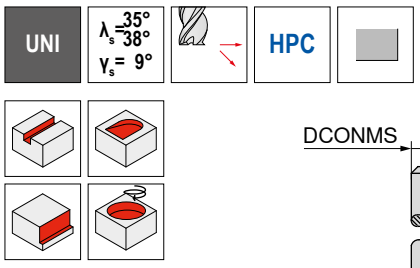
						NEW SA	NEW SA	NEW SA	NEW SA
DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 329 ...	50 329 ...	50 329 ...	50 329 ...
1/8	0.250	0.520	1.500	0.125	4	12520			
1/8	0.500	1.398	2.500	0.125	4				12540
3/16	0.313	0.898	2.000	0.188	4	18817			
3/16	0.625	1.398	2.500	0.188	4			18833	
1/4	0.375	0.583	2.000	0.250	4	25015			
1/4	0.500	1.083	2.500	0.250	4		25020		
1/4	0.750	1.083	2.500	0.250	4			25030	
1/4	1.000	1.583	3.000	0.250	4				25040
5/16	0.500	0.583	2.000	0.313	4	31316			
5/16	0.750	1.083	2.500	0.313	4		31324		
5/16	1.250	1.583	3.000	0.313	4			31340	
3/8	0.500	0.825	2.000	0.375	4	37513			
3/8	0.875	1.583	3.000	0.375	4		37523		
3/8	1.000	1.583	3.000	0.375	4			37527	
3/8	1.250	1.583	3.000	0.375	4				37533
7/16	1.000	1.175	2.750	0.438	4			43823	
7/16	2.000	2.113	4.000	0.438	4				43846
1/2	0.625	0.735	2.500	0.500	4	50013			
1/2	1.000	1.235	3.000	0.500	4		50020		
1/2	1.250	1.425	3.000	0.500	4			50025	
1/2	1.625	2.235	4.000	0.500	4				50033
1/2	2.000	2.113	4.000	0.500	4				50040
5/8	0.750	1.110	3.000	0.625	4	62512			
5/8	1.250	1.613	3.500	0.625	4		62520		
5/8	1.625	1.728	3.500	0.625	4			62526	
5/8	2.000	2.113	4.000	0.625	4				62532
5/8	3.250	4.110	6.000	0.625	4				62552
3/4	0.875	1.583	3.000	0.750	4	75012			
3/4	1.250	2.032	4.000	0.750	4		75017		
P						●	●	●	●
M						●	●	●	●
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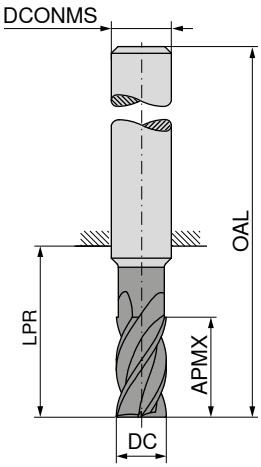
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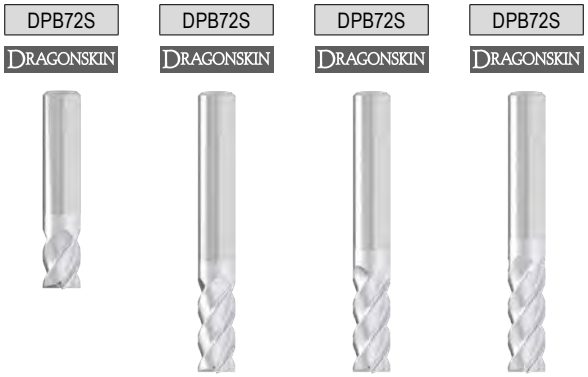
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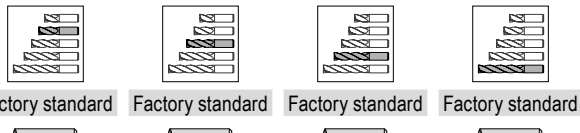
SilverLine – End mill – UNI

The versatile tool for universal application







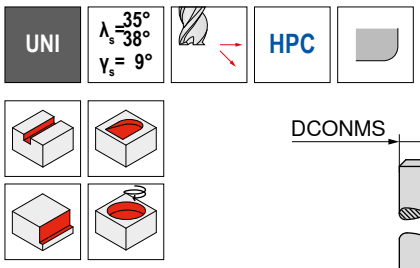


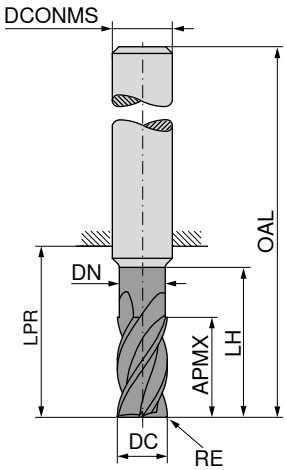
DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 329 ...	NEW SA 50 329 ...	NEW SA 50 329 ...	NEW SA 50 329 ...
3/4	1.625	1.978	4.000	0.750	4			75022	
3/4	2.250	3.032	5.000	0.750	4				75030
3/4	3.250	4.032	6.000	0.750	4				75043
1	1.500	1.795	4.000	1.000	4	99915			
1	2.000	2.295	4.500	1.000	4		99920		
1	2.625	2.795	5.000	1.000	4			99926	
1	3.000	3.795	6.000	1.000	4				99930
1	4.250	4.795	7.000	1.000	4				99943
P						●	●	●	●
M						●	●	●	●
K						●	●	●	●
N						○	○	○	○
S						○	○	○	○
H									
O									

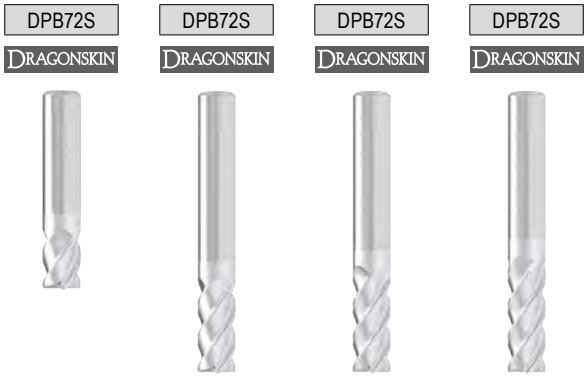
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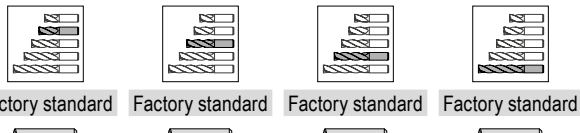
SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









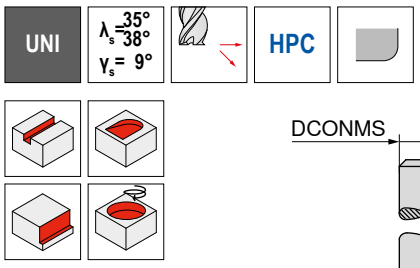
DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...
1/8	0.010	0.250			0.398	1.500	0.125	4	12504			
1/8	0.030	0.250			0.398	1.500	0.125	4	12503			
1/8	0.010	0.500			1.398	2.500	0.125	4			12506	
1/8	0.030	0.500			1.398	2.500	0.125	4				12505
1/8	0.010	0.156	0.120	0.375	1.110	3.000	0.125	4	12509			
1/8	0.010	0.156	0.120	0.500	1.228	3.000	0.125	4		12508		
1/8	0.010	0.156	0.120	0.625	1.425	3.000	0.125	4			12507	
3/16	0.010	0.313			0.898	2.000	0.188	4	18804			
3/16	0.030	0.313			0.898	2.000	0.188	4	18803			
3/16	0.030	0.625			1.398	2.500	0.188	4			18805	
3/16	0.010	0.625			1.398	2.500	0.188	4			18806	
3/16	0.010	0.219	0.180	0.500	1.228	3.000	0.188	4		18809		
3/16	0.010	0.219	0.180	0.750	1.425	3.000	0.188	4			18808	
3/16	0.010	0.219	0.180	1.000	1.583	3.000	0.188	4				18807
1/4	0.010	0.375			0.583	2.000	0.250	4	25001			
1/4	0.020	0.375			0.583	2.000	0.250	4	25011			
1/4	0.030	0.375			0.583	2.000	0.250	4	25010			
1/4	0.060	0.375			0.583	2.000	0.250	4	25009			
1/4	0.010	0.500			1.083	2.500	0.250	4		25003		
1/4	0.020	0.500			1.083	2.500	0.250	4		25014		
1/4	0.030	0.500			1.083	2.500	0.250	4		25013		
1/4	0.060	0.500			1.083	2.500	0.250	4		25012		
1/4	0.030	0.750			1.083	2.500	0.250	4			25016	
1/4	0.010	0.750			1.398	2.500	0.250	4			25005	
1/4	0.020	0.750			1.083	2.500	0.250	4			25017	
1/4	0.060	0.750			1.083	2.500	0.250	4			25015	
1/4	0.020	0.375	0.240	0.750	1.425	3.000	0.250	4			25018	
1/4	0.030	1.000			1.583	3.000	0.250	4				25020
1/4	0.010	1.000			1.583	3.000	0.250	4				25007
P									●	●	●	●
M									●	●	●	●
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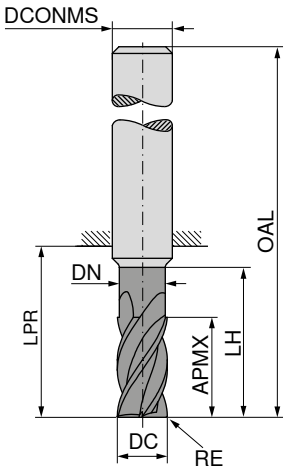
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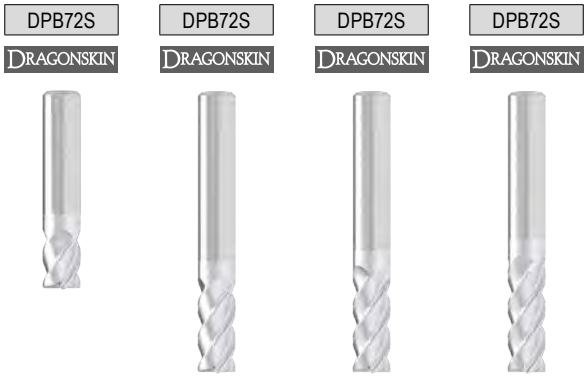
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SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









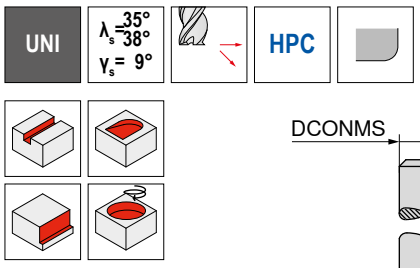
DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...
1/4	0.020	1.000			1.583	3.000	0.250	4				25021
1/4	0.060	1.000			1.583	3.000	0.250	4				25019
1/4	0.020	0.375	0.240	1.125	2.113	4.000	0.250	4				25024
1/4	0.020	0.375	0.240	1.625	2.113	4.000	0.250	4				25023
1/4	0.020	0.375	0.240	2.125	2.228	4.000	0.250	4				25022
5/16	0.060	0.500			0.583	2.000	0.313	4	31307			
5/16	0.010	0.500			0.583	2.000	0.313	4	31301			
5/16	0.020	0.500			0.583	2.000	0.313	4	31309			
5/16	0.030	0.500			0.583	2.000	0.313	4	31308			
5/16	0.030	0.750			1.083	2.500	0.313	4		31311		
5/16	0.010	0.750			1.083	2.500	0.313	4		31303		
5/16	0.020	0.750			1.083	2.500	0.313	4		31312		
5/16	0.060	0.750			1.083	2.500	0.313	4		31310		
5/16	0.030	1.250			1.583	3.000	0.313	4			31314	
5/16	0.010	1.250			1.583	3.000	0.313	4			31305	
5/16	0.020	1.250			1.583	3.000	0.313	4			31315	
5/16	0.060	1.250			1.583	3.000	0.313	4			31313	
3/8	0.010	0.500			0.825	2.000	0.375	4	37501			
3/8	0.020	0.500			0.825	2.000	0.375	4	37512			
3/8	0.030	0.500			0.825	2.000	0.375	4	37511			
3/8	0.060	0.500			0.825	2.000	0.375	4	37510			
3/8	0.090	0.500			0.825	2.000	0.375	4	37509			
3/8	0.030	0.875			1.583	3.000	0.375	4		37522		
3/8	0.010	0.875			1.583	3.000	0.375	4		37503		
3/8	0.020	0.875			1.583	3.000	0.375	4		37524		
3/8	0.060	0.875			1.583	3.000	0.375	4		37520		
3/8	0.090	0.875			1.583	3.000	0.375	4		37517		
3/8	0.090	1.000			1.583	3.000	0.375	4			37516	
3/8	0.010	1.000			1.425	3.000	0.375	4			37504	
P									●	●	●	●
M									●	●	●	●
K									●	●	●	●
N									○	○	○	○
S									○	○	○	○
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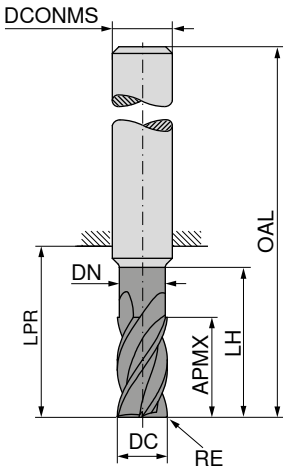
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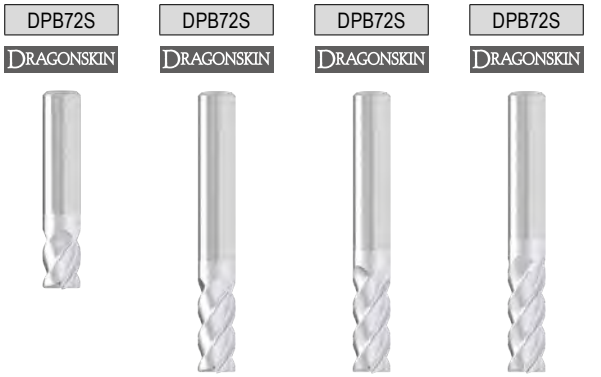
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SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...
3/8	0.020	1.000			1.583	3.000	0.375	4			37523	
3/8	0.030	1.000			1.583	3.000	0.375	4			37521	
3/8	0.060	1.000			1.583	3.000	0.375	4			37519	
3/8	0.060	1.250			1.583	3.000	0.375	4				37514
3/8	0.010	1.250			1.583	3.000	0.375	4				37505
3/8	0.020	1.250			1.583	3.000	0.375	4				37518
3/8	0.030	1.250			1.583	3.000	0.375	4				37515
3/8	0.090	1.250			1.583	3.000	0.375	4				37513
3/8	0.030	0.500	0.360	1.125	2.113	4.000	0.375	4				37526
3/8	0.030	0.500	0.360	2.125	2.228	4.000	0.375	4				37525
3/8	0.030	0.500	0.360	3.125	3.795	6.000	0.375	4				37528
3/8	0.030	0.500	0.360	4.125	4.189	6.000	0.375	4				37527
1/2	0.030	0.625			0.728	2.500	0.500	4	50033			
1/2	0.010	0.625			0.728	2.500	0.500	4	50001			
1/2	0.020	0.625			0.728	2.500	0.500	4	50034			
1/2	0.060	0.625			0.728	2.500	0.500	4	50032			
1/2	0.090	0.625			0.728	2.500	0.500	4	50031			
1/2	0.125	0.625			0.728	2.500	0.500	4	50029			
1/2	0.020	1.000			1.228	3.000	0.500	4		50030		
1/2	0.010	1.000			1.583	3.000	0.500	4		50002		
1/2	0.030	1.000			1.228	3.000	0.500	4		50028		
1/2	0.060	1.000			1.228	3.000	0.500	4		50027		
1/2	0.090	1.000			1.228	3.000	0.500	4		50023		
1/2	0.125	1.000			1.228	3.000	0.500	4		50022		
1/2	0.060	1.250			1.425	3.000	0.500	4			50037	
1/2	0.010	1.250			1.583	3.000	0.500	4			50013	
1/2	0.020	1.250			1.425	3.000	0.500	4			50039	
1/2	0.030	1.250			1.425	3.000	0.500	4			50038	
1/2	0.090	1.250			1.425	3.000	0.500	4			50036	

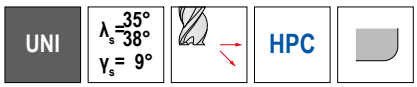
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M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
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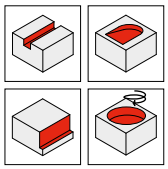
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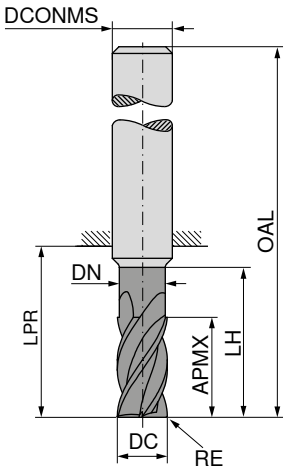
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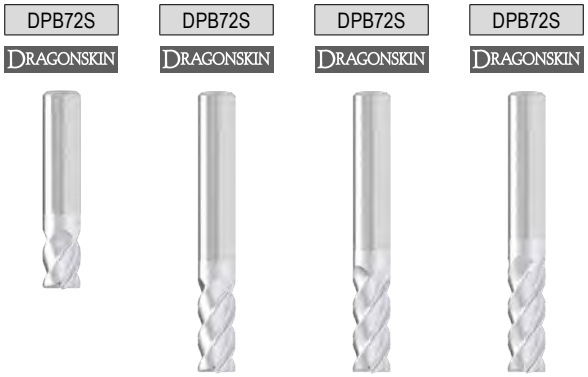
SilverLine – End mills with corner radius – UNI

The versatile tool for universal application













DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 328 ...	50 328 ...	50 328 ...	50 328 ...
1/2	0.125	1.250			1.425	3.000	0.500	4			50035	
1/2	0.030	0.625	0.480	1.500	2.032	4.000	0.500	4		50017		
1/2	0.030	0.625	0.480	2.250	2.307	4.000	0.500	4				50016
1/2	0.060	1.625			2.228	4.000	0.500	4				50020
1/2	0.010	1.625			2.113	4.000	0.500	4				50004
1/2	0.020	1.625			2.228	4.000	0.500	4				50024
1/2	0.030	1.625			2.228	4.000	0.500	4				50021
1/2	0.090	1.625			2.228	4.000	0.500	4				50019
1/2	0.125	1.625			2.228	4.000	0.500	4				50018
1/2	0.010	2.000			2.113	4.000	0.500	4				50007
1/2	0.020	2.000			2.113	4.000	0.500	4				50008
1/2	0.030	2.000			2.113	4.000	0.500	4				50009
1/2	0.060	2.000			2.113	4.000	0.500	4				50010
1/2	0.090	2.000			2.113	4.000	0.500	4				50011
1/2	0.125	2.000			2.113	4.000	0.500	4				50012
1/2	0.030	0.625	0.480	3.375	3.795	6.000	0.500	4				50026
1/2	0.030	0.625	0.480	4.125	4.189	6.000	0.500	4				50025
5/8	0.060	0.750			1.110	3.000	0.625	4	62508			
5/8	0.030	0.750			1.110	3.000	0.625	4	62509			
5/8	0.090	0.750			1.110	3.000	0.625	4	62507			
5/8	0.125	0.750			1.110	3.000	0.625	4	62506			
5/8	0.060	1.250			1.610	3.500	0.625	4		62512		
5/8	0.030	1.250			1.610	3.500	0.625	4		62513		
5/8	0.090	1.250			1.610	3.500	0.625	4		62511		
5/8	0.125	1.250			1.610	3.500	0.625	4		62510		
5/8	0.030	1.625			1.728	3.500	0.625	4			62517	
5/8	0.125	1.625			1.728	3.500	0.625	4				62514
5/8	0.060	1.625			1.728	3.500	0.625	4			62516	
5/8	0.090	1.625			1.728	3.500	0.625	4			62515	

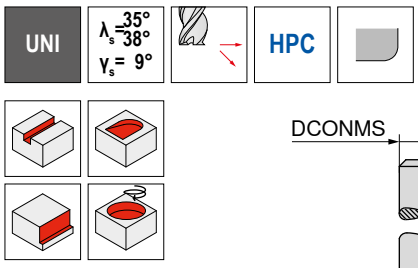
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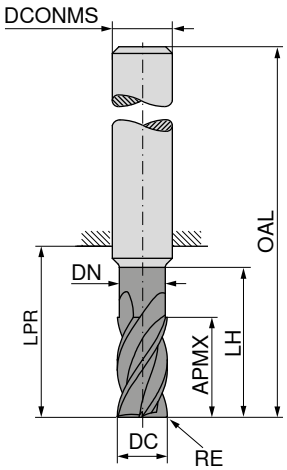
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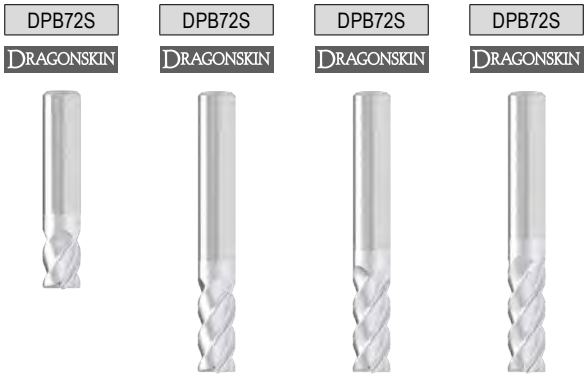
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SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









									Factory standard	Factory standard	Factory standard	Factory standard
									NEW	NEW	NEW	NEW
									SA	SA	SA	SA
DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 328 ...	50 328 ...	50 328 ...	50 328 ...
5/8	0.030	0.750	0.600	1.625	2.113	4.000	0.625	4				62518
5/8	0.125	2.000			2.113	4.000	0.625	4				62519
5/8	0.030	2.000			2.113	4.000	0.625	4				62522
5/8	0.060	2.000			2.113	4.000	0.625	4				62521
5/8	0.090	2.000			2.113	4.000	0.625	4				62520
5/8	0.030	0.750	0.600	2.375	3.795	6.000	0.625	4				62525
5/8	0.030	0.750	0.600	3.375	3.795	6.000	0.625	4				62524
5/8	0.030	0.750	0.600	4.125	4.189	6.000	0.625	4				62523
5/8	0.090	3.250			4.110	6.000	0.625	4				62527
5/8	0.030	3.250			4.110	6.000	0.625	4				62529
5/8	0.060	3.250			4.110	6.000	0.625	4				62528
5/8	0.125	3.250			4.110	6.000	0.625	4				62526
3/4	0.030	0.875			1.425	3.000	0.750	4	75011			
3/4	0.060	0.875			1.425	3.000	0.750	4	75010			
3/4	0.090	0.875			1.425	3.000	0.750	4	75009			
3/4	0.125	0.875			1.425	3.000	0.750	4	75008			
3/4	0.190	0.875			1.425	3.000	0.750	4	75007			
3/4	0.250	0.875			1.425	3.000	0.750	4	75006			
3/4	0.030	1.000	0.720	2.000	2.113	4.000	0.750	4				75012
3/4	0.125	1.250			2.032	4.000	0.750	4		75016		
3/4	0.030	1.250			2.032	4.000	0.750	4		75022		
3/4	0.060	1.250			2.032	4.000	0.750	4		75020		
3/4	0.090	1.250			2.032	4.000	0.750	4		75018		
3/4	0.190	1.250			2.032	4.000	0.750	4		75014		
3/4	0.250	1.250			2.032	4.000	0.750	4		75013		
3/4	0.090	1.625			2.032	4.000	0.750	4			75021	
3/4	0.030	1.625			2.032	4.000	0.750	4			75024	
3/4	0.060	1.625			2.032	4.000	0.750	4			75023	
3/4	0.125	1.625			2.032	4.000	0.750	4			75019	
P									●	●	●	●
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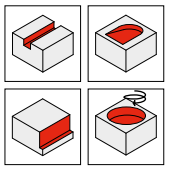
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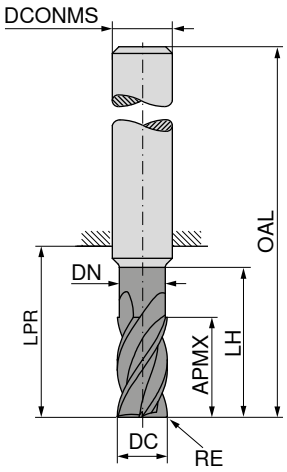
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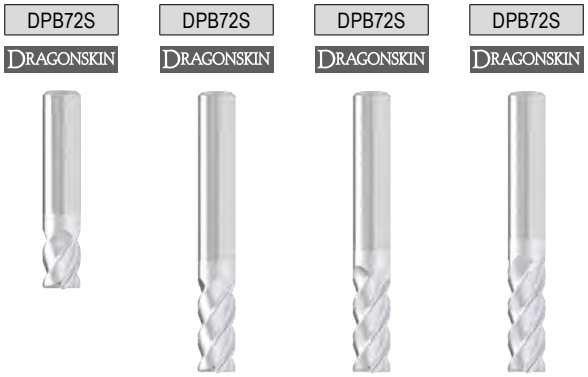
SilverLine – End mills with corner radius – UNI

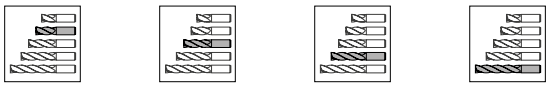
The versatile tool for universal application

UNI | λ_s = 35° 38° γ_s = 9° | HPC









DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...	NEW SA 50 328 ...
3/4	0.190	1.625			2.032	4.000	0.750	4			75017	
3/4	0.250	1.625			2.032	4.000	0.750	4			75015	
3/4	0.125	2.250			3.032	5.000	0.750	4				75027
3/4	0.030	2.250			3.032	5.000	0.750	4				75030
3/4	0.060	2.250			3.032	5.000	0.750	4				75029
3/4	0.090	2.250			3.032	5.000	0.750	4				75028
3/4	0.190	2.250			3.032	5.000	0.750	4				75026
3/4	0.250	2.250			3.032	5.000	0.750	4				75025
3/4	0.030	1.000	0.720	2.500	3.795	6.000	0.750	4				75033
3/4	0.030	1.000	0.720	3.375	3.795	6.000	0.750	4				75032
3/4	0.030	1.000	0.720	4.125	4.189	6.000	0.750	4				75031
3/4	0.125	3.250			4.032	6.000	0.750	4				75036
3/4	0.030	3.250			4.032	6.000	0.750	4				75039
3/4	0.060	3.250			4.032	6.000	0.750	4				75038
3/4	0.090	3.250			4.032	6.000	0.750	4				75037
3/4	0.190	3.250			4.032	6.000	0.750	4				75035
3/4	0.250	3.250			4.032	6.000	0.750	4				75034
1	0.030	1.250	0.950	2.250	2.307	4.000	1.000	4				99906
1	0.125	1.500			1.795	4.000	1.000	4	99909			
1	0.030	1.500			1.795	4.000	1.000	4	99912			
1	0.060	1.500			1.795	4.000	1.000	4	99911			
1	0.090	1.500			1.795	4.000	1.000	4	99910			
1	0.190	1.500			1.795	4.000	1.000	4	99908			
1	0.250	1.500			1.795	4.000	1.000	4	99907			
1	0.060	2.000			2.295	4.500	1.000	4		99917		
1	0.030	2.000			2.295	4.500	1.000	4		99918		
1	0.090	2.000			2.295	4.500	1.000	4		99916		
1	0.125	2.000			2.295	4.500	1.000	4		99915		
1	0.190	2.000			2.295	4.500	1.000	4		99914		

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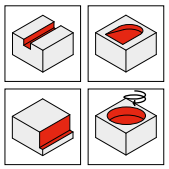
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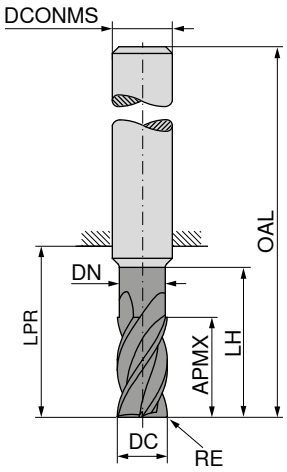
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SilverLine – End mills with corner radius – UNI

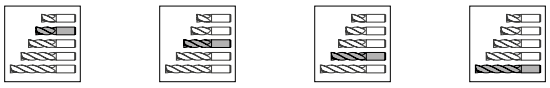
The versatile tool for universal application

UNI | λ_s = 35° 38° γ_s = 9° | HPC











NEW NEW NEW NEW

SA SA SA SA

DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 328 ...	50 328 ...	50 328 ...	50 328 ...
1	0.250	2.000			2.295	4.500	1.000	4				
1	0.190	2.625			2.795	5.000	1.000	4		99913		
1	0.030	2.625			2.795	5.000	1.000	4			99920	
1	0.060	2.625			2.795	5.000	1.000	4			99924	
1	0.090	2.625			2.795	5.000	1.000	4			99923	
1	0.125	2.625			2.795	5.000	1.000	4			99922	
1	0.250	2.625			2.795	5.000	1.000	4			99921	
1	0.030	1.250	0.950	2.625	3.795	6.000	1.000	4			99919	
1	0.030	1.250	0.950	3.375	3.795	6.000	1.000	4				99927
1	0.030	1.250	0.950	4.125	4.189	6.000	1.000	4				99926
1	0.190	3.000			3.795	6.000	1.000	4				99925
1	0.030	3.000			3.795	6.000	1.000	4				99929
1	0.060	3.000			3.795	6.000	1.000	4				99933
1	0.090	3.000			3.795	6.000	1.000	4				99932
1	0.125	3.000			3.795	6.000	1.000	4				99931
1	0.250	3.000			3.795	6.000	1.000	4				99930
1	0.060	4.250			4.795	7.000	1.000	4				99928
1	0.030	4.250			4.795	7.000	1.000	4				99938
1	0.090	4.250			4.795	7.000	1.000	4				99939
1	0.125	4.250			4.795	7.000	1.000	4				99937
1	0.190	4.250			4.795	7.000	1.000	4				99936
1	0.250	4.250			4.795	7.000	1.000	4				99935
												99934

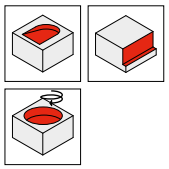
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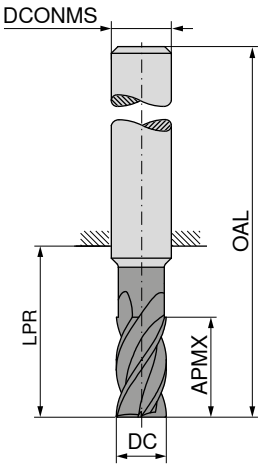
→ Find the cutting data standard values here.

SilverLine – End mill – UNI

The versatile tool for universal application

UNI | λ_s = 37° 38° γ_s = 9° | HPC











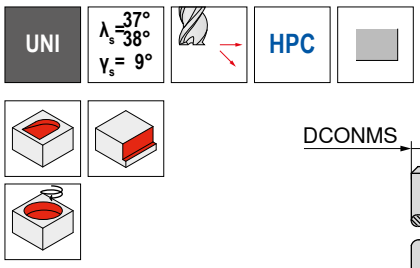
						NEW SA	NEW SA	NEW SA	NEW SA
DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 334 ...	50 334 ...	50 334 ...	50 334 ...
1/4	0.375	0.583	2.000	0.250	5	25015			
1/4	0.500	1.083	2.500	0.250	5		25020		
1/4	0.750	1.083	2.500	0.250	5			25030	
1/4	1.000	1.583	3.000	0.250	5				25040
1/4	1.250	1.583	3.000	0.250	5				25050
5/16	0.500	0.583	2.000	0.313	5		31316		
5/16	0.750	1.083	2.500	0.313	5			31324	
5/16	1.250	1.583	3.000	0.313	5				31340
3/8	0.500	0.825	2.000	0.375	5	37513			
3/8	1.000	1.583	3.000	0.375	5		37527		
3/8	1.250	1.583	3.000	0.375	5			37533	
3/8	1.500	1.925	3.500	0.375	5				37540
7/16	1.000	1.175	2.750	0.438	5				43823
7/16	2.000	2.228	4.000	0.438	5				43846
1/2	0.625	0.735	2.500	0.500	5	50013			
1/2	1.000	1.235	3.000	0.500	5		50020		
1/2	1.250	1.425	3.000	0.500	5			50025	
1/2	1.625	2.235	4.000	0.500	5				50033
1/2	2.000	2.235	4.000	0.500	5				50040
5/8	0.750	1.110	3.000	0.625	5	62512			
5/8	1.250	1.613	3.500	0.625	5		62520		
5/8	1.625	1.728	3.500	0.625	5			62526	
5/8	2.250	2.425	4.000	0.625	5				62536
5/8	2.500	3.113	5.000	0.625	5				62540
3/4	1.000	1.228	3.000	0.750	5	75013			
3/4	1.625	1.978	4.000	0.750	5		75022		
3/4	2.250	3.032	5.000	0.750	5			75030	
3/4	2.750	3.113	5.000	0.750	5				75037
3/4	3.250	4.032	6.000	0.750	5				75043
P						●	●	●	●
M						●	●	●	●
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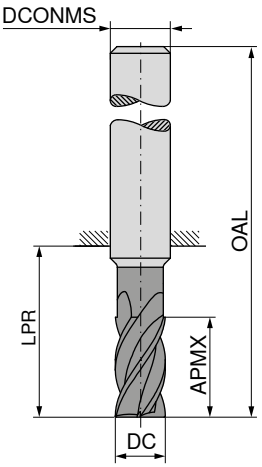
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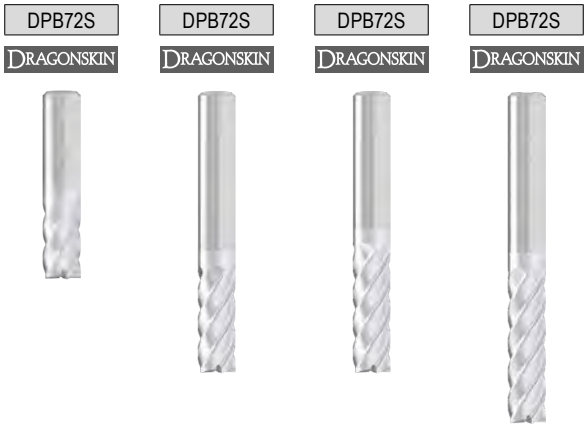
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SilverLine – End mill – UNI

The versatile tool for universal application









Factory standard | Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA | NEW SA

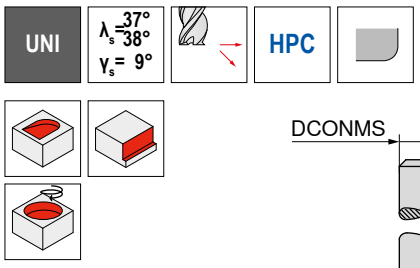
DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 334 ...	50 334 ...	50 334 ...	50 334 ...
1	1.250	1.795	4.000	1.000	5	99913			
1	2.000	2.295	4.500	1.000	5		99920		
1	2.625	2.795	5.000	1.000	5			99926	
1	3.250	3.795	6.000	1.000	5				99933
1	4.250	4.795	7.000	1.000	5				99943
1 1/4	2.000	2.138	4.500	1.250	5				93316
1 1/4	3.375	3.638	6.000	1.250	5				93327
1 1/4	4.750	5.638	8.000	1.250	5				93338

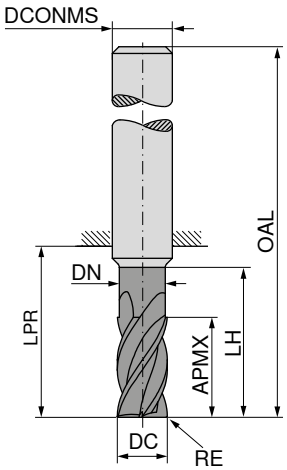
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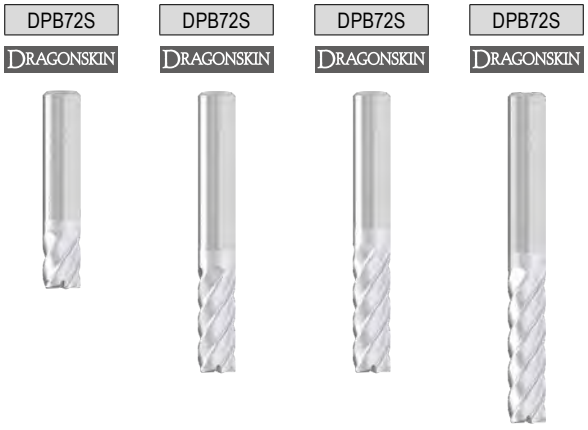
→ Find the cutting data standard values here.

SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









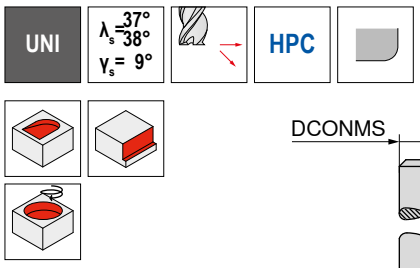
DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...
1/8	0.010	0.250			0.398	1.500	0.125	5	12506			
1/8	0.030	0.250			0.398	1.500	0.125	5	12503			
1/8	0.030	0.500			0.516	1.500	0.125	5		12502		
1/8	0.010	0.500			0.516	1.500	0.125	5		12505		
1/8	0.010	0.156	0.118	0.375	1.122	3.000	0.125	5	12507			
1/8	0.010	0.156	0.118	0.500	1.898	3.000	0.125	5		12504		
1/8	0.010	0.156	0.118	0.625	1.898	3.000	0.125	5			12501	
3/16	0.010	0.313			0.583	2.000	0.188	5	18807			
3/16	0.030	0.313			0.583	2.000	0.188	5	18805			
3/16	0.030	0.625			1.004	2.500	0.188	5			18804	
3/16	0.010	0.625			1.004	2.500	0.188	5			18806	
3/16	0.010	0.219	0.178	0.500	1.898	3.000	0.188	5		18803		
3/16	0.010	0.219			1.122	3.000	0.188	5	18801			
3/16	0.010	0.219	0.178	0.750	1.898	3.000	0.188	5			18802	
1/4	0.015	0.375			0.583	2.000	0.250	5	25008			
1/4	0.010	0.375			0.583	2.000	0.250	5	25001			
1/4	0.030	0.375			0.583	2.000	0.250	5	25007			
1/4	0.060	0.375			0.583	2.000	0.250	5	25006			
1/4	0.015	0.500			1.083	2.500	0.250	5		25014		
1/4	0.010	0.500			1.083	2.500	0.250	5		25002		
1/4	0.030	0.500			1.083	2.500	0.250	5		25012		
1/4	0.060	0.500			1.083	2.500	0.250	5		25010		
1/4	0.030	0.750			1.083	2.500	0.250	5			25011	
1/4	0.010	0.750			1.083	2.500	0.250	5			25003	
1/4	0.015	0.750			1.083	2.500	0.250	5			25013	
1/4	0.060	0.750			1.083	2.500	0.250	5			25009	
1/4	0.020	0.375	0.237	0.750	1.583	3.000	0.250	5			25015	
1/4	0.030	1.000			1.583	3.000	0.250	5				25019
1/4	0.010	1.000			1.583	3.000	0.250	5				25004
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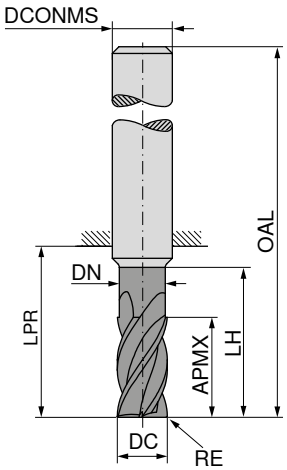
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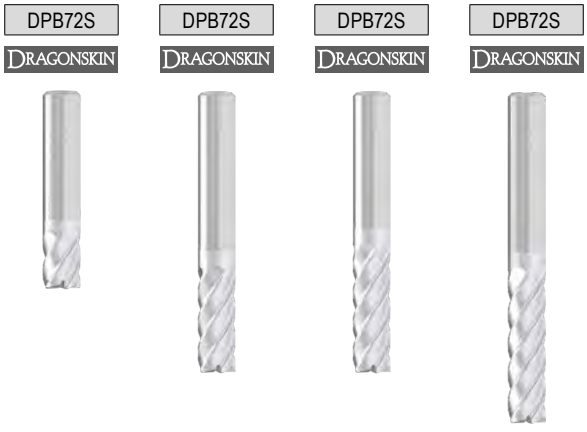
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SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...
1/4	0.015	1.000			1.583	3.000	0.250	5				25021
1/4	0.060	1.000			1.583	3.000	0.250	5				25017
1/4	0.060	1.250			1.583	3.000	0.250	5				25016
1/4	0.010	1.250			1.583	3.000	0.250	5				25005
1/4	0.015	1.250			1.583	3.000	0.250	5				25020
1/4	0.030	1.250			1.583	3.000	0.250	5				25018
1/4	0.020	0.375	0.237	1.125	2.425	4.000	0.250	5				25024
1/4	0.020	0.375	0.237	1.625	2.425	4.000	0.250	5				25023
1/4	0.020	0.375	0.237	2.125	2.425	4.000	0.250	5				25022
5/16	0.010	0.500			0.583	2.000	0.313	5		31301		
5/16	0.020	0.500			0.583	2.000	0.313	5		31306		
5/16	0.030	0.500			0.583	2.000	0.313	5		31305		
5/16	0.060	0.500			0.583	2.000	0.313	5		31304		
5/16	0.020	0.750			1.083	2.500	0.313	5			31309	
5/16	0.010	0.750			1.083	2.500	0.313	5			31302	
5/16	0.030	0.750			1.083	2.500	0.313	5			31308	
5/16	0.060	0.750			1.083	2.500	0.313	5			31307	
5/16	0.030	1.250			1.583	3.000	0.313	5				31311
5/16	0.010	1.250			1.583	3.000	0.313	5				31303
5/16	0.020	1.250			1.583	3.000	0.313	5				31312
5/16	0.060	1.250			1.583	3.000	0.313	5				31310
3/8	0.010	0.500			0.825	2.000	0.375	5	37501			
3/8	0.015	0.500			0.825	2.000	0.375	5	37508			
3/8	0.030	0.500			0.825	2.000	0.375	5	37507			
3/8	0.060	0.500			0.825	2.000	0.375	5	37506			
3/8	0.090	0.500			0.825	2.000	0.375	5	37505			
3/8	0.060	1.000			1.583	3.000	0.375	5		37512		
3/8	0.010	1.000			1.583	3.000	0.375	5		37502		
3/8	0.015	1.000			1.583	3.000	0.375	5		37516		

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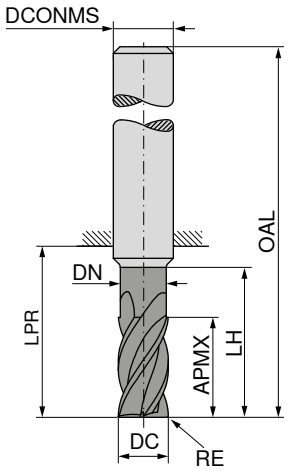
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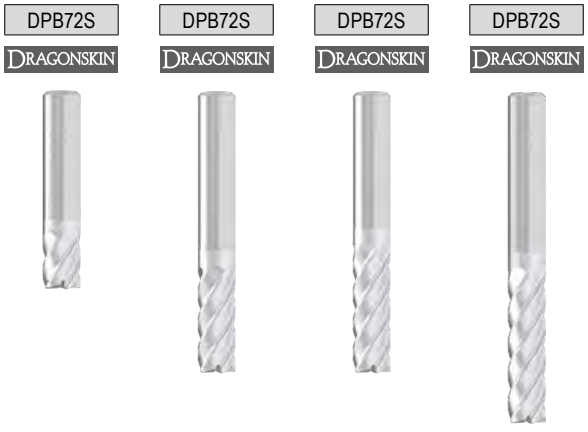
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SilverLine – End mills with corner radius – UNI

The versatile tool for universal application

UNI | λ_s = 37° 38° γ_s = 9° | HPC





Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 333 ...	50 333 ...	50 333 ...	50 333 ...
3/8	0.030	1.000			1.583	3.000	0.375	5		37514		
3/8	0.090	1.000			1.583	3.000	0.375	5		37510		
3/8	0.090	1.250			1.583	3.000	0.375	5			37509	
3/8	0.010	1.250			1.583	3.000	0.375	5			37503	
3/8	0.015	1.250			1.583	3.000	0.375	5			37515	
3/8	0.030	1.250			1.583	3.000	0.375	5			37513	
3/8	0.060	1.250			1.583	3.000	0.375	5			37511	
3/8	0.060	1.500			1.925	3.500	0.375	5				37518
3/8	0.010	1.500			1.925	3.500	0.375	5				37504
3/8	0.015	1.500			1.925	3.500	0.375	5				37520
3/8	0.030	1.500			1.925	3.500	0.375	5				37519
3/8	0.090	1.500			1.925	3.500	0.375	5				37517
3/8	0.030	0.500	0.356	1.125	2.425	4.000	0.375	5				37522
3/8	0.030	0.500	0.356	2.125	2.425	4.000	0.375	5				37521
3/8	0.030	0.500	0.356	3.125	4.228	6.000	0.375	5				37524
3/8	0.030	0.500	0.356	4.125	4.228	6.000	0.375	5				37523
1/2	0.030	0.625			0.728	2.500	0.500	5	50009			
1/2	0.010	0.625			0.728	2.500	0.500	5	50001			
1/2	0.015	0.625			0.728	2.500	0.500	5	50010			
1/2	0.060	0.625			0.728	2.500	0.500	5	50008			
1/2	0.090	0.625			0.728	2.500	0.500	5	50007			
1/2	0.125	0.625			0.728	2.500	0.500	5	50006			
1/2	0.015	1.000			1.228	3.000	0.500	5		50017		
1/2	0.010	1.000			1.228	3.000	0.500	5		50002		
1/2	0.030	1.000			1.228	3.000	0.500	5		50015		
1/2	0.060	1.000			1.228	3.000	0.500	5		50013		
1/2	0.090	1.000			1.228	3.000	0.500	5		50012		
1/2	0.125	1.000			1.228	3.000	0.500	5		50011		
1/2	0.125	1.250			1.425	3.000	0.500	5			50014	

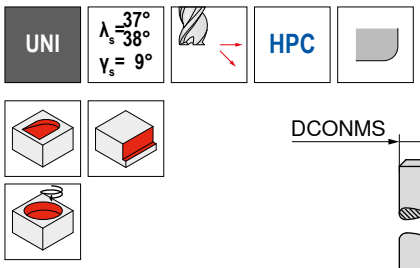
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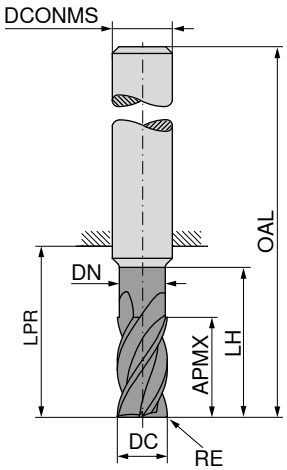
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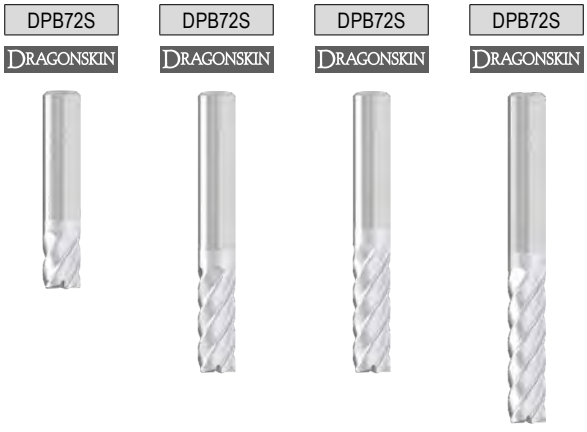
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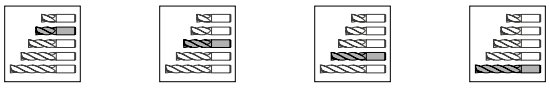
SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...
1/2	0.010	1.250			1.425	3.000	0.500	5			50003	
1/2	0.015	1.250			1.425	3.000	0.500	5			50020	
1/2	0.030	1.250			1.425	3.000	0.500	5			50019	
1/2	0.060	1.250			1.425	3.000	0.500	5			50018	
1/2	0.090	1.250			1.425	3.000	0.500	5			50016	
1/2	0.030	0.625	0.475	1.500	2.228	4.000	0.500	5				50022
1/2	0.030	0.625	0.475	2.250	2.425	4.000	0.500	5				50021
1/2	0.060	1.625			2.228	4.000	0.500	5				50030
1/2	0.010	1.625			2.228	4.000	0.500	5				50004
1/2	0.015	1.625			2.228	4.000	0.500	5				50032
1/2	0.030	1.625			2.228	4.000	0.500	5				50031
1/2	0.090	1.625			2.228	4.000	0.500	5				50029
1/2	0.125	1.625			2.228	4.000	0.500	5				50027
1/2	0.010	2.000			2.228	4.000	0.500	5				50005
1/2	0.015	2.000			2.228	4.000	0.500	5				50028
1/2	0.030	2.000			2.228	4.000	0.500	5				50026
1/2	0.060	2.000			2.228	4.000	0.500	5				50025
1/2	0.090	2.000			2.228	4.000	0.500	5				50024
1/2	0.125	2.000			2.228	4.000	0.500	5				50023
1/2	0.030	0.625	0.475	3.375	4.228	6.000	0.500	5				50034
1/2	0.030	0.625	0.475	4.125	4.228	6.000	0.500	5				50033
5/8	0.090	0.750			1.122	3.000	0.625	5	62518			
5/8	0.030	0.750			1.122	3.000	0.625	5	62524			
5/8	0.060	0.750			1.122	3.000	0.625	5	62521			
5/8	0.125	0.750			1.122	3.000	0.625	5	62515			
5/8	0.060	1.250			1.610	3.500	0.625	5		62511		
5/8	0.030	1.250			1.610	3.500	0.625	5		62512		
5/8	0.090	1.250			1.610	3.500	0.625	5		62510		
5/8	0.125	1.250			1.610	3.500	0.625	5		62509		

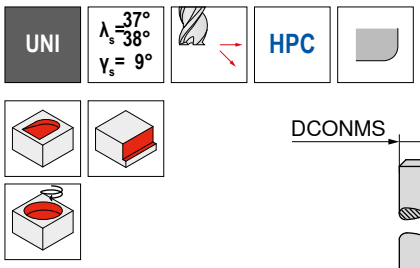
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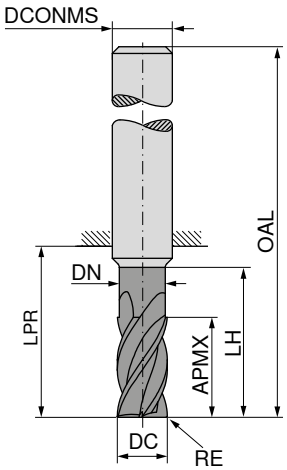
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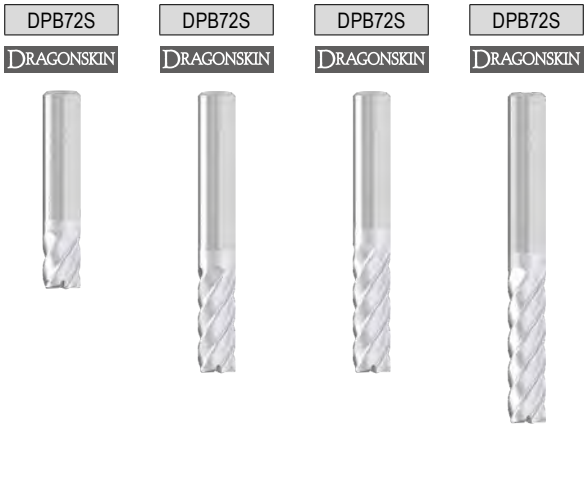
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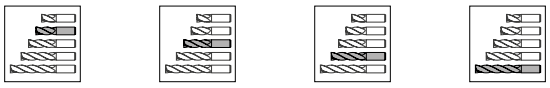
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Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 333 ...	50 333 ...	50 333 ...	50 333 ...
5/8	0.060	1.625			1.728	3.500	0.625	5			62520	
5/8	0.030	1.625			1.728	3.500	0.625	5			62523	
5/8	0.090	1.625			1.728	3.500	0.625	5			62517	
5/8	0.125	1.625			1.728	3.500	0.625	5			62514	
5/8	0.030	0.750	0.593	1.625	2.228	4.000	0.625	5				62504
5/8	0.125	2.250			2.425	4.000	0.625	5				62513
5/8	0.030	2.250			2.425	4.000	0.625	5				62522
5/8	0.060	2.250			2.425	4.000	0.625	5				62519
5/8	0.090	2.250			2.425	4.000	0.625	5				62516
5/8	0.125	2.500			3.110	5.000	0.625	5				62505
5/8	0.030	2.500			3.110	5.000	0.625	5				62508
5/8	0.060	2.500			3.110	5.000	0.625	5				62507
5/8	0.090	2.500			3.110	5.000	0.625	5				62506
5/8	0.030	0.750	0.593	2.375	4.110	6.000	0.625	5				62503
5/8	0.030	0.750	0.593	3.375	4.110	6.000	0.625	5				62502
5/8	0.030	0.750	0.593	4.125	4.228	6.000	0.625	5				62501
3/4	0.090	1.000			1.228	3.000	0.750	5	75008			
3/4	0.030	1.000			1.228	3.000	0.750	5	75010			
3/4	0.060	1.000			1.228	3.000	0.750	5	75009			
3/4	0.125	1.000			1.228	3.000	0.750	5	75007			
3/4	0.190	1.000			1.228	3.000	0.750	5	75006			
3/4	0.250	1.000			1.228	3.000	0.750	5	75005			
3/4	0.030	1.000			2.228	4.000	0.750	5				75004
3/4	0.250	1.625			2.032	4.000	0.750	5		75017		
3/4	0.030	1.625			2.032	4.000	0.750	5		75034		
3/4	0.060	1.625			2.032	4.000	0.750	5		75031		
3/4	0.090	1.625			2.032	4.000	0.750	5		75028		
3/4	0.125	1.625			2.032	4.000	0.750	5		75025		
3/4	0.190	1.625			2.032	4.000	0.750	5		75021		

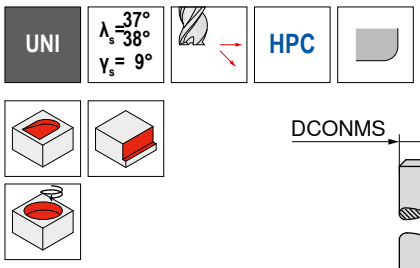
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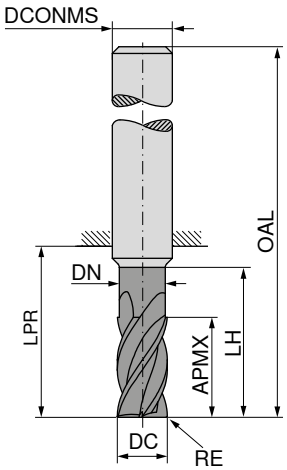
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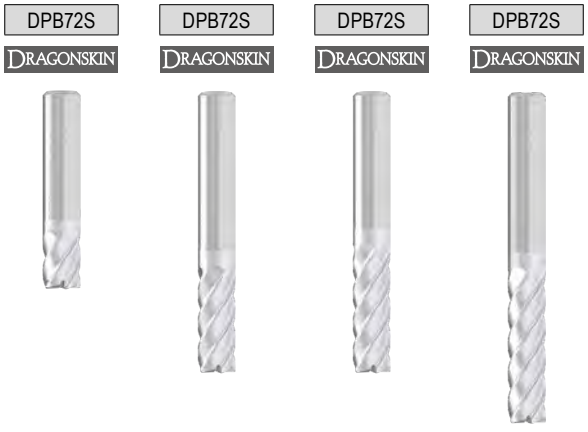
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DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...
3/4	0.190	2.250			3.032	5.000	0.750	5			75012	
3/4	0.030	2.250			3.032	5.000	0.750	5			75024	
3/4	0.060	2.250			3.032	5.000	0.750	5			75020	
3/4	0.090	2.250			3.032	5.000	0.750	5			75016	
3/4	0.125	2.250			3.032	5.000	0.750	5			75013	
3/4	0.250	2.250			3.032	5.000	0.750	5			75011	
3/4	0.190	2.750			3.032	5.000	0.750	5				75019
3/4	0.030	2.750			3.032	5.000	0.750	5				75033
3/4	0.060	2.750			3.032	5.000	0.750	5				75030
3/4	0.090	2.750			3.032	5.000	0.750	5				75027
3/4	0.125	2.750			3.032	5.000	0.750	5				75023
3/4	0.250	2.750			3.032	5.000	0.750	5				75015
3/4	0.030	1.000	0.712	2.500	4.032	6.000	0.750	5				75003
3/4	0.030	1.000	0.712	3.375	4.032	6.000	0.750	5				75002
3/4	0.030	1.000	0.712	4.125	4.228	6.000	0.750	5				75001
3/4	0.125	3.250			4.032	6.000	0.750	5				75022
3/4	0.030	3.250			4.032	6.000	0.750	5				75032
3/4	0.060	3.250			4.032	6.000	0.750	5				75029
3/4	0.090	3.250			4.032	6.000	0.750	5				75026
3/4	0.190	3.250			4.032	6.000	0.750	5				75018
3/4	0.250	3.250			4.032	6.000	0.750	5				75014
1	0.030	1.250	0.950	2.250	2.425	4.000	1.000	5				99904
1	0.030	1.250			1.795	4.000	1.000	5	99913			
1	0.060	1.250			1.795	4.000	1.000	5	99911			
1	0.090	1.250			1.795	4.000	1.000	5	99909			
1	0.125	1.250			1.795	4.000	1.000	5	99907			
1	0.190	1.250			1.795	4.000	1.000	5	99906			
1	0.250	1.250			1.795	4.000	1.000	5	99905			
1	0.090	2.000			2.295	4.500	1.000	5		99915		

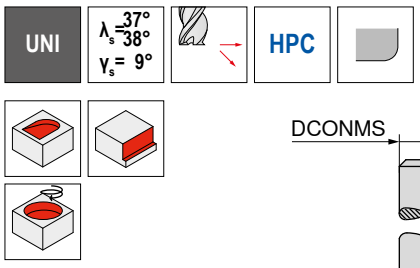
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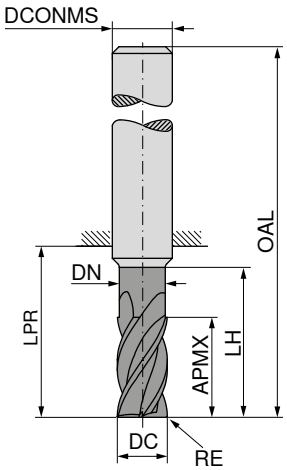
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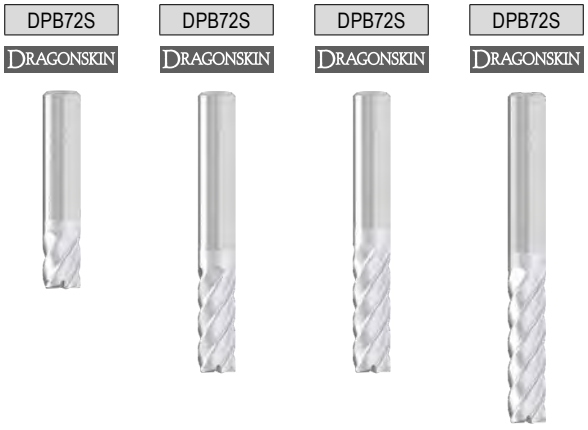
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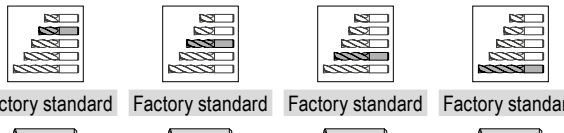
SilverLine – End mills with corner radius – UNI

The versatile tool for universal application









DC +0.000/-0.002 inch	RE inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...	NEW SA 50 333 ...
1	0.030	2.000			2.295	4.500	1.000	5		99919		
1	0.060	2.000			2.295	4.500	1.000	5		99917		
1	0.125	2.000			2.295	4.500	1.000	5		99912		
1	0.190	2.000			2.295	4.500	1.000	5		99910		
1	0.250	2.000			2.295	4.500	1.000	5		99908		
1	0.190	2.625			2.795	5.000	1.000	5			99928	
1	0.030	2.625			2.795	5.000	1.000	5			99934	
1	0.060	2.625			2.795	5.000	1.000	5			99933	
1	0.090	2.625			2.795	5.000	1.000	5			99932	
1	0.125	2.625			2.795	5.000	1.000	5			99930	
1	0.250	2.625			2.795	5.000	1.000	5			99926	
1	0.030	1.250	0.950	2.625	3.795	6.000	1.000	5				99903
1	0.030	1.250	0.950	3.375	3.795	6.000	1.000	5				99902
1	0.030	1.250	0.950	4.125	4.228	6.000	1.000	5				99901
1	0.125	3.250			3.795	6.000	1.000	5				99918
1	0.030	3.250			3.795	6.000	1.000	5				99925
1	0.060	3.250			3.795	6.000	1.000	5				99923
1	0.090	3.250			3.795	6.000	1.000	5				99921
1	0.190	3.250			3.795	6.000	1.000	5				99916
1	0.250	3.250			3.795	6.000	1.000	5				99914
1	0.060	4.250			4.795	7.000	1.000	5				99929
1	0.030	4.250			4.795	7.000	1.000	5				99931
1	0.090	4.250			4.795	7.000	1.000	5				99927
1	0.125	4.250			4.795	7.000	1.000	5				99924
1	0.190	4.250			4.795	7.000	1.000	5				99922
1	0.250	4.250			4.795	7.000	1.000	5				99920
1 1/4	0.030	2.000			2.138	4.500	1.250	5				93316
1 1/4	0.030	3.375			3.795	6.000	1.250	5				93327
1 1/4	0.030	4.750			5.638	8.000	1.250	5				93338

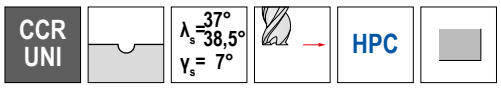
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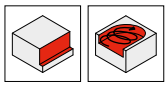
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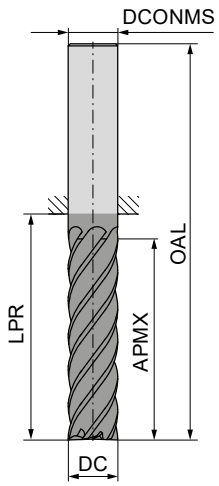
SilverLine – End mill – CCR-UNI

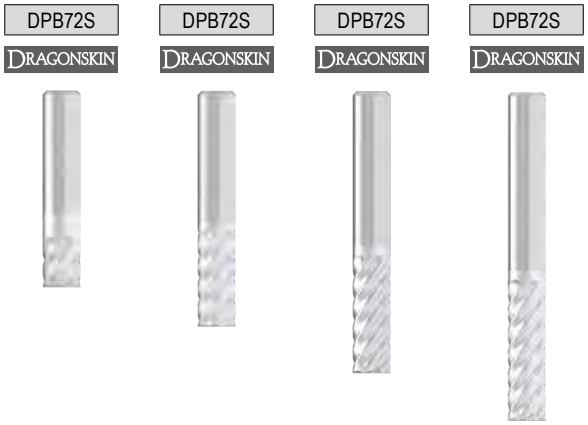
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers











Factory standard | Factory standard | Factory standard | Factory standard



DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 361 ...	NEW SA 50 361 ...	NEW SA 50 361 ...	NEW SA 50 361 ...
1/4	0.375	0.583	2.000	0.250	6	25001			
1/4	0.500	1.083	2.500	0.250	6		25002		
1/4	0.750	1.083	2.500	0.250	6			25003	
1/4	1.250	1.583	3.000	0.250	6				25004
5/16	0.750	1.083	2.500	0.313	6		31301		
5/16	1.000	1.583	3.000	0.313	6			31302	
3/8	0.500	0.825	2.000	0.375	6	37501			
3/8	1.000	1.083	2.500	0.375	6		37502		
3/8	1.250	1.583	3.000	0.375	6			37503	
3/8	1.500	1.925	3.500	0.375	6				37504
1/2	0.625	0.835	2.500	0.500	6	50001			
1/2	1.000	1.235	3.000	0.500	6		50002		
1/2	1.250	1.425	3.000	0.500	6			50003	
1/2	1.500	1.625	4.000	0.500	6			50004	
1/2	2.000	2.235	4.000	0.500	6				50005
5/8	0.750	1.110	3.000	0.625	6	62501			
5/8	1.250	1.613	3.500	0.625	6		62502		
5/8	1.625	2.228	4.000	0.625	6			62503	
5/8	2.000	3.032	5.000	0.625	6				62504
3/4	1.000	1.228	3.000	0.750	6	75001			
3/4	1.250	2.032	4.000	0.750	6		75002		
3/4	1.625	3.032	5.000	0.750	6			75003	
3/4	2.250	3.032	5.000	0.750	6			75004	
3/4	3.250	4.032	6.000	0.750	6				75005
1	2.000	2.295	4.500	1.000	6	99901			
1	2.500	3.032	5.000	1.000	6		99902		
1	3.250	3.795	6.000	1.000	6			99903	

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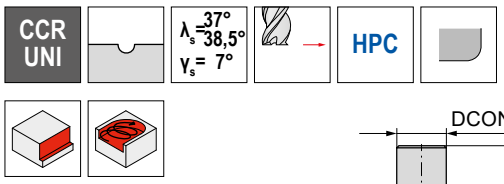


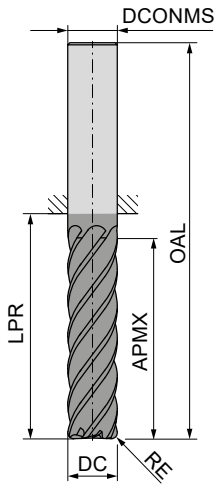
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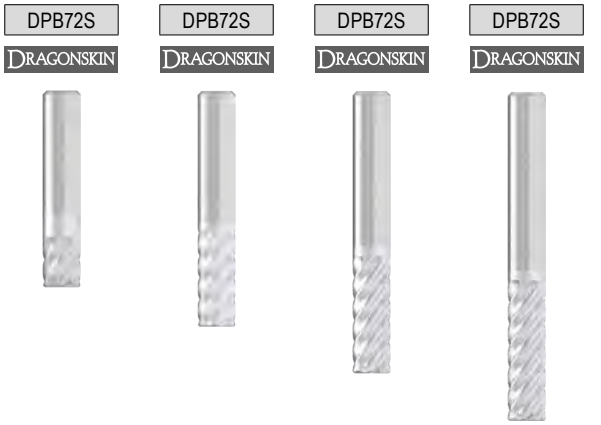
SilverLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard | Factory standard



DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 363 ...	NEW SA 50 363 ...	NEW SA 50 363 ...	NEW SA 50 363 ...
1/4	0.015	0.375	0.583	2.000	0.250	6	25001			
1/4	0.015	0.500	1.083	2.500	0.250	6		25002		
1/4	0.015	0.750	1.083	2.500	0.250	6			25003	
1/4	0.015	1.250	1.583	3.000	0.250	6				25004
1/4	0.030	0.375	0.583	2.000	0.250	6	25005			
1/4	0.030	0.500	1.083	2.500	0.250	6		25006		
1/4	0.030	0.750	1.083	2.500	0.250	6			25007	
1/4	0.030	1.250	1.583	3.000	0.250	6				25008
5/16	0.015	0.750	1.083	2.500	0.313	6		31301		
5/16	0.015	1.000	1.583	3.000	0.313	6			31302	
5/16	0.030	0.750	1.083	2.500	0.313	6		31303		
5/16	0.030	1.000	1.583	3.000	0.313	6			31304	
5/16	0.060	1.000	1.583	3.000	0.313	6			31305	
3/8	0.015	0.500	0.825	2.000	0.375	6	37501			
3/8	0.015	1.000	1.083	2.500	0.375	6		37502		
3/8	0.015	1.250	1.583	3.000	0.375	6			37503	
3/8	0.015	1.500	1.925	3.500	0.375	6				37504
3/8	0.030	0.500	0.825	2.000	0.375	6	37505			
3/8	0.030	1.000	1.083	2.500	0.375	6		37506		
3/8	0.030	1.250	1.583	3.000	0.375	6			37507	
3/8	0.030	1.500	1.925	3.500	0.375	6				37508
3/8	0.060	0.500	0.825	2.000	0.375	6	37509			
3/8	0.060	1.000	1.083	2.500	0.375	6		37510		
3/8	0.060	1.250	1.583	3.000	0.375	6			37511	
3/8	0.060	1.500	1.925	3.500	0.375	6				37512
1/2	0.015	0.625	0.728	2.500	0.500	6	50001			
1/2	0.015	1.000	1.228	3.000	0.500	6		50002		
1/2	0.015	1.250	1.425	3.000	0.500	6			50003	

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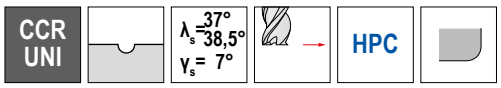
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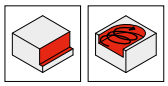
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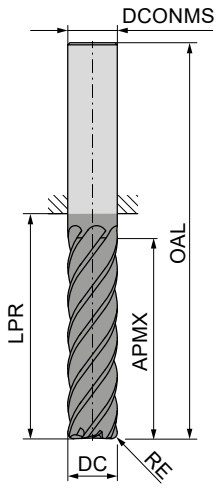
SilverLine – End mills with corner radius – CCR-UNI

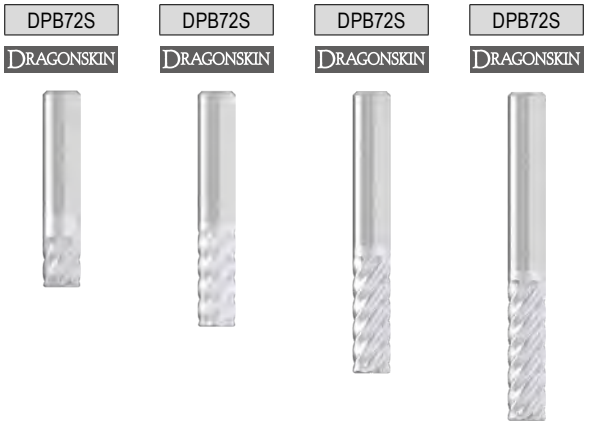
The specialist for trochoidal machining

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Factory standard | Factory standard | Factory standard | Factory standard



DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 363 ...	NEW SA 50 363 ...	NEW SA 50 363 ...	NEW SA 50 363 ...
1/2	0.015	1.500	1.625	4.000	0.500	6			50004	
1/2	0.015	2.000	2.228	4.000	0.500	6				50005
1/2	0.030	0.625	0.728	2.500	0.500	6	50006			
1/2	0.030	1.000	1.228	3.000	0.500	6		50007		
1/2	0.030	1.250	1.425	3.000	0.500	6			50008	
1/2	0.030	1.500	1.625	4.000	0.500	6			50009	
1/2	0.030	2.000	2.228	4.000	0.500	6				50010
1/2	0.060	0.625	0.728	2.500	0.500	6	50011			
1/2	0.060	1.000	1.228	3.000	0.500	6		50012		
1/2	0.060	1.250	1.425	3.000	0.500	6			50013	
1/2	0.060	1.500	1.625	4.000	0.500	6			50014	
1/2	0.060	2.000	2.228	4.000	0.500	6				50015
1/2	0.090	0.625	0.728	2.500	0.500	6	50016			
1/2	0.090	1.000	1.228	3.000	0.500	6		50017		
1/2	0.090	1.250	1.425	3.000	0.500	6			50018	
1/2	0.090	1.500	1.625	4.000	0.500	6			50019	
1/2	0.090	2.000	2.228	4.000	0.500	6				50020
1/2	0.120	0.625	0.735	2.500	0.500	6	50021			
1/2	0.120	1.000	1.228	3.000	0.500	6		50022		
1/2	0.120	1.250	1.425	3.000	0.500	6			50023	
1/2	0.120	1.500	1.625	4.000	0.500	6			50024	
1/2	0.120	2.000	2.228	4.000	0.500	6				50025
5/8	0.030	0.750	1.122	3.000	0.625	6	62501			
5/8	0.030	1.250	1.610	3.500	0.625	6		62502		
5/8	0.030	1.625	2.228	4.000	0.625	6			62503	
5/8	0.030	2.000	3.032	5.000	0.625	6				62504
5/8	0.060	0.750	1.122	3.000	0.625	6	62505			
5/8	0.060	1.250	1.610	3.500	0.625	6		62506		

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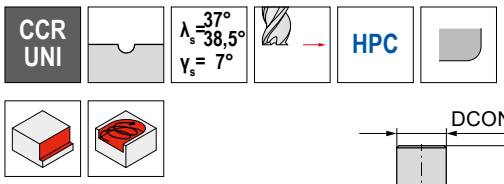
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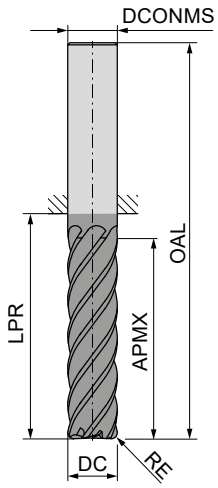
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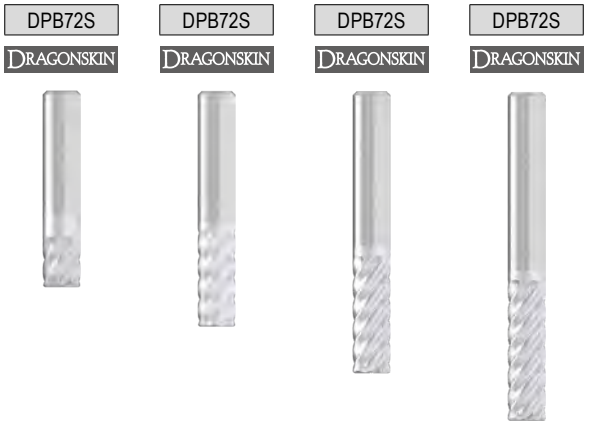
SilverLine – End mills with corner radius – CCR-UNI

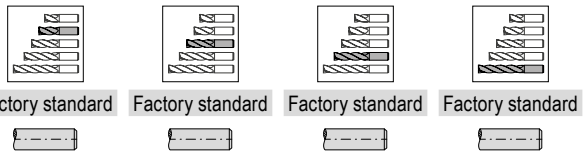
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 363 ...	50 363 ...	50 363 ...	50 363 ...
5/8	0.060	1.625	2.228	4.000	0.625	6			62507	
5/8	0.060	2.000	3.032	5.000	0.625	6				62508
5/8	0.090	0.750	1.122	3.000	0.625	6	62509			
5/8	0.090	1.250	1.610	3.500	0.625	6		62510		
5/8	0.090	1.625	2.228	4.000	0.625	6			62511	
5/8	0.090	2.000	3.032	5.000	0.625	6				62512
5/8	0.120	0.750	1.110	3.000	0.625	6	62513			
5/8	0.120	1.250	1.610	3.500	0.625	6		62514		
5/8	0.120	1.625	2.228	4.000	0.625	6			62515	
5/8	0.120	2.000	3.032	5.000	0.625	6				62516
3/4	0.030	1.000	1.228	3.000	0.750	6	75001			
3/4	0.030	1.250	2.032	4.000	0.750	6		75002		
3/4	0.030	1.625	3.032	5.000	0.750	6			75003	
3/4	0.030	2.250	3.032	5.000	0.750	6			75004	
3/4	0.030	3.250	4.032	6.000	0.750	6				75005
3/4	0.060	1.000	1.228	3.000	0.750	6	75006			
3/4	0.060	1.250	2.032	4.000	0.750	6		75007		
3/4	0.060	1.625	3.032	5.000	0.750	6			75008	
3/4	0.060	2.250	3.032	5.000	0.750	6			75009	
3/4	0.060	3.250	4.032	6.000	0.750	6				75010
3/4	0.090	1.000	1.228	3.000	0.750	6	75011			
3/4	0.090	1.250	2.032	4.000	0.750	6		75012		
3/4	0.090	1.625	3.032	5.000	0.750	6			75013	
3/4	0.090	2.250	3.032	5.000	0.750	6			75014	
3/4	0.090	3.250	4.032	6.000	0.750	6				75015
3/4	0.120	1.000	1.228	3.000	0.750	6	75016			
3/4	0.120	1.250	2.032	4.000	0.750	6		75017		
3/4	0.120	1.625	3.032	5.000	0.750	6			75018	

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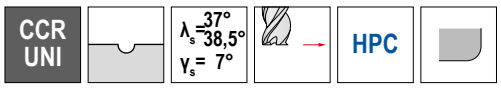
→ Find the cutting data standard values here.

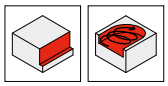
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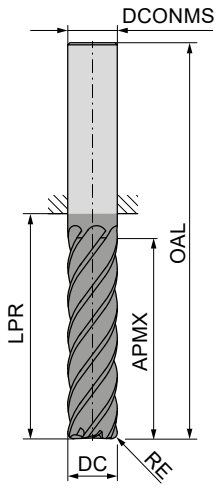
SilverLine – End mills with corner radius – CCR-UNI

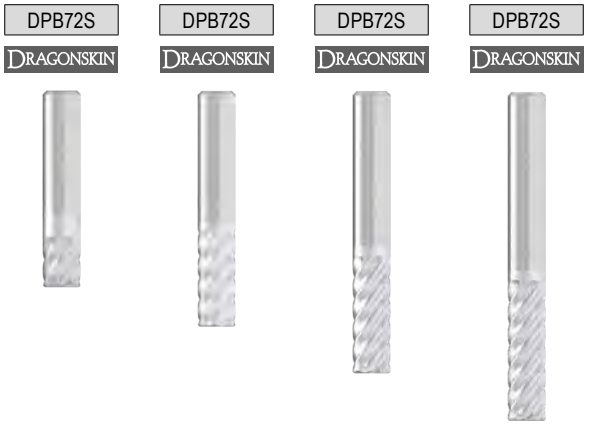
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers











Factory standard | Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 363 ...	50 363 ...	50 363 ...	50 363 ...
3/4	0.120	2.250	3.032	5.000	0.750	6			75019	
3/4	0.120	3.250	4.032	6.000	0.750	6				75020
3/4	0.160	1.000	1.228	3.000	0.750	6	75021			
3/4	0.160	1.250	2.032	4.000	0.750	6		75022		
3/4	0.160	1.625	3.032	5.000	0.750	6			75023	
3/4	0.160	2.250	3.032	5.000	0.750	6			75024	
3/4	0.160	3.250	4.032	6.000	0.750	6				75025
3/4	0.190	1.000	1.228	3.000	0.750	6	75026			
3/4	0.190	1.250	2.032	4.000	0.750	6		75027		
3/4	0.190	1.625	3.032	5.000	0.750	6			75028	
3/4	0.190	2.250	3.032	5.000	0.750	6			75029	
3/4	0.190	3.250	4.032	6.000	0.750	6				75030
3/4	0.250	1.000	1.228	3.000	0.750	6	75031			
3/4	0.250	1.250	2.032	4.000	0.750	6		75032		
3/4	0.250	1.625	3.032	5.000	0.750	6			75033	
3/4	0.250	2.250	3.032	5.000	0.750	6			75034	
3/4	0.250	3.250	4.032	6.000	0.750	6				75035
1	0.030	2.000	2.295	4.500	1.000	6	99901			
1	0.030	2.500	3.032	5.000	1.000	6		99902		
1	0.030	3.250	3.795	6.000	1.000	6			99903	
1	0.060	2.000	2.295	4.500	1.000	6	99904			
1	0.060	2.500	3.032	5.000	1.000	6		99905		
1	0.060	3.250	3.795	6.000	1.000	6			99906	
1	0.090	2.000	2.295	4.500	1.000	6	99907			
1	0.090	2.500	3.032	5.000	1.000	6		99908		
1	0.090	3.250	3.795	6.000	1.000	6			99909	
1	0.120	2.000	2.295	4.500	1.000	6	99910			
1	0.120	2.500	3.032	5.000	1.000	6		99911		

P	●	●	●	●
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→ Find the cutting data standard values here.

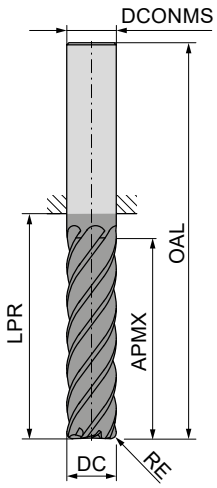
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SilverLine – End mills with corner radius – CCR-UNI

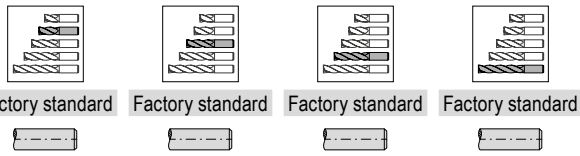
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers

CCR UNI | λ_s=37° γ_s= 7° | λ_s=38,5° | HPC







Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 363 ...	50 363 ...	50 363 ...	50 363 ...
1	0.120	3.250	3.795	6.000	1.000	6			99912	
1	0.160	2.000	2.295	4.500	1.000	6	99913			
1	0.160	2.500	3.032	5.000	1.000	6		99914		
1	0.160	3.250	3.795	6.000	1.000	6			99915	
1	0.190	2.000	2.295	4.500	1.000	6	99916			
1	0.190	2.500	3.032	5.000	1.000	6		99917		
1	0.190	3.250	3.795	6.000	1.000	6			99918	
1	0.250	2.000	2.295	4.500	1.000	6	99919			
1	0.250	2.500	3.032	5.000	1.000	6		99920		
1	0.250	3.250	3.795	6.000	1.000	6			99921	

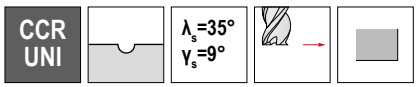
P	●	●	●	●
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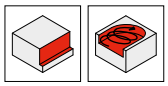
→ Find the cutting data standard values here.

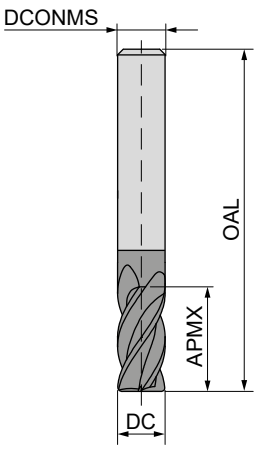
SilverLine – End mill – CCR-UNI

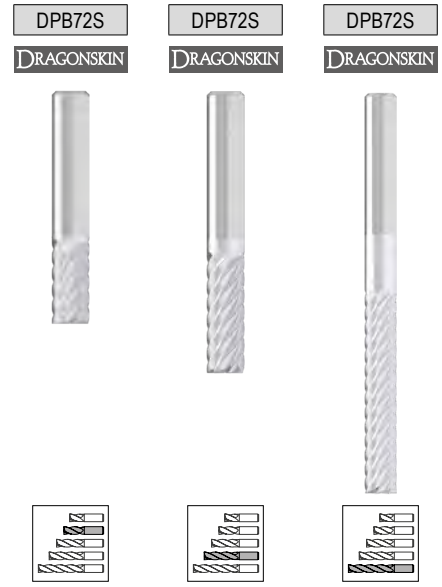
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers

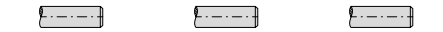








Factory standard | Factory standard | Factory standard



DC +0.000/-0.002 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 314 ...	NEW SA 50 314 ...	NEW SA 50 314 ...
1/4	0.375			2.000	0.250	7	25001		
1/4	0.500			2.000	0.250	7	25002		
1/4	0.750			2.500	0.250	7	25003		
1/4	1.000			3.000	0.250	7		25004	
1/4	1.250			3.000	0.250	7		25005	
5/16	0.438			2.000	0.313	7	31301		
5/16	0.750			2.500	0.313	7	31302		
5/16	1.000			3.000	0.313	7		31303	
5/16	1.250			3.000	0.313	7		31304	
3/8	0.500			2.000	0.375	7	37502		
3/8	0.750			2.500	0.375	7	37503		
3/8	0.875			2.500	0.375	7	37504		
3/8	1.000			2.500	0.375	7	37505		
3/8	1.250			3.000	0.375	7		37506	
3/8	1.500			3.500	0.375	7		37507	
3/8	0.500	0.360	3.125	6.000	0.375	7			37501
1/2	0.625			2.500	0.500	7	50001		
1/2	1.000			3.000	0.500	7	50003		
1/2	1.250			3.000	0.500	7	50004		
1/2	1.625			4.000	0.500	7		50005	
1/2	2.000			4.000	0.500	7		50006	
1/2	2.500			5.000	0.500	7			50007
1/2	0.625	0.480	3.125	6.000	0.500	7			50002
1/2	3.125			6.000	0.500	7			50008
5/8	0.750			3.000	0.625	7	62501		
5/8	1.250			3.500	0.625	7	62503		
5/8	1.625			3.500	0.625	7	62504		
5/8	2.125			4.000	0.625	7		62505	
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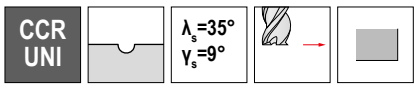
→ Find the cutting data standard values here.

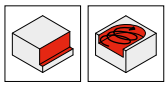
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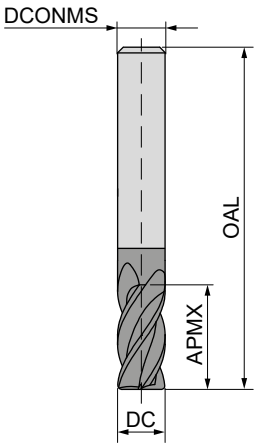
SilverLine – End mill – CCR-UNI

The specialist for trochoidal machining

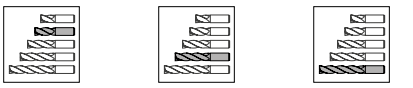
▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers



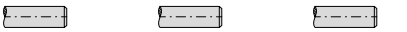








Factory standard | Factory standard | Factory standard



NEW | NEW | NEW

SA | SA | SA

DC +0.000/-0.002 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 314 ...	50 314 ...	50 314 ...
5/8	0.750	0.600	3.125	6.000	0.625	7			**62502**
3/4	1.000			3.000	0.750	7	**75001**		
3/4	1.250			3.500	0.750	7	**75003**		
3/4	1.625			4.000	0.750	7	**75004**		
3/4	2.250			5.000	0.750	7		**75005**	
3/4	2.750			5.000	0.750	7		**75006**	
3/4	1.000	0.720	3.125	6.000	0.750	7			**75002**
3/4	3.250			6.000	0.750	7			**75007**
1	2.000			4.000	1.000	7	**99901**		
1	2.625			5.000	1.000	7			**99902**
1	3.250			6.000	1.000	7			**99903**
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M							●	●	●
K							●	●	●
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S							○	○	○
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O									

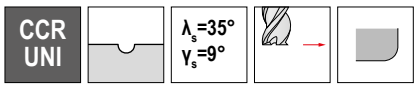


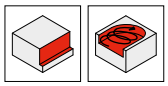
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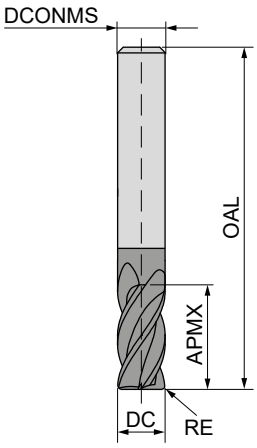
SilverLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard



Factory standard



Factory standard



DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 319 ...	NEW SA 50 319 ...	NEW SA 50 319 ...
1/4	0.010	0.375			2.000	0.250	7	25001		
1/4	0.010	0.500			2.000	0.250	7	25006		
1/4	0.020	0.375			2.000	0.250	7	25002		
1/4	0.020	0.500			2.000	0.250	7	25007		
1/4	0.030	0.375			2.000	0.250	7	25003		
1/4	0.030	0.500			2.000	0.250	7	25008		
1/4	0.010	0.750			2.500	0.250	7	25009		
1/4	0.020	0.750			2.500	0.250	7	25010		
1/4	0.030	0.750			2.500	0.250	7	25011		
1/4	0.010	1.125			3.000	0.250	7		25012	
1/4	0.020	1.125			3.000	0.250	7		25013	
1/4	0.030	1.125			3.000	0.250	7		25014	
1/4	0.020	0.375	0.240	2.500	4.000	0.250	7			25004
1/4	0.030	0.375	0.240	2.500	4.000	0.250	7			25005
3/8	0.010	0.500			2.000	0.375	7	37501		
3/8	0.020	0.500			2.000	0.375	7	37502		
3/8	0.030	0.500			2.000	0.375	7	37503		
3/8	0.060	0.500			2.000	0.375	7	37504		
3/8	0.010	1.000			2.500	0.375	7	37508		
3/8	0.020	0.875			2.500	0.375	7	37506		
3/8	0.020	1.000			2.500	0.375	7	37509		
3/8	0.030	0.875			2.500	0.375	7	37507		
3/8	0.030	1.000			2.500	0.375	7	37510		
3/8	0.060	1.000			2.500	0.375	7	37511		
3/8	0.010	1.250			3.000	0.375	7		37512	
3/8	0.020	1.250			3.000	0.375	7		37513	
3/8	0.030	1.250			3.000	0.375	7		37514	
3/8	0.060	1.250			3.000	0.375	7		37515	
3/8	0.010	1.500			3.500	0.375	7		37516	

P	●	●	●
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K	●	●	●
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S	○	○	○
H			
O			



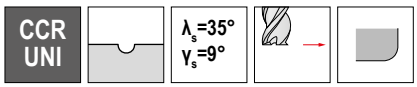
→ Find the cutting data standard values here.

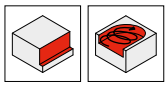
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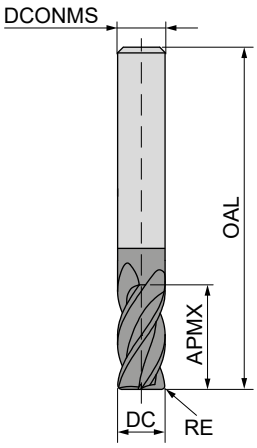
SilverLine – End mills with corner radius – CCR-UNI

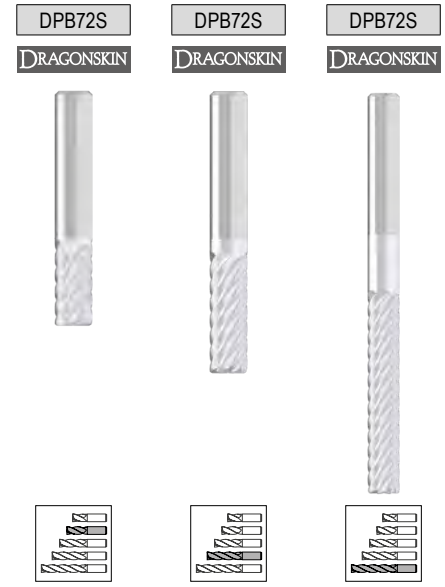
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Factory standard | Factory standard | Factory standard



DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 319 ...	NEW SA 50 319 ...	NEW SA 50 319 ...
3/8	0.020	1.500			3.500	0.375	7		37517	
3/8	0.030	1.500			3.500	0.375	7		37518	
3/8	0.060	1.500			3.500	0.375	7		37519	
3/8	0.020	0.500	0.360	3.125	6.000	0.375	7			37505
1/2	0.010	0.625			2.500	0.500	7	50001		
1/2	0.020	0.625			2.500	0.500	7	50002		
1/2	0.030	0.625			2.500	0.500	7	50003		
1/2	0.060	0.625			2.500	0.500	7	50004		
1/2	0.125	0.625			2.500	0.500	7	50005		
1/2	0.010	1.000			3.000	0.500	7	50008		
1/2	0.010	1.250			3.000	0.500	7	50013		
1/2	0.020	1.000			3.000	0.500	7	50009		
1/2	0.020	1.250			3.000	0.500	7	50014		
1/2	0.030	1.000			3.000	0.500	7	50010		
1/2	0.030	1.250			3.000	0.500	7	50015		
1/2	0.060	1.000			3.000	0.500	7	50011		
1/2	0.060	1.250			3.000	0.500	7	50016		
1/2	0.125	1.000			3.000	0.500	7	50012		
1/2	0.125	1.250			3.000	0.500	7	50017		
1/2	0.010	1.625			4.000	0.500	7		50018	
1/2	0.010	2.000			4.000	0.500	7		50023	
1/2	0.020	1.625			4.000	0.500	7		50019	
1/2	0.020	2.000			4.000	0.500	7		50024	
1/2	0.030	1.625			4.000	0.500	7		50020	
1/2	0.030	2.000			4.000	0.500	7		50025	
1/2	0.060	1.625			4.000	0.500	7		50021	
1/2	0.060	2.000			4.000	0.500	7		50026	
1/2	0.125	1.625			4.000	0.500	7		50022	
1/2	0.125	2.000			4.000	0.500	7		50027	

P	●	●	●
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→ Find the cutting data standard values here.

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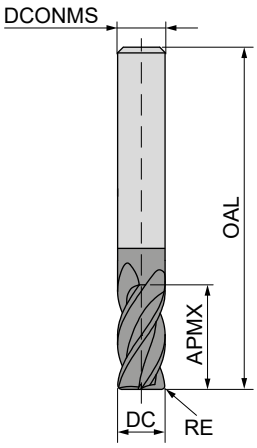
SilverLine – End mills with corner radius – CCR-UNI

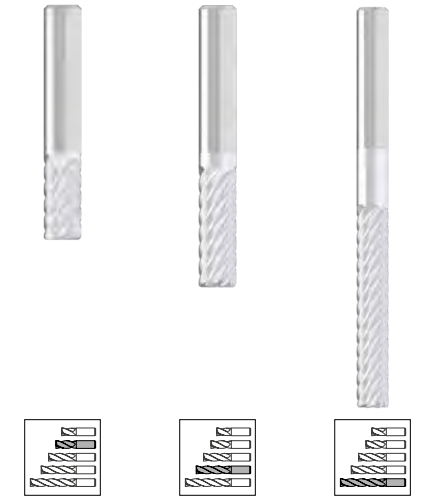
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers

CCR UNI

λ_s=35°
γ_s=9°





Factory standard | Factory standard | Factory standard

NEW | NEW | NEW

SA | SA | SA

DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 319 ...	50 319 ...	50 319 ...
1/2	0.020	0.625	0.480	3.125	6.000	0.500	7			50006
1/2	0.030	0.625	0.480	3.125	6.000	0.500	7			50007
5/8	0.030	0.750			3.000	0.625	7	62501		
5/8	0.060	0.750			3.000	0.625	7	62502		
5/8	0.030	1.250			3.500	0.625	7	62504		
5/8	0.030	1.625			3.500	0.625	7	62506		
5/8	0.060	1.250			3.500	0.625	7	62505		
5/8	0.060	1.625			3.500	0.625	7	62507		
5/8	0.030	2.125			4.000	0.625	7		62508	
5/8	0.060	2.125			4.000	0.625	7		62509	
5/8	0.030	0.750	0.600	3.125	6.000	0.625	7			62503
3/4	0.030	1.000			3.000	0.750	7	75001		
3/4	0.060	1.000			3.000	0.750	7	75002		
3/4	0.125	1.000			3.000	0.750	7	75003		
3/4	0.030	1.250			3.500	0.750	7	75005		
3/4	0.060	1.250			3.500	0.750	7	75006		
3/4	0.125	1.250			3.500	0.750	7	75007		
3/4	0.030	1.625			4.000	0.750	7	75008		
3/4	0.060	1.625			4.000	0.750	7	75009		
3/4	0.125	1.625			4.000	0.750	7	75010		
3/4	0.030	2.250			5.000	0.750	7		75011	
3/4	0.030	2.750			5.000	0.750	7		75014	
3/4	0.060	2.250			5.000	0.750	7		75012	
3/4	0.060	2.750			5.000	0.750	7		75015	
3/4	0.125	2.250			5.000	0.750	7		75013	
3/4	0.125	2.750			5.000	0.750	7		75016	
3/4	0.030	1.000	0.720	3.125	6.000	0.750	7			75004
1	0.030	1.250			4.000	1.000	7	99901		
1	0.030	2.000			5.000	1.000	7		99902	

P	●	●	●
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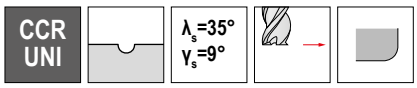
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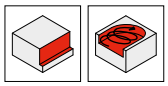
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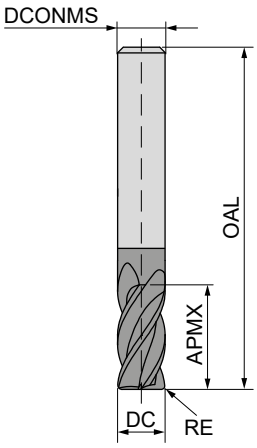
SilverLine – End mills with corner radius – CCR-UNI

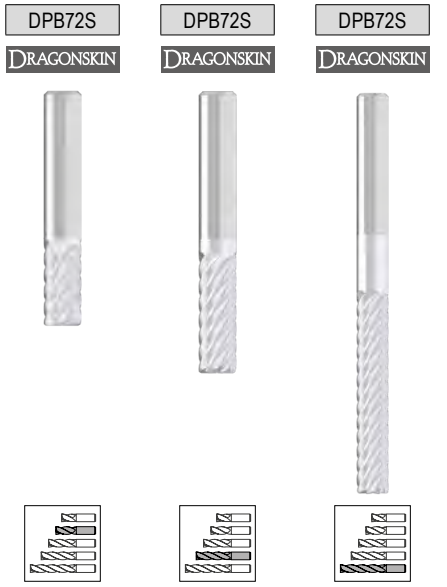
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard







DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	DN inch	LH inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 319 ...	NEW SA 50 319 ...	NEW SA 50 319 ...
1	0.030	2.625			5.000	1.000	7		99903	
1	0.030	3.250			6.000	1.000	7			99904

P	●	●	●
M	●	●	●
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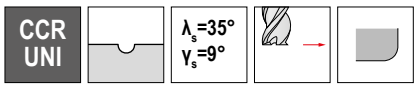


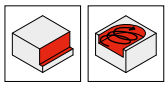
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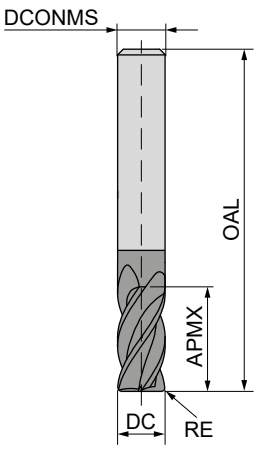
SilverLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

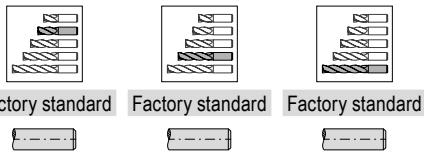
▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers











						Factory standard	Factory standard	Factory standard
						NEW	NEW	NEW
						SA	SA	SA
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 307 ...	50 307 ...	50 307 ...
1/4	0.010	0.375	2.000	0.250	9	25001		
1/4	0.030	0.375	2.000	0.250	9	25002		
1/4	0.010	0.500	2.500	0.250	9	25003		
1/4	0.010	0.750	2.500	0.250	9	25005		
1/4	0.030	0.500	2.500	0.250	9	25004		
1/4	0.030	0.750	2.500	0.250	9	25006		
1/4	0.010	1.000	3.000	0.250	9		25007	
1/4	0.030	1.000	3.000	0.250	9		25008	
3/8	0.010	0.500	2.500	0.375	9	37501		
3/8	0.010	0.750	2.500	0.375	9	37503		
3/8	0.030	0.500	2.500	0.375	9	37502		
3/8	0.030	0.750	2.500	0.375	9	37504		
3/8	0.010	1.000	3.000	0.375	9		37505	
3/8	0.010	1.250	3.000	0.375	9		37507	
3/8	0.030	1.000	3.000	0.375	9		37506	
3/8	0.030	1.250	3.000	0.375	9		37508	
1/2	0.010	0.625	3.000	0.500	9	50001		
1/2	0.010	1.000	3.000	0.500	9	50006		
1/2	0.010	1.250	3.000	0.500	9	50011		
1/2	0.030	0.625	3.000	0.500	9	50002		
1/2	0.030	1.000	3.000	0.500	9	50007		
1/2	0.030	1.250	3.000	0.500	9	50012		
1/2	0.060	0.625	3.000	0.500	9	50003		
1/2	0.060	1.000	3.000	0.500	9	50008		
1/2	0.060	1.250	3.000	0.500	9	50013		
1/2	0.090	0.625	3.000	0.500	9	50004		
1/2	0.090	1.000	3.000	0.500	9	50009		
1/2	0.090	1.250	3.000	0.500	9	50014		
1/2	0.120	0.625	3.000	0.500	9	50005		
1/2	0.120	1.000	3.000	0.500	9	50010		
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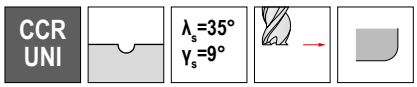
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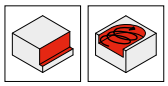
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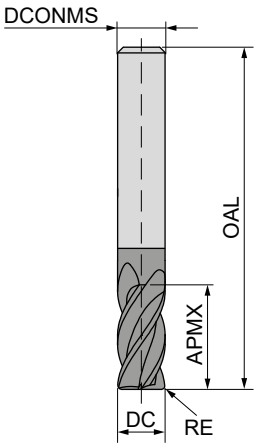
SilverLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

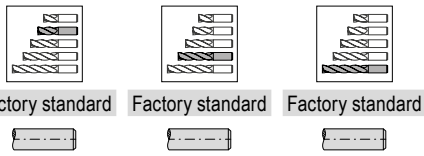
▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers











						Factory standard	Factory standard	Factory standard
						NEW	NEW	NEW
						SA	SA	SA
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 307 ...	50 307 ...	50 307 ...
1/2	0.120	1.250	3.000	0.500	9	50015		
1/2	0.010	1.625	4.000	0.500	9		50016	
1/2	0.010	2.000	4.000	0.500	9		50021	
1/2	0.030	1.625	4.000	0.500	9		50017	
1/2	0.030	2.000	4.000	0.500	9		50022	
1/2	0.060	1.625	4.000	0.500	9		50018	
1/2	0.060	2.000	4.000	0.500	9		50023	
1/2	0.090	1.625	4.000	0.500	9		50019	
1/2	0.090	2.000	4.000	0.500	9		50024	
1/2	0.120	1.625	4.000	0.500	9		50020	
1/2	0.120	2.000	4.000	0.500	9		50025	
5/8	0.030	1.625	3.500	0.625	9	62501		
5/8	0.060	1.625	3.500	0.625	9	62502		
5/8	0.120	1.625	3.500	0.625	9	62503		
5/8	0.030	2.125	4.000	0.625	9		62504	
5/8	0.060	2.125	4.000	0.625	9		62505	
5/8	0.120	2.125	4.000	0.625	9		62506	
5/8	0.030	2.500	5.000	0.625	9			62507
5/8	0.060	2.500	5.000	0.625	9			62508
5/8	0.120	2.500	5.000	0.625	9			62509
3/4	0.030	1.625	4.000	0.750	9	75001		
3/4	0.060	1.625	4.000	0.750	9	75002		
3/4	0.090	1.625	4.000	0.750	9	75003		
3/4	0.120	1.625	4.000	0.750	9	75004		
3/4	0.030	2.250	5.000	0.750	9		75005	
3/4	0.030	2.750	5.000	0.750	9		75009	
3/4	0.060	2.250	5.000	0.750	9		75006	
3/4	0.060	2.750	5.000	0.750	9		75010	
3/4	0.090	2.250	5.000	0.750	9		75007	
3/4	0.090	2.750	5.000	0.750	9		75011	
P						●	●	●
M						●	●	●
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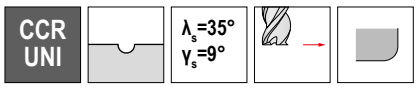
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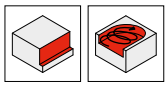
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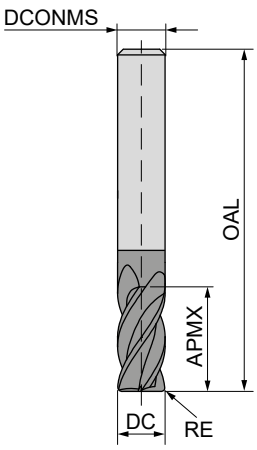
SilverLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









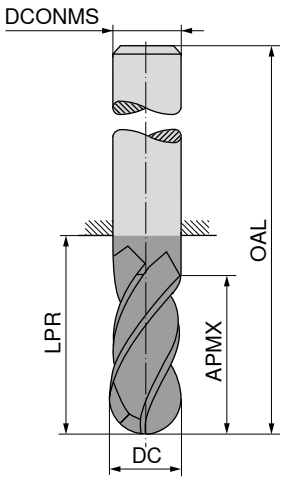
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	Factory standard	Factory standard	Factory standard
						NEW	NEW	NEW
						SA	SA	SA
						50 307 ...	50 307 ...	50 307 ...
3/4	0.120	2.250	5.000	0.750	9		75008	
3/4	0.120	2.750	5.000	0.750	9		75012	
3/4	0.030	3.250	6.000	0.750	9			75013
3/4	0.060	3.250	6.000	0.750	9			75014
3/4	0.090	3.250	6.000	0.750	9			75015
3/4	0.120	3.250	6.000	0.750	9			75016
1	0.060	2.000	4.500	1.000	9	99901		
1	0.120	2.000	4.500	1.000	9	99902		
1	0.060	2.625	5.000	1.000	9		99903	
1	0.120	2.625	5.000	1.000	9		99904	
1	0.060	3.250	6.000	1.000	9			99905
1	0.120	3.250	6.000	1.000	9			99906
P						●	●	●
M						●	●	●
K						●	●	●
N								
S						○	○	○
H								
O								

→ Find the cutting data standard values here.

SilverLine – Ball-nosed end mills – UNI

The versatile tool for universal application

UNI | λ_s = 35° 38° γ_s = 9° | HPC





Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 337 ...	50 337 ...	50 337 ...	50 337 ...
1/8	0.250	0.520	1.500	0.125	4	12501			
1/8	0.500	1.398	2.500	0.125	4				12502
3/16	0.313	0.898	2.000	0.188	4	18801			
3/16	0.625	1.398	2.500	0.188	4			18802	
1/4	0.375	0.583	2.000	0.250	4	25002			
1/4	0.500	1.083	2.500	0.250	4		25004		
1/4	0.750	1.083	2.500	0.250	4			25006	
1/4	1.000	1.583	3.000	0.250	4				25008
5/16	0.500	0.583	2.000	0.313	4	31302			
5/16	0.750	1.083	2.500	0.313	4		31304		
5/16	1.250	1.583	3.000	0.313	4			31306	
3/8	0.500	0.825	2.000	0.375	4	37502			
3/8	0.875	1.583	3.000	0.375	4		37506		
3/8	1.000	1.583	3.000	0.375	4			37507	
3/8	1.250	1.583	3.000	0.375	4				37508
7/16	1.000	1.175	2.750	0.438	4			43823	
7/16	2.000	2.235	4.000	0.438	4				43846
1/2	0.625	0.735	2.500	0.500	4	50006			
1/2	1.000	1.235	3.000	0.500	4		50003		
1/2	1.250	1.425	3.000	0.500	4			50014	
1/2	1.625	2.235	4.000	0.500	4				50005
1/2	2.000	2.235	4.000	0.500	4				50015
5/8	0.750	1.110	3.000	0.625	4	62501			
5/8	1.250	1.613	3.500	0.625	4		62502		
5/8	1.625	1.728	3.500	0.625	4			62503	
5/8	2.000	2.113	4.000	0.625	4				62504
5/8	3.250	4.110	6.000	0.625	4				62505
3/4	0.875	1.583	3.000	0.750	4	75001			
3/4	1.250	2.032	4.000	0.750	4		75002		

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
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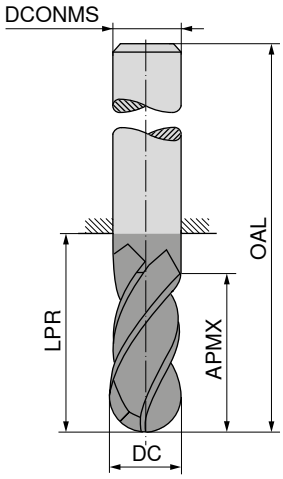
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SilverLine – Ball-nosed end mills – UNI

The versatile tool for universal application

UNI | λ_s = 35° 38° | γ_s = 9° | HPC









Factory standard | Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 337 ...	50 337 ...	50 337 ...	50 337 ...
3/4	1.625	1.978	4.000	0.750	4			75003	
3/4	2.250	3.032	5.000	0.750	4				75004
3/4	3.250	4.032	6.000	0.750	4				75005
1	1.500	1.795	4.000	1.000	4	99901			
1	2.000	2.295	4.500	1.000	4		99902		
1	2.625	2.795	5.000	1.000	4			99903	
1	3.000	3.795	6.000	1.000	4				99904
1	4.250	4.795	7.000	1.000	4				99905

P	●	●	●	●
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K	●	●	●	●
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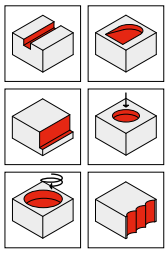


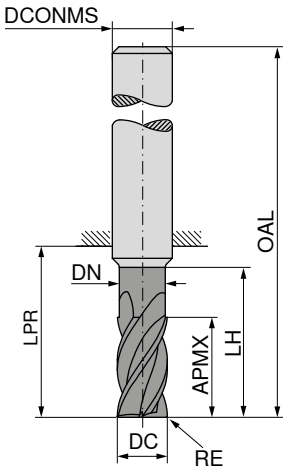
→ Find the cutting data standard values here.

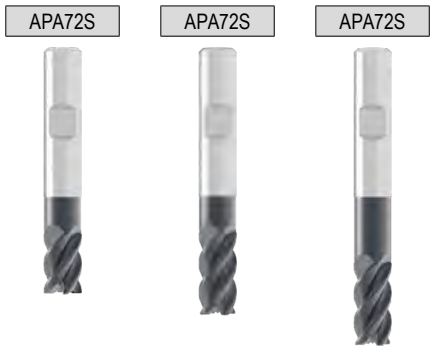
MonsterMill – Plunge milling cutters with corner radius – PCR UNI

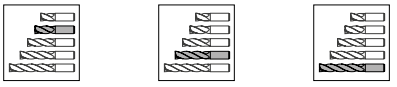
The specialist for ramping, plunge milling, and helical milling

PCR UNI | λ_s = 36° 38° | γ_s = 8° | HPC









DC f8 mm	RE ±0,03 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	DIN 6527 SA 52 613 ...	DIN 6527 SA 52 614 ...	DIN 6527 SA 52 615 ...
5.0	0.20	9			18	54	6	4	**05000**		
5.0	0.20	13	4.8	19	21	57	6	4		**05000**	
5.0	0.20	13	4.8	24	26	62	6	4			**05000**
5.7	0.20	10			18	54	6	4	**057**		
5.7	0.20	13	5.5	19	21	57	6	4		**057**	
5.7	0.20	13	5.5	24	26	62	6	4			**057**
6.0	0.20	10			18	54	6	4	**060**		
6.0	0.20	13	5.8	19	21	57	6	4		**060**	
6.0	0.20	13	5.8	24	26	62	6	4			**060**
6.7	0.20	11			22	58	8	4	**067**		
6.7	0.20	16	6.5	25	27	63	8	4		**067**	
6.7	0.20	16	6.4	30	32	68	8	4			**067**
7.0	0.20	11			22	58	8	4	**070**		
7.0	0.20	16	6.8	25	27	63	8	4		**070**	
7.0	0.20	16	6.7	30	32	68	8	4			**070**
7.7	0.20	12			22	58	8	4	**077**		
7.7	0.20	19	7.5	25	27	63	8	4		**077**	
7.7	0.20	21	7.4	30	32	68	8	4			**077**
8.0	0.20	12			22	58	8	4	**080**		
8.0	0.20	19	7.8	25	27	63	8	4		**080**	
8.0	0.20	21	7.7	30	32	68	8	4			**080**
8.7	0.32	13			26	66	10	4	**087**		
8.7	0.32	19	8.5	30	32	72	10	4		**087**	
8.7	0.32	22	8.4	38	40	80	10	4			**087**
9.0	0.32	13			26	66	10	4	**090**		
9.0	0.32	19	8.8	30	32	72	10	4		**090**	
9.0	0.32	22	8.7	38	40	80	10	4			**090**
9.7	0.32	14			26	66	10	4	**097**		
9.7	0.32	22	9.5	30	32	72	10	4		**097**	
9.7	0.32	22	9.4	38	40	80	10	4			**097**
10.0	0.32	14			26	66	10	4	**100**		

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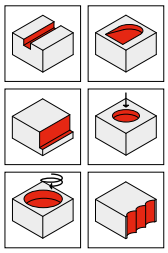
→ Find the cutting data standard values here.

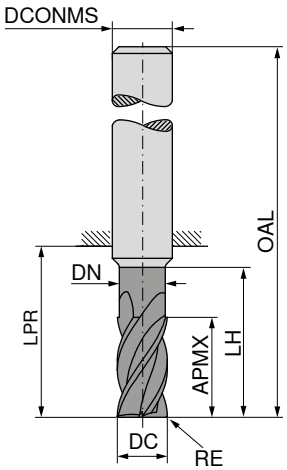
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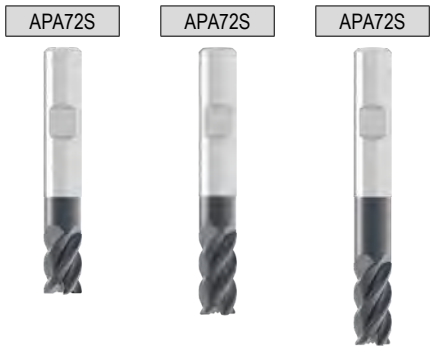
MonsterMill – Plunge milling cutters with corner radius – PCR UNI

The specialist for ramping, plunge milling, and helical milling

PCR UNI | λ_s = 36° 38° | γ_s = 8° | HPC









DIN 6527 | DIN 6527 | DIN 6527



SA | SA | SA

DC f8 mm	RE ±0,03 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 613 ...	52 614 ...	52 615 ...
10.0	0.32	22	9.8	30	32	72	10	4		100	
10.0	0.32	22	9.7	38	40	80	10	4			100
11.7	0.32	16			28	73	12	4	117		
11.7	0.32	26	11.5	36	38	83	12	4		117	
11.7	0.32	26	11.3	46	48	93	12	4			117
12.0	0.32	16			28	73	12	4	120		
12.0	0.32	26	11.8	36	38	83	12	4		120	
12.0	0.32	26	11.6	46	48	93	12	4			120
13.7	0.32	18			30	75	14	4	137		
13.7	0.32	26	13.5	36	38	83	14	4		137	
13.7	0.32	26	13.3	52	54	99	14	4			137
14.0	0.32	18			30	75	14	4	140		
14.0	0.32	26	13.8	36	38	83	14	4		140	
14.0	0.32	26	13.6	52	54	99	14	4			140
15.5	0.32	22			34	82	16	4	155		
15.5	0.32	32	15.3	42	44	92	16	4		155	
15.5	0.32	36	15.0	58	60	108	16	4			155
16.0	0.32	22			34	82	16	4	160		
16.0	0.32	32	15.8	42	44	92	16	4		160	
16.0	0.32	36	15.5	58	60	108	16	4			160
18.0	0.32	24			36	84	18	4	180		
18.0	0.32	32	17.8	42	44	92	18	4		180	
18.0	0.32	36	17.5	67	69	117	18	4			180
20.0	0.50	26			42	92	20	4	200		
20.0	0.50	38	19.8	52	54	104	20	4		200	
20.0	0.50	41	19.5	74	76	126	20	4			200

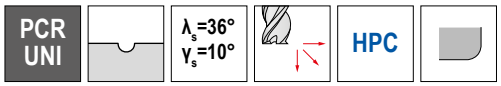
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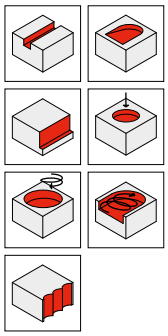
→ Find the cutting data standard values here.

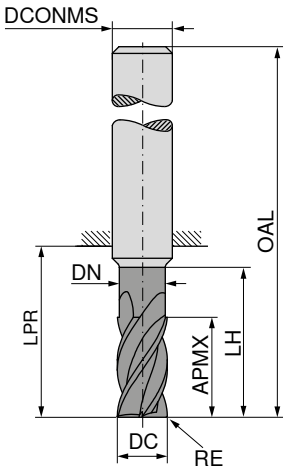
MonsterMill – Plunge milling cutters with corner radius – PCR UNI

The specialist for ramping, plunge milling, and helical milling

- ▲ Suitable for trochoidal milling
- ▲ Chip breaker 0.9xDC
- ▲ Cutting depth: 3xDC







APA72S





DIN 6527



SA

DC f8 mm	RE ±0,03 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 619 ...
5	0.20	17	4.8	24	26	62	6	4	**05202**
6	0.20	17	5.8	25	26	62	6	4	**06202**
8	0.20	24	7.7	30	32	68	8	4	**08202**
10	0.32	30	9.7	35	40	80	10	4	**10203**
12	0.32	36	11.6	45	48	93	12	4	**12203**
14	0.32	42	13.6	50	54	99	14	4	**14203**
16	0.32	48	15.5	56	60	108	16	4	**16203**
18	0.32	54	17.5	67	69	117	18	4	**18203**
20	0.50	60	19.5	70	76	126	20	4	**20205**

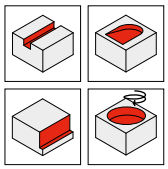
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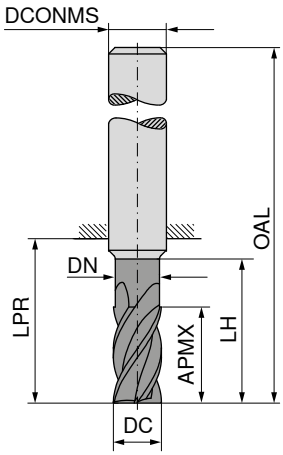
→ Find the cutting data standard values here.

MonsterMill – End mill – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





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DRAGONSKIN





≈DIN 6527



SA

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 515 ...
3	8	2.8	15.0	21	57	6	4	**03200**
4	11	3.8	16.5	21	57	6	4	**04200**
5	13	4.8	18.5	21	57	6	4	**05200**
6	13	5.5	21.0	21	57	6	4	**06200**
8	19	7.5	27.0	27	63	8	4	**08200**
10	22	9.5	32.0	32	72	10	4	**10200**
12	26	11.5	38.0	38	83	12	4	**12200**
16	36	15.5	44.0	44	92	16	4	**16200**
20	38	19.5	54.0	54	104	20	4	**20200**

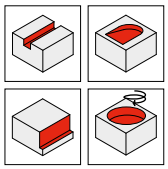
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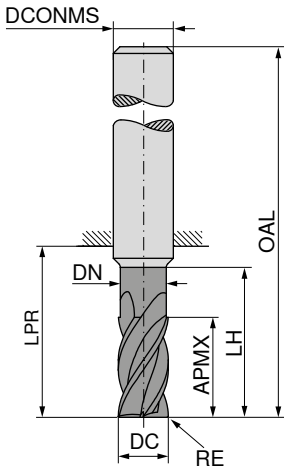
→ Find the cutting data standard values here.

MonsterMill – End mills with corner radius – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





DPC72S upGRADE DRAGONSKIN





≈DIN 6527



SA

DC f8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 516 ...	52 517 ...	52 518 ...	52 519 ...
3	0.10	6	2.8	12.0	18	54	6	4	03100			
3	0.10	8	2.8	15.0	21	57	6	4		03200		
4	0.13	8	3.8	13.5	18	54	6	4	04100			
4	0.13	11	3.8	16.5	21	57	6	4		04200		
5	0.18	9	4.8	15.5	18	54	6	4	05100			
5	0.18	13	4.8	18.5	21	57	6	4		05200		
5	0.18	22	4.8	24.5	27	63	6	4			05300	
6	0.20	10	5.5	18.0	18	54	6	4	06100			
6	0.20	13	5.5	21.0	21	57	6	4		06200		
6	0.20	13	5.5	42.0	44	80	6	4				06400
6	0.20	22	5.5	27.0	27	63	6	4			06300	
8	0.20	12	7.5	22.0	22	58	8	4	08100			
8	0.20	19	7.5	27.0	27	63	8	4		08200		
8	0.20	21	7.5	62.0	64	100	8	4				08400
8	0.20	28	7.5	36.0	44	80	8	4			08300	
10	0.30	14	9.5	26.0	26	66	10	4	10100			
10	0.30	22	9.5	32.0	32	72	10	4		10200		
10	0.30	22	9.5	58.0	60	100	10	4				10400
10	0.30	33	9.5	54.0	60	100	10	4			10300	
12	0.30	16	11.5	28.0	28	73	12	4	12100			
12	0.30	26	11.5	38.0	38	83	12	4		12200		
12	0.30	26	11.5	73.0	75	120	12	4				12400
12	0.30	42	11.5	54.0	55	100	12	4			12300	
14	0.30	18	13.5	30.0	30	75	14	4	14100			
14	0.30	26	13.5	38.0	38	83	14	4		14200		
14	0.30	48	13.5	54.0	55	100	14	4			14300	
16	0.40	22	15.5	34.0	34	82	16	4	16100			
16	0.40	36	15.5	44.0	44	92	16	4		16200		

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
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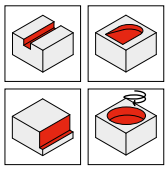
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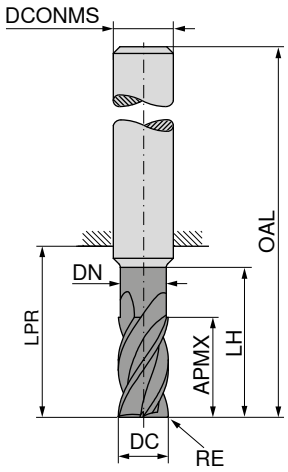
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MonsterMill – End mills with corner radius – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





DPC72S upGRADE DRAGONSKIN



DPC72S upGRADE DRAGONSKIN



DPC72S upGRADE DRAGONSKIN



DPC72S upGRADE DRAGONSKIN











≈DIN 6527 | ≈DIN 6527 | ≈DIN 6527 | ≈DIN 6527









SA | SA | SA | SA

DC f8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 516 ...	52 517 ...	52 518 ...	52 519 ...
16	0.40	36	15.5	100.0	102	150	16	4				**16400**
16	0.40	53	15.5	84.0	102	150	16	4			**16300**	
20	0.50	26	19.5	42.0	42	92	20	4	**20100**			
20	0.50	38	19.5	54.0	54	104	20	4		**20200**		
20	0.50	38	19.5	100.0	100	150	20	4				**20400**
20	0.50	68	19.5	84.0	100	150	20	4			**20300**	

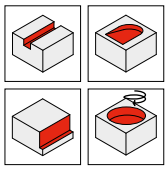
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M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O				

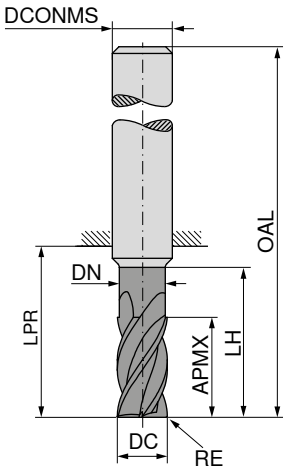
→ Find the cutting data standard values here.

MonsterMill – End mill with corner radius – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





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DRAGONSKIN





≈DIN 6527



SA

DC f8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 520 ...
3	0.25	8	2.8	15.0	21	57	6	4	03203
3	0.50	8	2.8	15.0	21	57	6	4	03205
3	1.00	8	2.8	15.0	21	57	6	4	03210
4	0.25	11	3.8	16.5	21	57	6	4	04203
4	0.50	11	3.8	16.5	21	57	6	4	04205
4	1.00	11	3.8	16.5	21	57	6	4	04210
5	0.50	13	4.8	18.5	21	57	6	4	05205
5	1.00	13	4.8	18.5	21	57	6	4	05210
5	1.50	13	4.8	18.5	21	57	6	4	05215
6	0.50	13	5.5	21.0	21	57	6	4	06205
6	0.80	13	5.5	21.0	21	57	6	4	06208
6	1.00	13	5.5	21.0	21	57	6	4	06210
6	1.50	13	5.5	21.0	21	57	6	4	06215
6	2.00	13	5.5	21.0	21	57	6	4	06220
8	0.50	19	7.5	27.0	27	63	8	4	08205
8	0.80	19	7.5	27.0	27	63	8	4	08208
8	1.00	19	7.5	27.0	27	63	8	4	08210
8	1.50	19	7.5	27.0	27	63	8	4	08215
8	2.00	19	7.5	27.0	27	63	8	4	08220
10	0.50	22	9.5	32.0	32	72	10	4	10205
10	1.00	22	9.5	32.0	32	72	10	4	10210
10	1.50	22	9.5	32.0	32	72	10	4	10215
10	1.60	22	9.5	32.0	32	72	10	4	10216
10	2.00	22	9.5	32.0	32	72	10	4	10220
12	0.50	26	11.5	38.0	38	83	12	4	12205
12	1.00	26	11.5	38.0	38	83	12	4	12210
12	1.50	26	11.5	38.0	38	83	12	4	12215
12	1.60	26	11.5	38.0	38	83	12	4	12216

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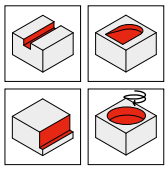
→ Find the cutting data standard values here.

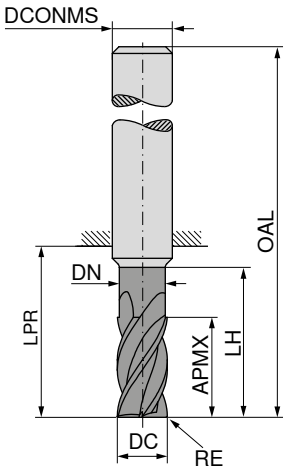
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MonsterMill – End mill with corner radius – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





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DRAGONSKIN





≈DIN 6527



SA

DC f8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 520 ...
12	2.00	26	11.5	38.0	38	83	12	4	12220
12	3.00	26	11.5	38.0	38	83	12	4	12230
16	1.00	36	15.5	44.0	44	92	16	4	16210
16	1.50	36	15.5	44.0	44	92	16	4	16215
16	1.60	36	15.5	44.0	44	92	16	4	16216
16	2.00	36	15.5	44.0	44	92	16	4	16220
16	2.50	36	15.5	44.0	44	92	16	4	16225
16	3.00	36	15.5	44.0	44	92	16	4	16230
20	1.00	38	19.5	54.0	54	104	20	4	20210
20	1.50	38	19.5	54.0	54	104	20	4	20215
20	2.00	38	19.5	54.0	54	104	20	4	20220
20	2.50	38	19.5	54.0	54	104	20	4	20225
20	3.00	38	19.5	54.0	54	104	20	4	20230
20	4.00	38	19.5	54.0	54	104	20	4	20240

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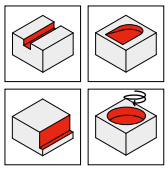
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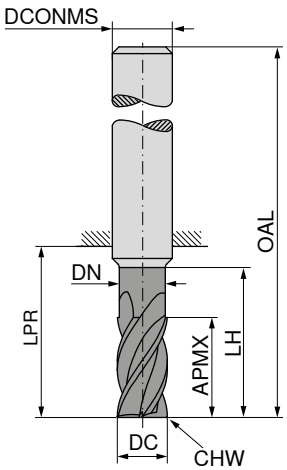
MonsterMill – End mill – S-Cut UNImax

The sustainable high-performance milling cutter for universal machining

▲ Specially designed for high-volume machining

S-Cut UNImax | λ_s var. | λ_s=17° 45° γ_s=15° | HPC





DPC72S upGRADE DRAGONSKIN



DPC72S upGRADE DRAGONSKIN





DIN 6527



SA

52 522 ...



DIN 6527



SA

52 523 ...

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 522 ...	52 523 ...
3	8	2.8	13	21	57	6	0.1	4	**03200**	**03200**
4	11	3.8	17	21	57	6	0.1	4	**04200**	**04200**
5	13	4.8	19	21	57	6	0.1	4	**05200**	**05200**
6	13	5.8	19	21	57	6	0.1	4	**06200**	**06200**
8	21	7.7	25	27	63	8	0.2	4	**08200**	**08200**
10	22	9.7	30	32	72	10	0.2	4	**10200**	**10200**
12	26	11.6	36	38	83	12	0.3	4	**12200**	**12200**
14	26	13.6	36	38	83	14	0.3	4	**14200**	**14200**
16	36	15.5	42	44	92	16	0.3	4	**16200**	**16200**
18	36	17.5	42	44	92	18	0.3	4	**18200**	**18200**
20	41	19.5	52	54	104	20	0.3	4	**20200**	**20200**

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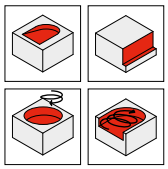
→ Find the cutting data standard values here.

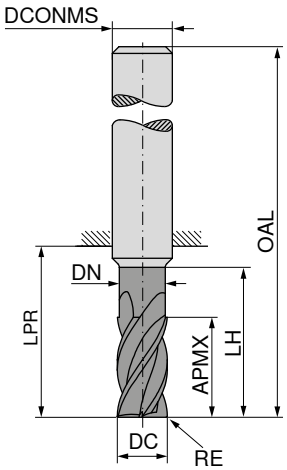
MonsterMill – End mills with corner radius – S-Cut UNI

The sustainable high-performance milling cutter for universal machining

- ▲ Suitable for trochoidal milling
- ▲ With chip breaker
- ▲ Cutting depth: 3xDC

S-Cut UNI | λ_s var. | λ_s=40° γ_s=10° | HPC





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≈DIN 6527



SA

DC f8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 521 ...
6	0.12	18	5.5	25	26	62	6	5	**06200**
8	0.16	24	7.5	30	32	68	8	5	**08200**
10	0.20	30	9.5	35	40	80	10	5	**10200**
12	0.24	36	11.5	45	48	93	12	5	**12200**
14	0.28	42	13.5	52	56	100	14	5	**14200**
16	0.32	48	15.5	55	60	108	16	5	**16200**
18	0.36	54	17.5	67	72	120	18	5	**18200**
20	0.40	60	19.5	70	76	126	20	5	**20200**

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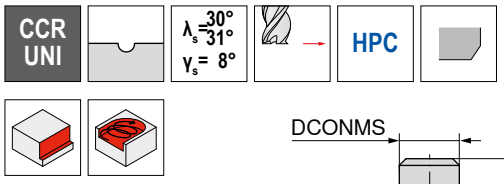


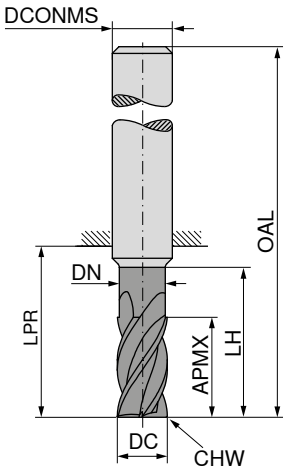
→ Find the cutting data standard values here.

CoreLine – End mill – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ 53 585 ... Cutting depth: 2 x DC
- ▲ 53 587 ... Cutting depth: 3 x DC













Factory standard

Factory standard





DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 53 585 ...	SM 53 587 ...
6	13	5.8	19	21	57	6	0.2	6	**060**	
6	19	5.8	25	27	63	6	0.2	6		**060**
8	21	7.7	25	27	63	8	0.2	6	**080**	
8	25	7.7	33	35	71	8	0.2	6		**080**
10	22	9.7	30	32	72	10	0.2	6	**100**	
10	31	9.7	41	43	83	10	0.2	6		**100**
12	26	11.6	36	38	83	12	0.2	6	**120**	
12	37	11.6	47	49	94	12	0.2	6		**120**
14	26	13.6	36	38	83	14	0.2	6	**14000**	
14	43	13.6	55	59	104	14	0.2	6		**14000**
16	36	15.5	42	44	92	16	0.2	6	**160**	
16	49	15.5	61	63	111	16	0.2	6		**160**
18	36	17.5	42	44	92	18	0.2	6	**18000**	
18	55	17.5	69	73	121	18	0.2	6		**18000**
20	41	19.5	52	54	104	20	0.2	6	**200**	
20	61	19.5	75	77	127	20	0.2	6		**200**

P	●	●
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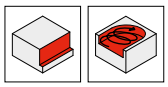
→ Find the cutting data standard values here.

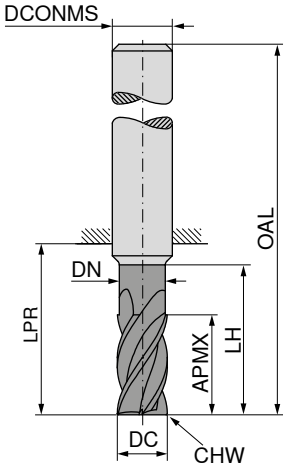
CoreLine – End mill – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 4 x DC

CCR UNI | λ_s=35° 36° γ_s= 8° | HPC





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Factory standard



DC $_{e8}$ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	CHW mm	ZEFP	SM 53 589 ...
6	25	5.8	29	31	67	6	0.2	5	**060**
8	33	7.7	38	40	76	8	0.2	5	**080**
10	41	9.7	47	49	89	10	0.2	5	**100**
12	49	11.6	55	57	102	12	0.2	5	**120**
14	57	13.6	64	68	113	14	0.2	5	**14000**
16	65	15.5	73	75	123	16	0.2	5	**160**
18	73	17.5	82	86	134	18	0.2	5	**18000**
20	82	19.5	91	93	143	20	0.2	5	**200**

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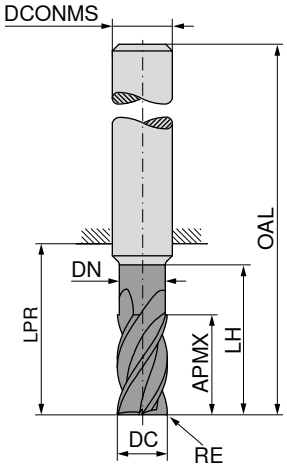
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 2 x DC

CCR UNI | λ_s=30° λ_s=31° γ_s= 8° | HPC



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Factory standard

SM

DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 586 ...
6	0.2	13	5.8	19	21	57	6	6	06002
6	1.0	13	5.8	19	21	57	6	6	06010
6	1.5	13	5.8	19	21	57	6	6	06015
8	0.2	21	7.7	25	27	63	8	6	08002
8	1.0	21	7.7	25	27	63	8	6	08010
8	1.5	21	7.7	25	27	63	8	6	08015
8	2.0	21	7.7	25	27	63	8	6	08020
10	0.2	22	9.7	30	32	72	10	6	10002
10	1.0	22	9.7	30	32	72	10	6	10010
10	1.5	22	9.7	30	32	72	10	6	10015
10	2.0	22	9.7	30	32	72	10	6	10020
12	0.2	26	11.6	36	38	83	12	6	12002
12	1.0	26	11.6	36	38	83	12	6	12010
12	1.5	26	11.6	36	38	83	12	6	12015
12	1.6	26	11.6	36	38	83	12	6	12016
12	2.0	26	11.6	36	38	83	12	6	12020
12	3.0	26	11.6	36	38	83	12	6	12030
14	0.2	26	13.6	36	38	83	14	6	14002
14	1.0	26	13.6	36	38	83	14	6	14010
14	1.5	26	13.6	36	38	83	14	6	14015
14	1.6	26	13.6	36	38	83	14	6	14016
14	2.0	30	13.6	36	38	83	14	6	14020
14	3.0	26	13.6	36	38	83	14	6	14030
16	0.2	36	15.5	42	44	92	16	6	16002
16	1.0	36	15.5	42	44	92	16	6	16010
16	1.5	36	15.5	42	44	92	16	6	16015
16	1.6	36	15.5	42	44	92	16	6	16016
16	2.0	36	15.5	42	44	92	16	6	16020

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→ Find the cutting data standard values here.

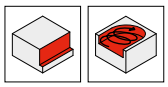
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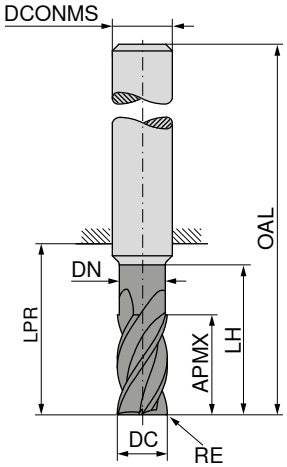
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 2 x DC

CCR UNI | λ_s = 30° | γ_s = 31° | γ_s = 8° | HPC





DPX72S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 586 ...
16	3.0	36	15.5	42	44	92	16	6	**16030**
16	4.0	36	15.5	42	44	92	16	6	**16040**
18	0.2	36	17.5	42	44	92	18	6	**18002**
18	1.0	36	17.5	42	44	92	18	6	**18010**
20	0.2	41	19.5	52	54	104	20	6	**20002**
20	1.0	41	19.5	52	54	104	20	6	**20010**
20	1.5	41	19.5	52	54	104	20	6	**20015**
20	2.0	41	19.5	52	54	104	20	6	**20020**
20	3.0	41	19.5	52	54	104	20	6	**20030**
20	4.0	41	19.5	52	54	104	20	6	**20040**

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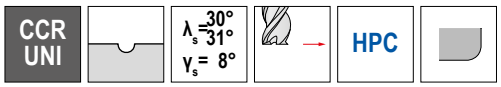


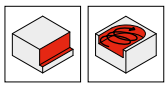
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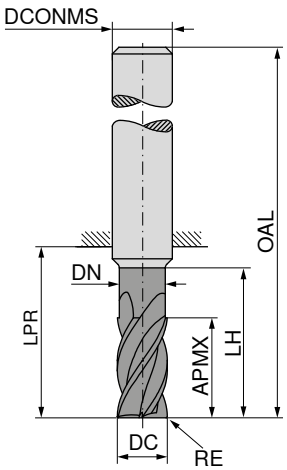
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 3 x DC







DPX72S

DRAGONSKIN





Factory standard



SM

DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 642 ...
6	0.2	19	5.8	25	27	63	6	6	**06202**
6	1.0	19	5.8	25	27	63	6	6	**06210**
6	1.5	19	5.8	25	27	63	6	6	**06215**
8	0.2	25	7.7	33	35	71	8	6	**08202**
8	1.0	25	7.7	33	35	71	8	6	**08210**
8	1.5	25	7.7	33	35	71	8	6	**08215**
8	2.0	25	7.7	33	35	71	8	6	**08220**
10	0.2	31	9.7	41	43	83	10	6	**10202**
10	1.0	31	9.7	41	43	83	10	6	**10210**
10	1.5	31	9.7	41	43	83	10	6	**10215**
10	2.0	31	9.7	41	43	83	10	6	**10220**
12	0.2	37	11.6	47	49	94	12	6	**12202**
12	1.0	37	11.6	47	49	94	12	6	**12210**
12	1.5	37	11.6	47	49	94	12	6	**12215**
12	1.6	37	11.6	47	49	94	12	6	**12216**
12	2.0	37	11.6	47	49	94	12	6	**12220**
12	3.0	37	11.6	47	49	94	12	6	**12230**
14	0.2	43	13.6	55	59	104	14	6	**14202**
14	1.0	43	13.6	55	59	104	14	6	**14210**
16	0.2	49	15.5	61	63	111	16	6	**16202**
16	1.0	49	15.5	61	63	111	16	6	**16210**
16	1.5	49	15.5	61	63	111	16	6	**16215**
16	1.6	49	15.5	61	63	111	16	6	**16216**
16	2.0	49	15.5	61	63	111	16	6	**16220**
16	3.0	49	15.5	61	63	111	16	6	**16230**
16	4.0	49	15.5	61	63	111	16	6	**16240**
20	0.2	61	19.5	75	77	127	20	6	**20202**
20	1.0	61	19.5	75	77	127	20	6	**20210**

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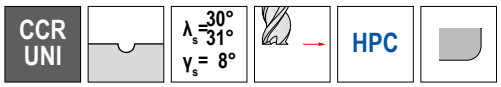
→ Find the cutting data standard values here.

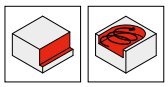
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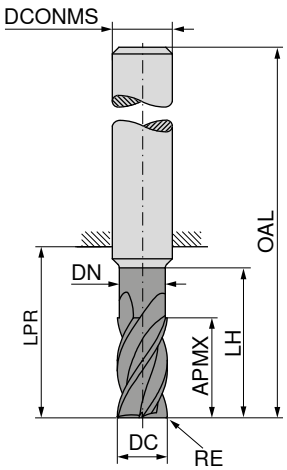
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 3 x DC







DPX72S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 642 ...
20	1.5	61	19.5	75	77	127	20	6	**20215**
20	1.6	61	19.5	75	77	127	20	6	**20216**
20	2.0	61	19.5	75	77	127	20	6	**20220**
20	3.0	61	19.5	75	77	127	20	6	**20230**
20	4.0	61	19.5	75	77	127	20	6	**20240**

P	●
M	○
K	●
N	
S	○
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O	

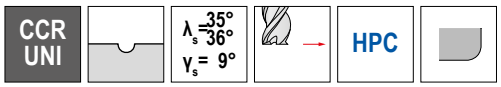


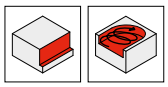
→ Find the cutting data standard values here.

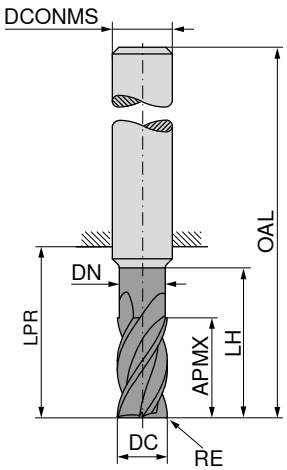
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 4 x DC







DPX72S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 593 ...
6	0.2	25	5.8	29	31	67	6	5	06002
6	1.0	25	5.8	29	31	67	6	5	06010
6	1.5	25	5.8	29	31	67	6	5	06015
8	0.2	33	7.7	38	40	76	8	5	08002
8	1.0	33	7.7	38	40	76	8	5	08010
8	1.5	33	7.7	38	40	76	8	5	08015
8	2.0	33	7.7	38	40	76	8	5	08020
10	0.2	41	9.7	47	49	89	10	5	10002
10	1.0	41	9.7	47	49	89	10	5	10010
10	1.5	41	9.7	47	49	89	10	5	10015
10	2.0	41	9.7	47	49	89	10	5	10020
12	0.2	49	11.6	55	57	102	12	5	12002
12	1.0	49	11.6	55	57	102	12	5	12010
12	1.5	49	11.6	55	57	102	12	5	12015
12	1.6	49	11.6	55	57	102	12	5	12016
12	2.0	49	11.6	55	57	102	12	5	12020
12	3.0	49	11.6	55	57	102	12	5	12030
14	0.2	57	13.6	64	68	113	14	5	14002
14	1.0	57	13.6	64	68	113	14	5	14010
14	3.0	57	13.6	64	68	113	14	5	14030
16	0.2	65	15.5	73	75	123	16	5	16002
16	1.0	65	15.5	73	75	123	16	5	16010
16	1.5	65	15.5	73	75	123	16	5	16015
16	1.6	65	15.5	73	75	123	16	5	16016
16	2.0	65	15.5	73	75	123	16	5	16020
16	3.0	65	15.5	73	75	123	16	5	16030
16	4.0	65	15.5	73	75	123	16	5	16040
18	0.2	73	17.5	82	86	134	18	5	18002

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→ Find the cutting data standard values here.

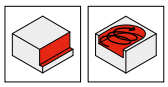
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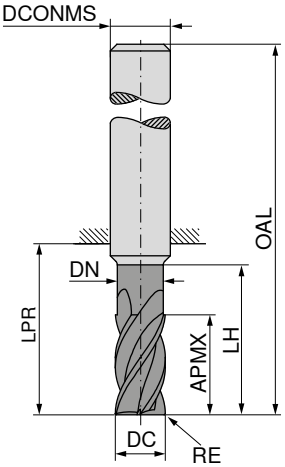
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 4 x DC

CCR UNI | λ_s=35° 36° γ_s= 9° | HPC





DPX72S

DRAGONSKIN





Factory standard



SM

DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 593 ...
20	0.2	82	19.5	91	93	143	20	5	**20002**
20	1.0	82	19.5	91	93	143	20	5	**20010**
20	1.5	82	19.5	91	93	143	20	5	**20015**
20	2.0	82	19.5	91	93	143	20	5	**20020**
20	3.0	82	19.5	91	93	143	20	5	**20030**
20	4.0	82	19.5	91	93	143	20	5	**20040**

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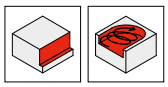
→ Find the cutting data standard values here.

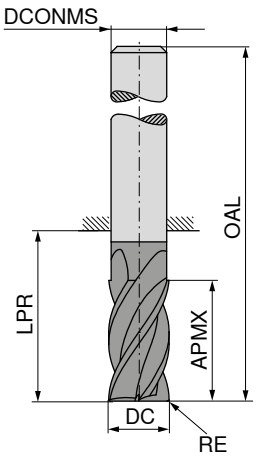
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 5 x DC

CCR UNI | λ_s=35° 36° γ_s= 9° | HPC





DPX72S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 593 ...
6.0	0.2	31	39	75	6	5	**06402**
6.0	1.0	31	39	75	6	5	**06410**
6.0	1.5	31	39	75	6	5	**06415**
8.0	0.2	41	49	85	8	5	**08402**
8.0	1.0	41	49	85	8	5	**08410**
8.0	1.5	41	49	85	8	5	**08415**
8.0	2.0	41	49	85	8	5	**08420**
10.0	0.2	51	60	100	10	5	**10402**
10.0	1.0	51	60	100	10	5	**10410**
10.0	1.5	51	60	100	10	5	**10415**
10.0	1.6	51	60	100	10	5	**10416**
10.0	2.0	51	60	100	10	5	**10420**
12.0	0.2	61	70	115	12	5	**12402**
12.0	1.0	61	70	115	12	5	**12410**
12.0	1.5	61	70	115	12	5	**12415**
12.0	1.6	61	70	115	12	5	**12416**
12.0	2.0	61	70	115	12	5	**12420**
12.0	3.0	61	70	115	12	5	**12430**
14.0	0.2	71	81	126	14	5	**14402**
14.0	1.0	71	81	126	14	5	**14410**
14.0	1.5	71	81	126	14	5	**14415**
14.0	2.0	71	81	126	14	5	**14420**
14.0	3.0	71	81	126	14	5	**14430**
16.0	0.2	81	92	140	16	5	**16402**
16.0	1.0	81	92	140	16	5	**16410**
16.0	1.5	81	92	140	16	5	**16415**
16.0	2.0	81	92	140	16	5	**16420**
16.0	3.0	81	92	140	16	5	**16430**

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→ Find the cutting data standard values here.

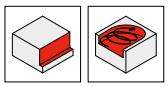
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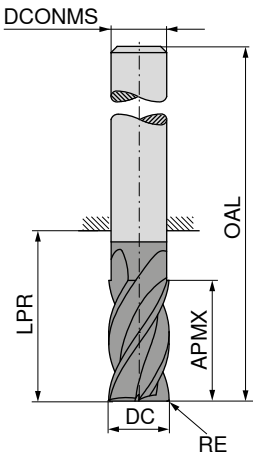
CoreLine – End mills with corner radius – CCR-UNI

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 5 x DC

CCR UNI | λ_s=35° 36° γ_s= 9° | HPC





DPX72S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 593 ...
16.0	4.0	81	92	140	16	5	**16440**
18.0	0.2	91	102	150	18	5	**18402**
20.0	0.2	102	113	163	20	5	**20402**
20.0	1.0	102	113	163	20	5	**20410**
20.0	1.5	102	113	163	20	5	**20415**
20.0	2.0	102	113	163	20	5	**20420**
20.0	3.0	102	113	163	20	5	**20430**
20.0	4.0	102	113	163	20	5	**20440**

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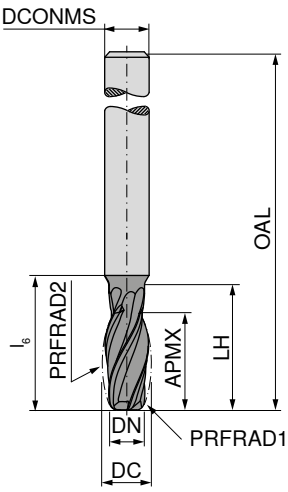
→ Find the cutting data standard values here.

CoreLine – Barrel-shaped end mills – 3D Finish N

The specialist for 3D finish machining

▲ Geometrical tolerance ± 0.01 mm

3D Finish N | λ_s=30°



APB72S





DIN 6527



SM

52 739 ...

100

DC mm	DCONMS $_{h6}$ mm	DN mm	PRFRAD1 mm	PRFRAD2 mm	LH mm	APMX mm	l_6 mm	OAL mm	ZEFP
10	10	8	2	50	28	21	30	80	4

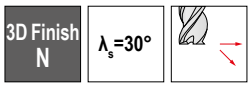
P	●
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→ Find the cutting data standard values here.
→ Find application tips here.

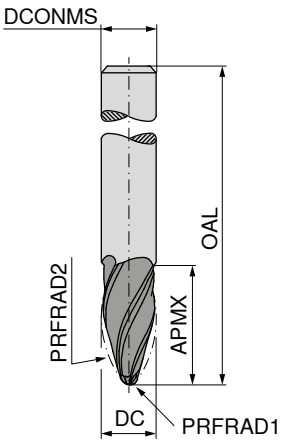
CoreLine – Oval-shaped end mills – 3D Finish N

The specialist for 3D finish machining

▲ Geometrical tolerance ± 0.01 mm







APB72S





DIN 6527



SM

DC mm	DCONMS h6 mm	PRFRAD1 mm	PRFRAD2 mm	APMX mm	OAL mm	ZEFP	52 745 ...
6	6	1	95	22	62	3	**060**
8	8	1	90	25	68	3	**080**
10	10	2	85	26	72	4	**100**
12	12	2	80	28	83	4	**120**
16	16	3	75	31	92	4	**160**

P	●
M	●
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S	●
H	○
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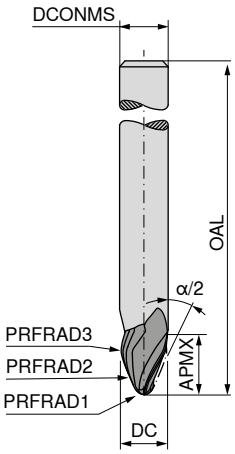
→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Tapered end mills – 3D Finish N

The specialist for 3D finish machining

▲ Geometrical tolerance ± 0.01 mm

3D Finish N | λ_s=30°



APB72S





DIN 6527



SM

DC mm	DCONMS h6 mm	PRFRAD1 mm	PRFRAD2 mm	PRFRAD3 mm	α°/2	APMX mm	OAL mm	ZEFP	52 753 ...
6	6	1.0	250	3	17,5	9.5	62	3	**060**
8	8	1.5	250	4	20	10.5	68	3	**080**
10	10	2.0	250	5	20	12.5	80	3	**100**
12	12	1.0	200	1	42,5	8.0	93	3	**120**
12	12	3.0	250	6	20	13.5	93	3	**121**
16	16	2.0	1000	5	12,5	31.0	108	3	**160**
16	16	4.0	500	8	20	18.5	108	3	**161**
16	16	4.0	1000	5	12,5	24.0	108	3	**162**
16	16	4.0	1500	8	20	18.5	108	3	**163**

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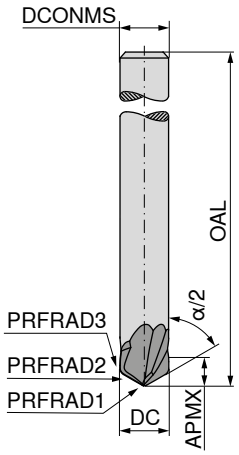
→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Tapered end mills – 3D Finish N

The specialist for 3D finish machining

▲ Geometrical tolerance ± 0.01 mm

3D Finish N | λ_s = 20° 25°



APB72S



DIN 6527

SM

DC mm	DCONMS h6 mm	PRFRAD1 mm	PRFRAD2 mm	PRFRAD3 mm	α°/2	APMX mm	OAL mm	ZEFP	52 755 ...
10	10	1	200	1.5	60	6	80	2	**100**
10	10	1	200	2.0	70	6	80	2	**101**

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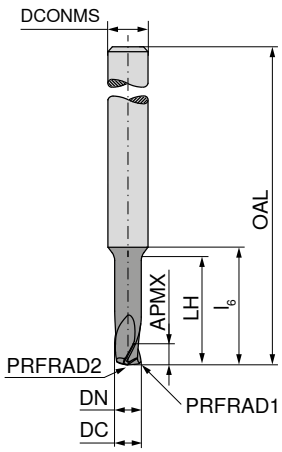
→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Lens-shaped end mills – 3D Finish N

The specialist for 3D finish machining

▲ Geometrical tolerance ± 0.01 mm

3D Finish N | λ_s=30°



APB72S



DIN 6527

SM

DC mm	DCONMS h6 mm	DN mm	PRFRAD1 mm	PRFRAD2 mm	LH mm	APMX mm	l_6 mm	OAL mm	ZEFP	52 756 ...
4	6	4	0.25	6	18	4	20	62	3	**040**
6	6		0.50	10		6		62	3	**060**
8	8		0.75	15		8		68	3	**080**
10	10		1.00	20		10		80	3	**100**
12	12		1.25	25		12		93	3	**120**

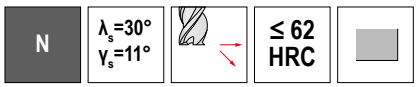
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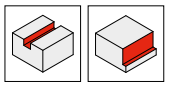
→ Find the cutting data standard values here.
→ Find application tips here.

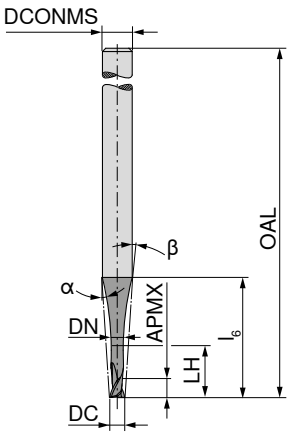
CoreLine – Micro end mills – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut















Factory standard

Factory standard





DC mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS $_{h5}$ mm	T_X	ZEFP	SM 52 802 ...	SM 52 802 ...
0.2	0.12	0.16	0.44	5.7	38	15	14	3	2,2 x DC	2	**021**	
0.2	0.20	0.16	1.00	6.4	38	15	13	3	5 x DC	2	**023**	
0.2	0.20	0.16	2.00	9.2	38	15	9	3	10 x DC	2	**025**	
0.2	0.20	0.16	0.44	5.7	43	15	14	3	2,2 x DC	2		**022**
0.2	0.20	0.16	1.00	6.4	43	15	13	3	5 x DC	2		**024**
0.2	0.20	0.16	2.00	9.2	43	15	9	3	10 x DC	2		**026**
0.3	0.18	0.24	0.66	5.8	38	16,5	14	3	2,2 x DC	2	**03100**	
0.3	0.30	0.24	1.50	6.9	38	16	11,5	3	5 x DC	2	**03300**	
0.3	0.30	0.24	3.00	9.7	38	13,5	8,5	3	10 x DC	2	**03500**	
0.4	0.24	0.32	0.88	5.8	38	16,5	13,5	3	2,2 x DC	2	**04100**	
0.4	0.40	0.32	2.00	7.4	38	15,5	10,5	3	5 x DC	2	**04300**	
0.4	0.40	0.32	4.00	10.2	38	14	8	3	10 x DC	2	**04500**	
0.5	0.30	0.40	1.10	5.8	38	15	13	3	2,2 x DC	2	**051**	
0.5	0.50	0.40	2.50	7.8	38	15	10	3	5 x DC	2	**053**	
0.5	0.50	0.40	5.00	10.7	38	13	7	3	10 x DC	2	**055**	
0.5	0.50	0.40	1.10	5.8	43	15	13	3	2,2 x DC	2		**052**
0.5	0.50	0.40	2.50	7.8	43	15	10	3	5 x DC	2		**054**
0.5	0.50	0.40	5.00	14.5	43	13	5	3	10 x DC	2		**056**
0.6	0.36	0.48	1.32	5.9	38	16,5	12	3	2,2 x DC	2	**06100**	
0.6	0.60	0.48	3.00	8.3	38	15	9	3	5 x DC	2	**06300**	
0.6	0.60	0.48	6.00	11.6	38	14	6,5	3	10 x DC	2	**06500**	
0.7	0.42	0.56	1.54	5.9	38	16,5	11,5	3	2,2 x DC	2	**07100**	
0.7	0.70	0.56	3.50	8.8	38	14,5	8	3	5 x DC	2	**07300**	
0.7	0.70	0.56	7.00	12.5	38	14	6	3	10 x DC	2	**07500**	
0.8	0.48	0.64	1.76	5.9	38	15	11	3	2,2 x DC	2	**081**	
0.8	0.80	0.64	4.00	9.0	38	15	7	3	5 x DC	2	**083**	
0.8	0.80	0.64	8.00	13.5	38	12	5	3	10 x DC	2	**085**	
0.8	0.80	0.64	1.76	5.9	43	15	11	3	2,2 x DC	2		**082**
0.8	0.80	0.64	4.00	9.0	43	15	7	3	5 x DC	2		**084**

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→ Find the cutting data standard values here.

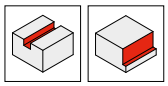
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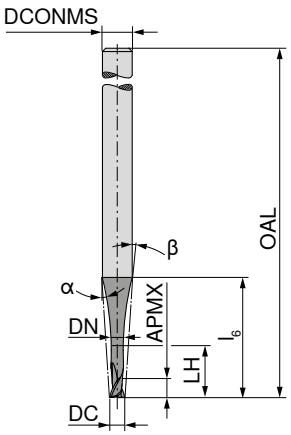
CoreLine – Micro end mills – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s=11° | ≤ 62 HRC













Factory standard

Factory standard





DC mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS $_{h5}$ mm	T_X	ZEFP	SM 52 802 ...	SM 52 802 ...
0.8	0.80	0.64	8.00	15.5	43	9,8	5	3	10 x DC	2		**086**
0.9	0.54	0.72	1.98	5.9	38	17	10,5	3	2,2 x DC	2	**09100**	
0.9	0.90	0.72	4.50	9.5	38	14	7	3	5 x DC	2	**09300**	
0.9	0.90	0.72	9.00	14.4	38	13	5	3	10 x DC	2	**09500**	
1.0	0.60	0.80	2.20	5.9	38	15	10	3	2,2 x DC	2	**101**	
1.0	1.00	0.80	2.20	5.9	43	15	10	3	2,2 x DC	2		**102**
1.0	1.00	0.80	5.00	9.7	43	15	6	3	5 x DC	2	**103**	
1.0	1.00	0.80	10.00	15.3	43	11	4	3	10 x DC	2	**105**	
1.0	1.00	0.80	5.00	9.7	50	15	6	3	5 x DC	2		**104**
1.0	1.00	0.80	10.00	20.6	50	8,5	3	3	10 x DC	2		**106**
1.1	0.66	0.88	2.42	6.0	38	17	9,5	3	2,2 x DC	2	**11100**	
1.1	1.10	0.88	5.50	10.0	43	14	6	3	5 x DC	2	**11300**	
1.1	1.10	0.88	11.00	15.9	43	13	4	3	10 x DC	2	**11500**	
1.2	0.72	0.96	2.64	6.0	38	17	9	3	2,2 x DC	2	**12100**	
1.2	1.20	0.96	6.00	10.5	43	13,5	5,5	3	5 x DC	2	**12300**	
1.2	1.20	0.96	12.00	16.5	43	13,5	4	3	10 x DC	2	**12500**	
1.3	0.78	1.04	2.86	6.0	38	17	8,5	3	2,2 x DC	2	**13100**	
1.3	1.30	1.04	6.50	11.0	43	12,5	5	3	5 x DC	2	**13300**	
1.3	1.30	1.04	13.00	17.1	43	14	3,5	3	10 x DC	2	**13500**	
1.4	0.84	1.12	3.08	6.1	38	17	8	3	2,2 x DC	2	**14100**	
1.4	1.40	1.12	7.00	11.5	43	12	4,5	3	5 x DC	2	**14300**	
1.4	1.40	1.12	14.00	17.6	43	15	3,5	3	10 x DC	2	**14500**	
1.5	0.90	1.20	3.30	6.1	38	15	8	3	2,2 x DC	2	**151**	
1.5	1.50	1.20	3.30	6.1	43	15	8	3	2,2 x DC	2		**152**
1.5	1.50	1.20	7.50	11.8	43	14	4	3	5 x DC	2	**153**	
1.5	1.50	1.20	15.00	18.1	43	14,6	3	3	10 x DC	2	**155**	
1.5	1.50	1.20	7.50	11.8	50	14	4	3	5 x DC	2		**154**
1.5	1.50	1.20	15.00	22.0	50	6,2	2	3	10 x DC	2		**156**
1.6	0.96	1.28	3.52	6.2	38	16,5	7	3	2,2 x DC	2	**16100**	

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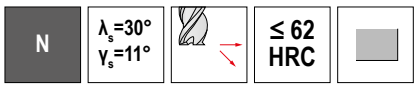
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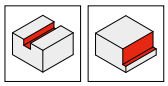
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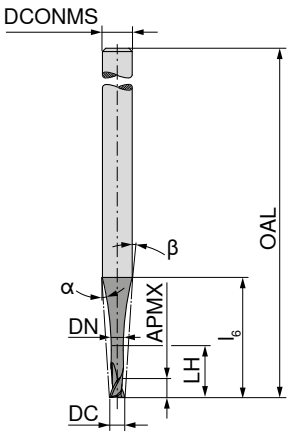
CoreLine – Micro end mills – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut















Factory standard

Factory standard





DC mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_X	ZEFP	SM 52 802 ...	SM 52 802 ...
1.6	1.60	1.28	8.00	12.0	43	12	4	3	5 x DC	2	**16300**	
1.6	1.60	1.28	16.00	18.7	43	17	3	3	10 x DC	2	**16500**	
1.7	1.02	1.36	3.74	6.2	38	17	6,5	3	2,2 x DC	2	**17100**	
1.7	1.70	1.36	8.50	12.5	43	11	3,5	3	5 x DC	2	**17300**	
1.7	1.70	1.36	17.00	19.3	43	18,5	2,5	3	10 x DC	2	**17500**	
1.8	1.08	1.44	3.96	6.2	38	15	6	3	2,2 x DC	2	**181**	
1.8	1.80	1.44	3.96	6.2	43	15	6	3	2,2 x DC	2		**182**
1.8	1.80	1.44	9.00	12.9	43	12	3	3	5 x DC	2	**183**	
1.8	1.80	1.44	18.00	20.0	43	19,8	2	3	10 x DC	2	**185**	
1.8	1.80	1.44	9.00	12.9	50	12	3	3	5 x DC	2		**184**
1.8	1.80	1.44	18.00	22.0	50	5,3	2	3	10 x DC	2		**186**
1.9	1.14	1.52	4.18	6.2	38	17,5	5,5	3	2,2 x DC	2	**19100**	
1.9	1.90	1.52	9.50	13.2	43	10	3	3	5 x DC	2	**19300**	
1.9	1.90	1.52	19.00	20.5	43	23,5	2,5	3	10 x DC	2	**19500**	
2.0	1.20	1.60	4.40	11.9	50	15	10	6	2,2 x DC	2	**201**	
2.0	2.00	1.60	10.00	19.7	50	15	6	6	5 x DC	2	**203**	
2.0	2.00	1.60	20.00	25.0	50	22,1	5	6	10 x DC	2	**205**	
2.0	2.00	1.60	4.40	11.9	57	15	10	6	2,2 x DC	2		**202**
2.0	2.00	1.60	10.00	19.7	57	15	6	6	5 x DC	2		**204**
2.0	2.00	1.60	20.00	29.0	57	7,8	4	6	10 x DC	2		**206**

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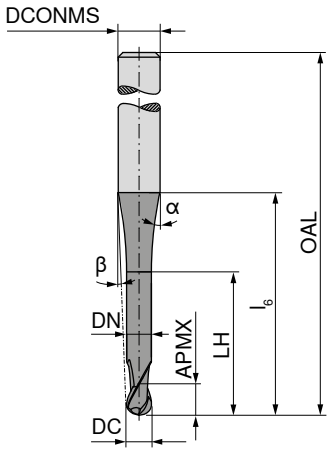
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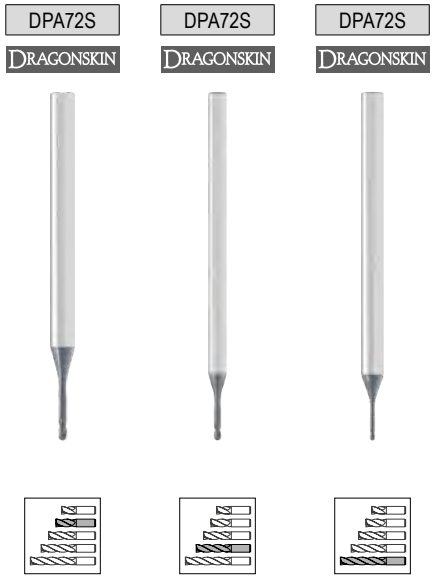
CoreLine – Micro ball-nosed end mills – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s= 6° | ≤ 62 HRC





Factory standard | Factory standard | Factory standard

SM | SM | SM

DC ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_X	ZEFP	52 804 ...	52 804 ...	52 804 ...
0.2	0.12	0.16	0.44	5.7	38	15	14	3	2,2 x DC	2	**021**		
0.2	0.20	0.16	1.00	6.4	38	15	13	3	5 x DC	2	**024**		
0.2	0.20	0.16	2.00	9.2	38	15	9	3	10 x DC	2	**027**		
0.2	0.12	0.16	0.44	5.7	50	15	14	3	2,2 x DC	2		**022**	
0.2	0.20	0.16	1.00	6.4	50	15	13	3	5 x DC	2		**025**	
0.2	0.20	0.16	2.00	9.2	50	15	9	3	10 x DC	2		**028**	
0.2	0.12	0.16	0.44	11.3	80	15	15	6	2,2 x DC	2			**023**
0.2	0.20	0.16	1.00	12.0	80	15	14	6	5 x DC	2			**026**
0.2	0.20	0.16	2.00	14.8	80	15	12	6	10 x DC	2			**029**
0.3	0.18	0.24	0.66	5.8	38	16,5	14	3	2,2 x DC	2	**03100**		
0.3	0.30	0.24	1.50	6.9	38	16	11,5	3	5 x DC	2	**03400**		
0.3	0.30	0.24	3.00	9.7	38	13,5	8,5	3	10 x DC	2	**03700**		
0.4	0.24	0.32	0.88	5.8	38	16,5	13	3	2,2 x DC	2	**04100**		
0.4	0.40	0.32	2.00	7.4	38	15,5	10,5	3	5 x DC	2	**04400**		
0.4	0.40	0.32	4.00	10.2	38	14	8	3	10 x DC	2	**04700**		
0.5	0.30	0.40	1.10	5.8	38	15	13	3	2,2 x DC	2	**051**		
0.5	0.50	0.40	2.50	7.8	38	15	10	3	5 x DC	2	**054**		
0.5	0.50	0.40	5.00	10.7	38	13	7	3	10 x DC	2	**057**		
0.5	0.30	0.40	1.10	5.8	50	15	13	3	2,2 x DC	2		**052**	
0.5	0.50	0.40	2.50	7.8	50	15	10	3	5 x DC	2		**055**	
0.5	0.50	0.40	5.00	14.5	50	13	5	3	10 x DC	2		**058**	
0.5	0.30	0.40	1.10	11.4	80	15	14	6	2,2 x DC	2			**053**
0.5	0.50	0.40	2.50	13.4	80	15	12	6	5 x DC	2			**056**
0.5	0.50	0.40	5.00	20.2	80	15	8	6	10 x DC	2			**059**
0.6	0.36	0.48	1.32	5.9	38	16,5	12	3	2,2 x DC	2	**06100**		
0.6	0.60	0.48	3.00	8.3	38	15	9	3	5 x DC	2	**06400**		
0.6	0.60	0.48	6.00	10.6	38	17	7	3	10 x DC	2	**06700**		
0.7	0.42	0.56	1.54	5.9	38	16,5	11,5	3	2,2 x DC	2	**07100**		
0.7	0.70	0.56	3.50	8.8	38	14	8	3	5 x DC	2	**07400**		

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→ Find the cutting data standard values here.

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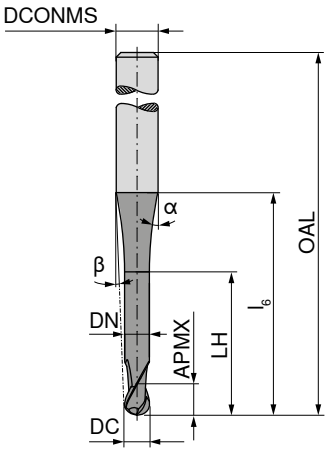
CoreLine – Micro ball-nosed end mills – N

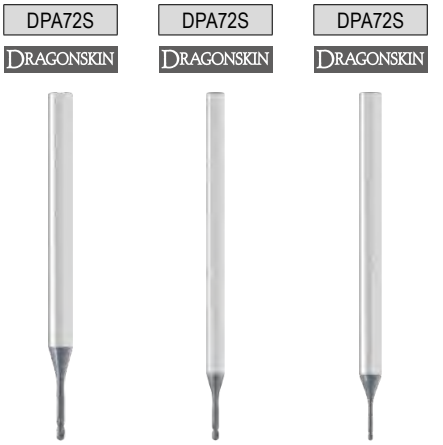
The universal milling cutter for micro-cutting

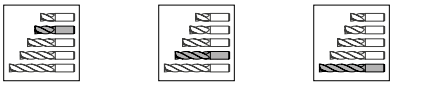
▲ T_x = maximum depth of cut

N | λ_s=30° γ_s= 6° | ≤ 62 HRC









											Factory standard	Factory standard	Factory standard
											SM	SM	SM
DC ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_X	ZEFP	52 804 ...	52 804 ...	52 804 ...
0.7	0.70	0.56	7.00	10.6	38	20,5	7	3	10 x DC	2	**07700**		
0.8	0.48	0.64	1.76	5.9	38	15	11	3	2,2 x DC	2	**081**		
0.8	0.80	0.64	4.00	9.0	38	15	7	3	5 x DC	2	**084**		
0.8	0.80	0.64	8.00	10.5	38	8,2	6	3	10 x DC	2	**087**		
0.8	0.48	0.64	1.76	5.9	50	15	11	3	2,2 x DC	2		**082**	
0.8	0.80	0.64	4.00	9.0	50	15	7	3	5 x DC	2		**085**	
0.8	0.80	0.64	8.00	18.7	50	9,8	4	3	10 x DC	2		**088**	
0.8	0.48	0.64	1.76	11.5	80	15	13	6	2,2 x DC	2			**083**
0.8	0.80	0.64	4.00	14.6	80	15	11	6	5 x DC	2			**086**
0.8	0.80	0.64	8.00	25.9	80	14,8	6	6	10 x DC	2			**089**
0.9	0.54	0.72	1.98	5.9	38	17	10,5	3	2,2 x DC	2	**09100**		
0.9	0.90	0.72	4.50	9.5	38	14	7	3	5 x DC	2	**09400**		
0.9	0.90	0.72	9.00	10.5	38	39,5	6,5	3	10 x DC	2	**09700**		
1.0	0.60	0.80	2.20	7.8	43	15	11	4	2,2 x DC	2	**101**		
1.0	1.00	0.80	5.00	11.6	43	15	8	4	5 x DC	2	**104**		
1.0	1.00	0.80	10.00	18.3	43	8	5	4	10 x DC	2	**107**		
1.0	0.60	0.80	2.20	7.8	60	15	11	4	2,2 x DC	2		**102**	
1.0	1.00	0.80	5.00	11.6	60	15	8	4	5 x DC	2		**105**	
1.0	1.00	0.80	10.00	23.7	60	10,2	4	4	10 x DC	2		**108**	
1.0	0.60	0.80	2.20	11.5	80	15	13	6	2,2 x DC	2			**103**
1.0	1.00	0.80	5.00	15.3	80	15	10	6	5 x DC	2			**106**
1.0	1.00	0.80	10.00	28.7	80	13	5	6	10 x DC	2			**109**
1.1	0.66	0.88	2.42	7.9	43	16,5	11	4	2,2 x DC	2	**11100**		
1.1	1.10	0.88	5.50	12.0	43	14,5	7,5	4	5 x DC	2	**11400**		
1.1	1.10	0.88	11.00	18.3	43	13,5	5,5	4	10 x DC	2	**11700**		
1.2	0.72	0.96	2.64	7.9	43	15	11	4	2,2 x DC	2	**121**		
1.2	1.20	0.96	6.00	12.4	43	15	7	4	5 x DC	2	**124**		
1.2	1.20	0.96	12.00	18.2	43	9,3	5	4	10 x DC	2	**127**		
1.2	0.72	0.96	2.64	7.9	60	15	11	4	2,2 x DC	2		**122**	

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→ Find the cutting data standard values here.

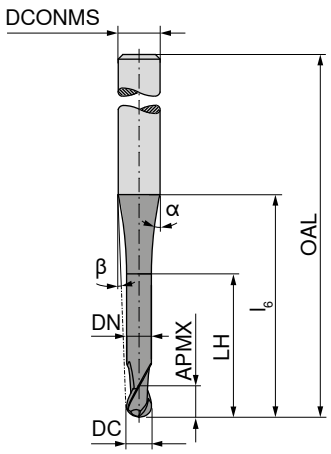
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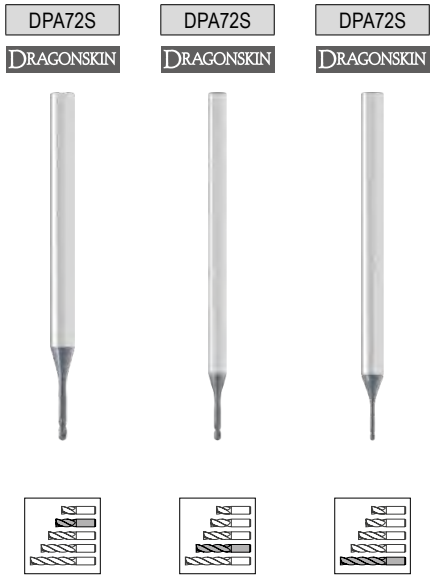
CoreLine – Micro ball-nosed end mills – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s= 6° | ≤ 62 HRC





Factory standard | Factory standard | Factory standard

SM | SM | SM

DC ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_X	ZEFP	52 804 ...	52 804 ...	52 804 ...
1.2	1.20	0.96	6.00	12.4	60	15	7	4	5 x DC	2		**125**	
1.2	1.20	0.96	12.00	26.1	60	9,1	4	4	10 x DC	2		**128**	
1.2	0.72	0.96	2.64	11.6	80	15	12	6	2,2 x DC	2			**123**
1.2	1.20	0.96	6.00	16.2	80	15	9	6	5 x DC	2			**126**
1.2	1.20	0.96	12.00	31.8	80	11,7	5	6	10 x DC	2			**129**
1.3	0.78	1.04	2.86	8.0	43	16,5	10,5	4	2,2 x DC	2	**13100**		
1.3	1.30	1.04	6.50	12.8	43	14	6,5	4	5 x DC	2	**13400**		
1.3	1.30	1.04	13.00	18.2	43	17	5	4	10 x DC	2	**13700**		
1.4	0.84	1.12	3.08	8.0	43	16,5	10	4	2,2 x DC	2	**14100**		
1.4	1.40	1.12	7.00	13.2	43	14	6,5	4	5 x DC	2	**14400**		
1.4	1.40	1.12	14.00	18.1	43	20,5	5	4	10 x DC	2	**14700**		
1.5	0.90	1.20	3.30	8.0	43	15	9	4	2,2 x DC	2	**151**		
1.5	1.50	1.20	7.50	13.7	43	15	6	4	5 x DC	2	**154**		
1.5	1.50	1.20	15.00	18.1	43	13,5	4	4	10 x DC	2	**157**		
1.5	0.90	1.20	3.30	8.0	60	15	9	4	2,2 x DC	2		**152**	
1.5	1.50	1.20	7.50	13.7	60	15	6	4	5 x DC	2		**155**	
1.5	1.50	1.20	15.00	28.0	60	7,8	3	4	10 x DC	2		**158**	
1.5	0.90	1.20	3.30	11.7	80	15	11	6	2,2 x DC	2			**153**
1.5	1.50	1.20	7.50	17.4	80	15	8	6	5 x DC	2			**156**
1.5	1.50	1.20	15.00	35.8	80	10,2	4	6	10 x DC	2			**159**
1.6	0.96	1.28	3.52	8.1	43	16,5	9	4	2,2 x DC	2	**16100**		
1.6	1.60	1.28	8.00	14.1	43	13	5,5	4	5 x DC	2	**16400**		
1.6	1.60	1.28	16.00	18.5	43	29,5	4,5	4	10 x DC	2	**16700**		
1.7	1.02	1.36	3.74	8.1	43	16,5	9	4	2,2 x DC	2	**17100**		
1.7	1.70	1.36	8.50	14.5	43	12,5	5	4	5 x DC	2	**17400**		
1.7	1.70	1.36	17.00	18.9	43	35,5	4	4	10 x DC	2	**17700**		
1.8	1.08	1.44	3.96	8.1	43	15	8	4	2,2 x DC	2	**181**		
1.8	1.80	1.44	9.00	15.0	43	15	5	4	5 x DC	2	**184**		
1.8	1.80	1.44	18.00	19.5	43	31,1	4	4	10 x DC	2	**187**		

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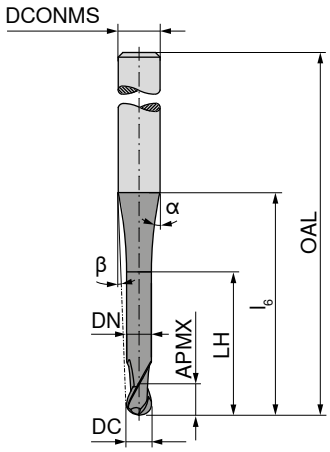
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CoreLine – Micro ball-nosed end mills – N

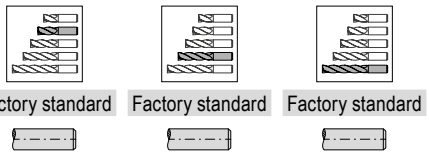
The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s= 6° | ≤ 62 HRC







DC ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_X	ZEFP	Factory standard SM 52 804 ...	Factory standard SM 52 804 ...	Factory standard SM 52 804 ...
1.8	1.08	1.44	3.96	8.1	60	15	8	4	2,2 x DC	2		**182**	
1.8	1.80	1.44	9.00	15.0	60	15	5	4	5 x DC	2		**185**	
1.8	1.80	1.44	18.00	31.9	60	6,8	2	4	10 x DC	2		**188**	
1.8	1.08	1.44	3.96	11.8	80	15	11	6	2,2 x DC	2			**183**
1.8	1.80	1.44	9.00	18.7	80	15	7	6	5 x DC	2			**186**
1.8	1.80	1.44	18.00	39.3	80	9,1	4	6	10 x DC	2			**189**
1.9	1.14	1.52	4.18	8.2	43	16,5	8	4	2,2 x DC	2	**19100**		
1.9	1.90	1.52	9.50	15.5	43	11,5	4,5	4	5 x DC	2	**19400**		
1.9	1.90	1.52	19.00	19.9	43	54,5	3,5	4	10 x DC	2	**19700**		
2.0	1.20	1.60	4.40	11.9	57	15	10	6	2,2 x DC	2	**201**		
2.0	2.00	1.60	10.00	19.7	57	15	6	6	5 x DC	2	**204**		
2.0	2.00	1.60	20.00	32.0	57	9,5	4	6	10 x DC	2	**207**		
2.0	1.20	1.60	4.40	11.9	70	15	10	6	2,2 x DC	2		**202**	
2.0	2.00	1.60	10.00	19.7	70	15	6	6	5 x DC	2		**205**	
2.0	2.00	1.60	20.00	41.4	70	8,5	3	6	10 x DC	2		**208**	
2.0	1.20	1.60	4.40	11.9	80	15	10	6	2,2 x DC	2			**203**
2.0	2.00	1.60	10.00	19.7	80	15	6	6	5 x DC	2			**206**
2.0	2.00	1.60	20.00	41.4	80	8,5	3	6	10 x DC	2			**209**

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M	●	●	●
K	●	●	●
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→ Find the cutting data standard values here.

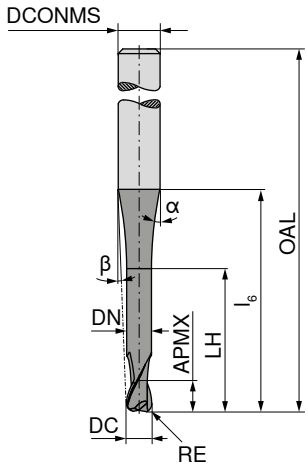
CoreLine – Micro torus cutters – N

The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s=12° | ≤ 62 HRC







Factory standard | Factory standard | Factory standard

DC ±0,01 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_x	ZEFP	SM 52 806 ...	SM 52 806 ...	SM 52 806 ...
0.5	0.1	0.30	0.40	1.10	5.8	38	15	13	3	2,2 x DC	2	**051**		
0.5	0.1	0.50	0.40	2.50	7.8	38	15	10	3	5 x DC	2	**054**		
0.5	0.1	0.50	0.40	5.00	10.7	38	13	7	3	10 x DC	2	**057**		
0.5	0.1	0.30	0.40	1.10	5.8	50	15	13	3	2,2 x DC	2		**052**	
0.5	0.1	0.50	0.40	2.50	7.8	50	15	10	3	5 x DC	2		**055**	
0.5	0.1	0.50	0.40	5.00	14.5	50	13	5	3	10 x DC	2		**058**	
0.5	0.1	0.30	0.40	1.10	11.4	80	15	14	6	2,2 x DC	2			**053**
0.5	0.1	0.50	0.40	2.50	13.4	80	15	12	6	5 x DC	2			**056**
0.5	0.1	0.50	0.40	5.00	20.2	80	15	8	6	10 x DC	2			**059**
0.6	0.1	0.36	0.48	1.32	5.9	38	16,5	12	3	2,2 x DC	2	**06101**		
0.6	0.1	0.60	0.48	3.00	8.3	38	15	9	3	5 x DC	2	**06401**		
0.6	0.1	0.60	0.48	6.00	10.6	38	17	7	3	10 x DC	2	**06701**		
0.8	0.2	0.48	0.64	1.76	5.9	38	16,5	11	3	2,2 x DC	2	**08102**		
0.8	0.2	0.80	0.64	4.00	9.0	38	14,5	7,5	3	5 x DC	2	**08402**		
0.8	0.2	0.80	0.64	8.00	10.5	38	27	6,5	3	10 x DC	2	**08702**		
1.0	0.2	0.60	0.80	2.20	7.8	43	15	11	4	2,2 x DC	2	**101**		
1.0	0.2	1.00	0.80	5.00	11.6	43	15	8	4	5 x DC	2	**104**		
1.0	0.2	1.00	0.80	10.00	18.3	43	8	5	4	10 x DC	2	**107**		
1.0	0.2	0.60	0.80	2.20	7.8	60	15	11	4	2,2 x DC	2		**102**	
1.0	0.2	1.00	0.80	5.00	11.6	60	15	8	4	5 x DC	2		**105**	
1.0	0.2	1.00	0.80	10.00	23.7	60	10,2	4	4	10 x DC	2		**108**	
1.0	0.2	0.60	0.80	2.20	11.5	80	15	13	6	2,2 x DC	2			**103**
1.0	0.2	1.00	0.80	5.00	15.3	80	15	10	6	5 x DC	2			**106**
1.0	0.2	1.00	0.80	10.00	28.7	80	13	5	6	10 x DC	2			**109**
1.2	0.2	0.72	0.96	2.64	7.9	43	16,5	10,5	4	2,2 x DC	2	**12102**		
1.2	0.2	1.20	0.96	6.00	12.4	43	14,5	7	4	5 x DC	2	**12402**		
1.2	0.2	1.20	0.96	12.00	18.2	43	15	5	4	10 x DC	2	**12702**		
1.5	0.3	0.90	1.20	3.30	8.0	43	15	9	4	2,2 x DC	2	**151**		
1.5	0.3	1.50	1.20	7.50	13.7	43	15	6	4	5 x DC	2	**154**		

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N	●	●	●
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H	○	○	○
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→ Find the cutting data standard values here.

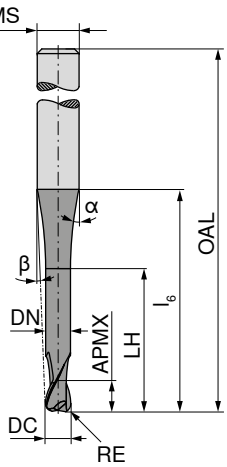
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CoreLine – Micro torus cutters – N

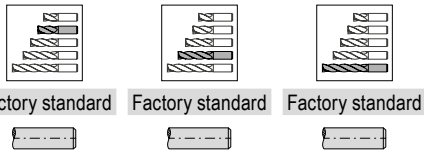
The universal milling cutter for micro-cutting

▲ T_x = maximum depth of cut

N | λ_s=30° γ_s=12° | ≤ 62 HRC







Factory standard | Factory standard | Factory standard

DC ±0,01 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	T_x	ZEFP	SM 52 806 ...	SM 52 806 ...	SM 52 806 ...
1.5	0.3	1.50	1.20	15.00	18.1	43	24	4	4	10 x DC	2	**157**		
1.5	0.3	0.90	1.20	3.30	8.0	60	15	9	4	2,2 x DC	2		**152**	
1.5	0.3	1.50	1.20	7.50	13.7	60	15	6	4	5 x DC	2		**155**	
1.5	0.3	1.50	1.20	15.00	29.2	60	7,8	3	4	10 x DC	2		**158**	
1.5	0.3	0.90	1.20	3.30	11.7	80	15	11	6	2,2 x DC	2			**153**
1.5	0.3	1.50	1.20	7.50	17.4	80	15	8	6	5 x DC	2			**156**
1.5	0.3	1.50	1.20	15.00	35.8	80	10,2	4	6	10 x DC	2			**159**
1.6	0.3	0.96	1.28	3.52	8.1	43	16,5	9	4	2,2 x DC	2	**16103**		
1.6	0.3	1.60	1.28	8.00	14.1	43	13	5,5	4	5 x DC	2	**16403**		
1.6	0.3	1.60	1.28	16.00	18.5	43	29,5	4,5	4	10 x DC	2	**16703**		
1.8	0.4	1.08	1.44	3.96	8.1	43	16,5	8,5	4	2,2 x DC	2	**18104**		
1.8	0.4	1.80	1.44	9.00	15.0	43	12	5	4	5 x DC	2	**18404**		
1.8	0.4	1.80	1.44	18.00	19.5	43	41	4	4	10 x DC	2	**18704**		
2.0	0.5	1.20	1.60	4.40	11.9	57	15	10	6	2,2 x DC	2	**201**		
2.0	0.5	2.00	1.60	10.00	19.7	57	15	6	6	5 x DC	2	**204**		
2.0	0.5	2.00	1.60	20.00	32.0	57	9,5	4	6	10 x DC	2	**207**		
2.0	0.5	1.20	1.60	4.40	11.9	70	15	10	6	2,2 x DC	2		**202**	
2.0	0.5	2.00	1.60	10.00	19.7	70	15	6	6	5 x DC	2		**205**	
2.0	0.5	2.00	1.60	20.00	41.4	70	8,5	3	6	10 x DC	2		**208**	
2.0	0.5	1.20	1.60	4.40	11.9	80	15	10	6	2,2 x DC	2			**203**
2.0	0.5	2.00	1.60	10.00	19.7	80	15	6	6	5 x DC	2			**206**
2.0	0.5	2.00	1.60	20.00	41.4	80	8,5	3	6	10 x DC	2			**209**

P	●	●	●
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S	●	●	●
H	○	○	○
O	○	○	○

→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – MultiLock N

The sustainable exchangeable head system

▲ KLG = coupling size

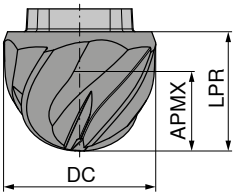
MultiLock N | λ_s=38° γ_s=5°



CTC5240 DRAGONSKIN | CTPX225 DRAGONSKIN







DC mm	KLG	APMX mm	LPR mm	ZEFP	Factory standard EH 53 803 ...	Factory standard EH 53 804 ...
12	EL12	7.0	9	4	**01200**	**01200**
16	EL16	9.5	12	4	**01600**	**01600**
20	EL20	12.0	15	4	**02000**	**02000**
25	EL25	16.0	19	4	**02500**	**02500**

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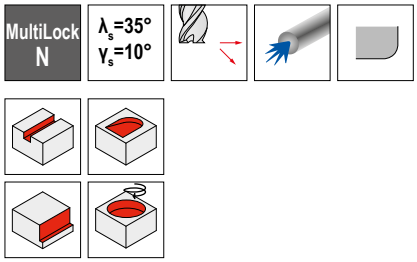


→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Torus cutters – MultiLock N

The sustainable exchangeable head system

▲ KLG = coupling size

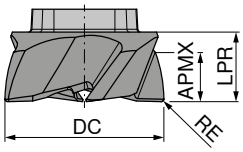


CTC5240 DRAGONSKIN



CTPX225 DRAGONSKIN





DC mm	RE mm	KLG	APMX mm	LPR mm	ZEFP	Factory standard EH 53 805 ...	Factory standard EH 53 806 ...
12	0.2	EL12	3.0	5	4	**01205**	**01205**
16	0.3	EL16	4.5	7	4	**01607**	**01607**
20	0.3	EL20	6.0	8	5	**02008**	**02008**
25	0.5	EL25	8.0	10	6	**02510**	**02510**

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N		○
S	●	
H		
O		

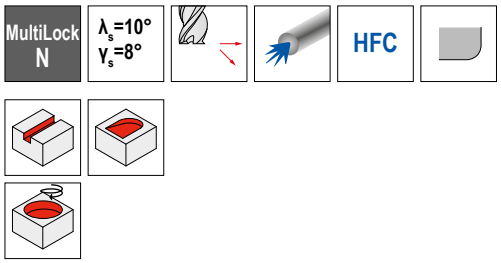


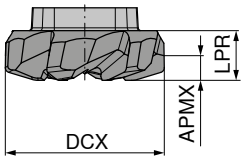
→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – High-feed cutters – MultiLock N

The sustainable exchangeable head system

- KLG = coupling size
- r_{3d} = corner radius to be programmed
- APMX does not correspond to the maximum depth of cut





CTC5240 DRAGONSKIN



CTPX225 DRAGONSKIN



DCX mm	KLG	r_{3D} mm	APMX mm	LPR mm	ZEFP	Factory standard EH 53 801 ...	Factory standard EH 53 802 ...
12	EL12	0.7	3.18	4	5	**01202**	**01202**
16	EL16	1.2	3.73	5	6	**01605**	**01605**
20	EL20	1.2	4.31	6	6	**02005**	**02005**
25	EL25	1.2	5.32	7	6	**02505**	**02505**

P		●
M		○
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N		
S	●	
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→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Deburring cutters – MultiLock N

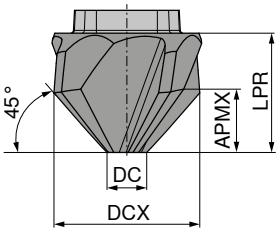
The sustainable exchangeable head system

▲ KLG = coupling size

MultiLock N | λ_s=10° γ_s=2°

CTPX225

DRAGONSKIN





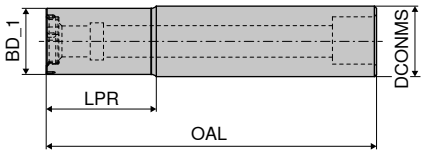
DCX mm	KLG	APMX mm	DC mm	LPR mm	ZEFP	Factory standard EH 53 800 ...
12	EL12	4	4	8	4	**01200**
16	EL16	6	4	12	4	**01600**

P	●
M	○
K	●
N	○
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O	

→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Holders – MultiLock

▲ KLG = coupling size





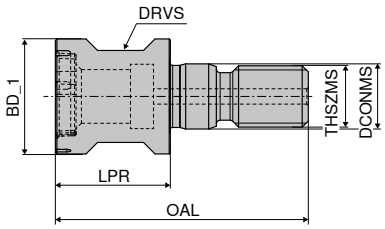
KLG	BD_1 mm	DCONMS mm	OAL mm	LPR mm		Short TO 84 050 ...	Short TO 84 051 ...
EL12	11	12	66	20		**01200**	**01200**
EL16	15	16	75	25		**01600**	**01600**
EL20	19	20	77	25		**02000**	**02000**
EL25	24	25	87	30		**02500**	**02500**

→ Find application tips here.

Spare parts for article number	Cylindrical screw AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	Screwdriver AS 80 950 ...	Molykote AS 70 950 ...	Clamping screw AS 70 950 ...	Threaded bush AS 70 950 ...	Torque screwdriver AS 80 950 ...	Bit AS 80 398 ...
84 051 01200 / 84 050 01200	**42000**	**054**	**120**	**303**	**41900**	**42100**	**193**	**03500**
84 051 01600 / 84 050 01600	**42300**	**055**	**121**	**303**	**42200**	**42400**	**193**	**04500**
84 051 02000 / 84 050 02000	**42300**	**055**	**121**	**303**	**42200**	**42400**	**193**	**04500**
84 051 02500 / 84 050 02500	**42600**	**055**	**121**	**303**	**42500**	**42700**	**193**	**06000**

CoreLine – Screw-in adapter, type A – MultiLock

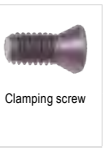
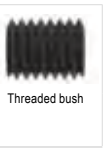
▲ KLG = coupling size
▲ For high-feed and torus cutters





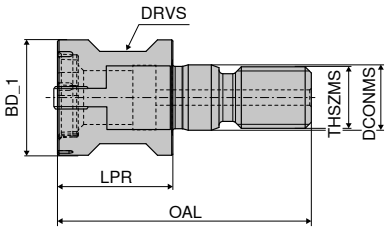
KLG	BD_1 mm	THSZMS	OAL mm	LPR mm	DCONMS mm	DRVS mm	TO 84 052 ...
EL12	11	M6	28	13	6.5	9	**01200**
EL16	15	M8	33	14	8.5	12	**01600**
EL20	19	M10	37	18	10.5	15	**02000**
EL25	24	M12	42	20	12.5	17	**02500**

→ Find application tips here.

Spare parts for article number	 TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Threaded bush AS 70 950 ...	 Torque screwdriver AS 80 950 ...	 Bit AS 80 398 ...
84 052 01200	**054**	**120**	**303**	**41900**	**42100**	**193**	**03500**
84 052 01600	**055**	**121**	**303**	**42200**	**42400**	**193**	**04500**
84 052 02000	**055**	**121**	**303**	**42200**	**42400**	**193**	**04500**
84 052 02500	**055**	**121**	**303**	**42500**	**42700**	**193**	**06000**

CoreLine – Screw-in adapter, type B – MultiLock

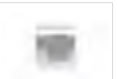
▲ KLG = coupling size
▲ For radius and deburring cutters





KLG	BD_1 mm	THSZMS	OAL mm	LPR mm	DCONMS mm	DRVS mm	TO 84 053 ...
EL12	11	M6	28	13	6.5	9	**01200**
EL16	15	M8	33	14	8.5	12	**01600**
EL20	20	M10	37	18	10.5	15	**02000**
EL25	25	M12	42	20	12.5	17	**02500**

→ Find application tips here.

Spare parts for article number	TORX® interchangeable blade AS 80 950 ...	Clamping screw AS 84 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Torque screwdriver AS 80 950 ...	 Mounting bush AS 84 950 ...
84 053 01200	**054**	**18600**	**120**	**303**	**193**	**18000**
84 053 01600	**055**	**18800**	**121**	**303**	**193**	**18100**
84 053 02000	**055**	**18700**	**121**	**303**	**193**	**18200**
84 053 02500	**055**	**18900**	**121**	**303**	**193**	**18300**

MultiChange – Program Overview

The MultiChange exchangeable head system enables an extremely fast, straightforward tool change. It has been designed for unbeatable changeover precision and radial run-out accuracy in conjunction with outstanding stability. The following chapters contain suitable exchangeable heads for a whole host of applications.

Exchangeable heads

→ Solid carbide drills

Solid carbide NC spot drills

Ø 8, 10, 12, 16, 20 mm
NOF 2


SIG 90°


SIG 120°


SIG 142°

→ Reamers and countersinks

Exchangeable reaming heads

Ø 8,00 – 30,20 mm


Through hole

Ø 12,20 – 30,20 mm


Blind hole

→ Solid carbide milling cutters

Solid carbide shoulder mills
Ø 8, 10, 12, 16, 20 mm /
ZEFP 3+4


Type PCR UNI


Type PCR ALU


Type N

Solid carbide torus cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 3+4


Type W


Type N

Solid carbide roughing-finishing milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 4+6


Type NF

Solid carbide finish milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide ball-nosed end mills
Ø 10, 12, 16, 20 mm / ZEFP 4


Type N

Solid carbide high-feed cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide quarter round cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide deburring cutters
Ø 10, 12, 16, 20 mm / ZEFP 4+6


Type N


Type N

NOF / ZEFP = Number of cutting edges

Holders

→ Adapters and accessories

OAL 60 – 90 mm


Conical 87° / steel


Cylindrical* / steel

OAL 85 – 120 mm


Conical 87° / steel


Cylindrical* / steel


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 110 – 150 mm


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 150 – 200 mm


Conical 87° / solid carbide


Cylindrical* / steel


Cylindrical* / solid carbide

OAL 200 – 250 mm


Cylindrical* / steel


Cylindrical* / solid carbide

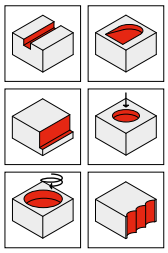
* Only suitable for milling to a certain degree

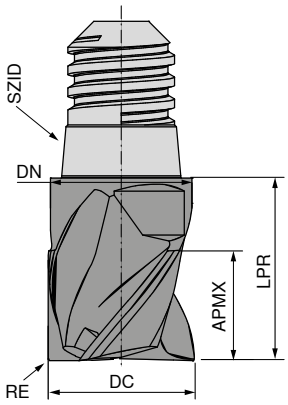
CoreLine – Shoulder mills – MultiChange PCR UNI

The exchangeable head system for a wide range of applications

- APMX does not correspond to the maximum cutting depth
- SZID = coupling size
- TQX = tightening torque

Multi Change PCR UNI | λ_s=36° γ_s=10° | HPC





APA72S



DC mm	RE mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 871 ...
10	0.32	08	7.5	9.8	13	4	**10000**
12	0.32	10	9.0	11.8	16	4	**12000**
16	0.32	12	12.0	15.8	20	4	**16000**
20	0.50	16	15.0	19.8	25	4	**20000**

P	●
M	○
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- The machining parameters must be reduced in the case of unstable applications.

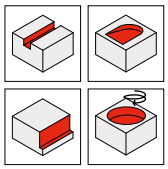
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

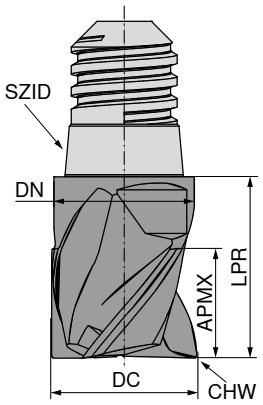
CoreLine – Shoulder mills – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change N | λ_s=41° γ_s= 8° | HPC





Ti1100



DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	CHW mm	ZEFP	Factory standard EH 52 861 ...
8	06	6.0	7.8	11	0.16	3	**080**
10	08	7.5	9.8	13	0.20	3	**100**
12	10	9.0	11.8	16	0.24	3	**120**
16	12	12.0	15.8	20	0.32	3	**160**
20	16	15.0	19.8	25	0.40	3	**200**

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

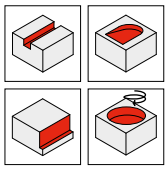
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

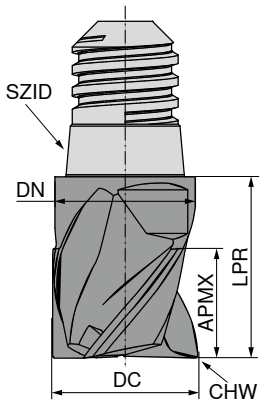
CoreLine – Shoulder mills – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change N | λ_s=37° γ_s=12° | HPC





Ti1100



DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	CHW mm	ZEFP	Factory standard EH 52 860 ...
8	06	6.0	7.8	11	0.16	4	**080**
10	08	7.5	9.8	13	0.20	4	**100**
12	10	9.0	11.8	16	0.24	4	**120**
16	12	12.0	15.8	20	0.32	4	**160**
20	16	15.0	19.8	25	0.40	4	**200**

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

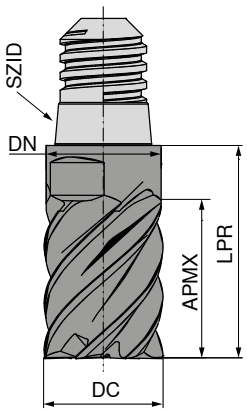
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – Finishing milling cutters – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change N | λ_s=49° γ_s= 8°



Ti1100



DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 863 ...
8	06	10.0	7.8	15	6	**080**
10	08	12.5	9.8	18	6	**100**
12	10	15.0	11.8	22	6	**120**
16	12	20.0	15.8	28	6	**160**
20	16	25.0	19.8	35	6	**200**

P	●
M	○
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

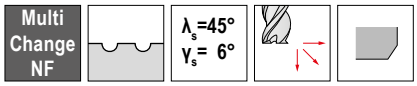
- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

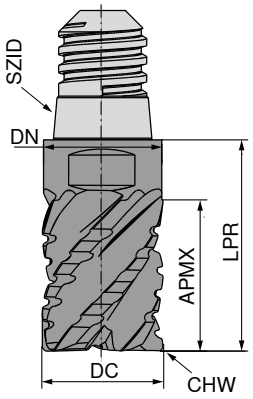
CoreLine – Roughing-finishing milling cutters – MultiChange NF

The exchangeable head system for a wide range of applications

- With flat cord profile
- APMX does not correspond to the maximum cutting depth
- SZID = coupling size
- TQX = tightening torque







Ti1100



With flat cord profile
Factory standard

DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	CHW mm	ZEFP	EH 52 862 ...
8	06	10.0	7.8	15	0.16	4	**080**
10	08	12.5	9.8	18	0.20	4	**100**
12	10	15.0	11.8	22	0.24	4	**120**
16	12	20.0	15.8	28	0.32	5	**160**
20	16	25.0	19.8	35	0.40	6	**200**

P	●
M	○
K	●
N	●
S	
H	
O	



→ Find the cutting data standard values here.



You will find holders and accessories with the product in the online shop.

Assembly instructions

- Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- The machining parameters must be reduced in the case of unstable applications.

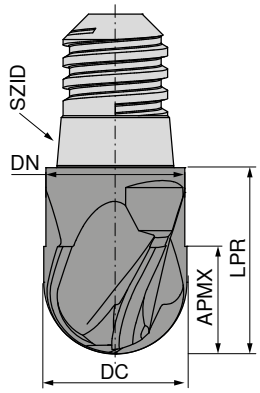
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – Ball-nosed end mills – MultiChange N

The exchangeable head system for a wide range of applications

- Radius accuracy: ± 0.02 mm
- SZID = coupling size
- TQX = tightening torque

Multi Change N | λ_s=30° γ_s= 8°



Ti1100



DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 866 ...
10	08	7.5	9.8	13	4	**100**
12	10	9.0	11.8	16	4	**120**
16	12	12.0	15.8	20	4	**160**
20	16	15.0	19.8	25	4	**200**

P	●
M	○
K	●
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- The machining parameters must be reduced in the case of unstable applications.

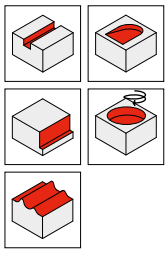
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

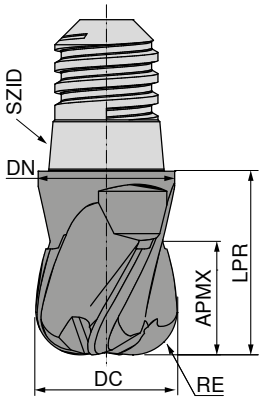
CoreLine – Torus cutters – MultiChange N

The exchangeable head system for a wide range of applications

- Radius accuracy: ± 0.02 mm
- SZID = coupling size
- TQX = tightening torque







Ti1100



DC mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	RE mm	ZEFP	Factory standard EH 52 865 ...
8	06	6.0	7.8	11	1.0	4	**081**
8	06	6.0	7.8	11	2.0	4	**082**
10	08	7.5	9.8	13	1.5	4	**101**
10	08	7.5	9.8	13	3.0	4	**103**
12	10	9.0	11.8	16	1.5	4	**121**
12	10	9.0	11.8	16	4.0	4	**124**
16	12	12.0	15.8	20	2.0	4	**162**
16	12	12.0	15.8	20	5.0	4	**165**
20	16	15.0	19.8	25	2.0	4	**202**
20	16	15.0	19.8	25	6.0	4	**206**

P	●
M	○
K	●
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

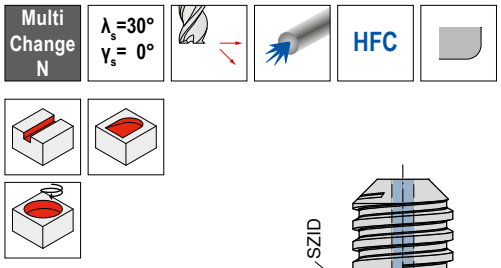
- Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- The machining parameters must be reduced in the case of unstable applications.

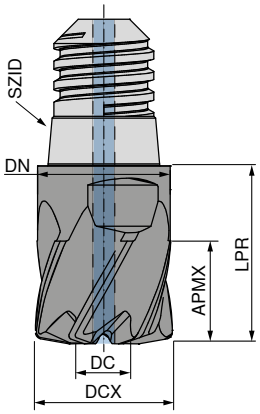
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – High-feed cutters – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size; r_{3d} = corner radius to be programmed
- ▲ TQX = tightening torque; Ø DCX tapers by 0.2 mm





Ti1100



DCX mm	SZID	r_{3D} mm	APMX mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 864 ...
8	06	0.7	6.0	11	6	**080**
10	08	0.9	7.5	13	6	**100**
12	10	1.0	9.0	16	6	**120**
16	12	1.4	12.0	20	6	**160**
20	16	1.7	15.0	25	6	**200**

P	●
M	○
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

- ▲ r_{3D} = corner radius to be programmed
- ▲ Ø DCX tapered by 0.2 mm, resulting in Ø DN
- ▲ Ø DCX halved, resulting in Ø DC

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

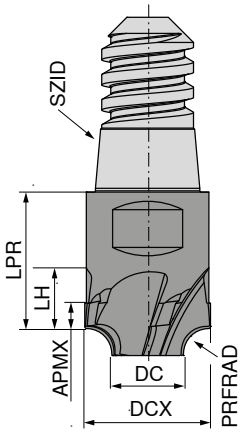
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – Quarter round milling cutters – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change N | λ_s=20° γ_s= 0°



Ti1100



Factory standard

EH

DCX mm	SZID	PRFRAD ±0,03 mm	APMX mm	DC mm	LPR ±0,02 mm	LH mm	ZEFP	52 869 ...
8	06	0.5	2.0	6.63	11	4.5	4	080
8	06	1.0	3.0	5.69	11	5.0	4	081
10	08	1.5	4.0	6.63	13	6.5	4	100
10	08	2.0	4.5	5.69	13	7.0	4	101
12	10	2.5	5.5	6.65	16	8.5	4	120
12	10	3.0	6.0	5.70	16	9.0	4	121
12	10	3.5	6.5	4.76	16	9.5	4	122
16	12	4.0	8.0	7.60	20	12.0	4	160
16	12	4.5	8.5	6.68	20	12.5	4	161
16	12	5.0	9.0	5.74	20	13.0	4	162
20	16	5.0	10.0	9.53	25	15.0	4	200
20	16	6.0	11.0	7.64	25	16.0	4	201

P	●
M	○
K	●
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

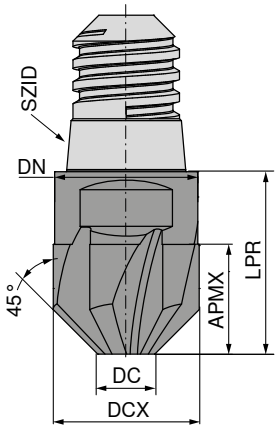
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – Deburring cutters – MultiChange N

The exchangeable head system for a wide range of applications

- APMX does not correspond to the maximum cutting depth
- SZID = coupling size
- TQX = tightening torque

Multi Change N | λ_s=0° γ_s=0° γ_s=3°



Ti1050



DCX mm	SZID	APMX mm	DC mm	DN mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 867 ...
10	08	7.5	0.02	9.8	13	4	**100**
12	10	9.0	0.02	11.8	16	4	**120**
16	12	12.0	6.40	15.8	20	6	**160**
20	16	15.0	8.00	19.8	25	6	**200**

P	●
M	○
K	●
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- The machining parameters must be reduced in the case of unstable applications.

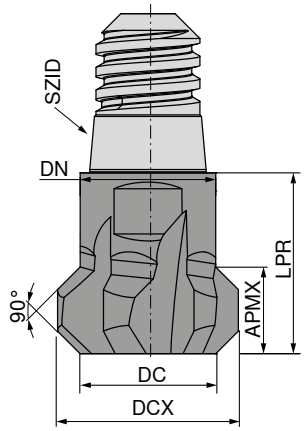
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – Deburring cutters – MultiChange N

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change N | λ_s=0° γ_s=2°



Ti1100



DCX mm	SZID	APMX mm	DC mm	DN mm	LPR ±0,02 mm	ZEFP	Factory standard EH 52 868 ...
10	06	4.8	7.5	8	11	6	**100**
12	08	5.5	9.0	10	13	6	**120**
16	10	8.0	12.0	12	16	6	**160**
20	12	9.5	15.0	16	20	6	**200**

P	●
M	○
K	●
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

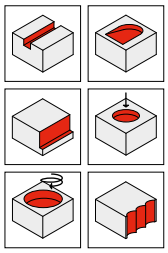
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

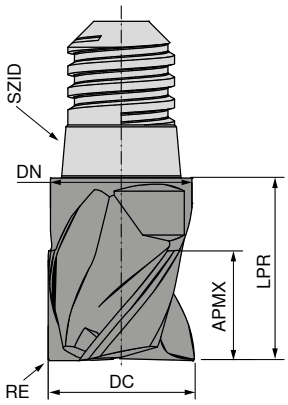
CoreLine – Shoulder mills – MultiChange PCR ALU

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change PCR ALU | λ_s=41° γ_s=15° | HPC





DLC
DRAGONSKIN



Factory standard

EH

DC mm	RE mm	SZID	APMX mm	DN mm	LPR ±0,02 mm	ZEFP	52 872 ...
10	0.32	08	7.5	9.8	13	4	**10000**
12	0.32	10	9.0	11.8	16	4	**12000**
16	0.32	12	12.0	15.8	20	4	**16000**
20	0.50	16	15.0	19.8	25	4	**20000**

P	
M	
K	
N	●
S	
H	
O	

→ Find the cutting data standard values here.

You will find holders and accessories with the product in the online shop.

Assembly instructions

- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

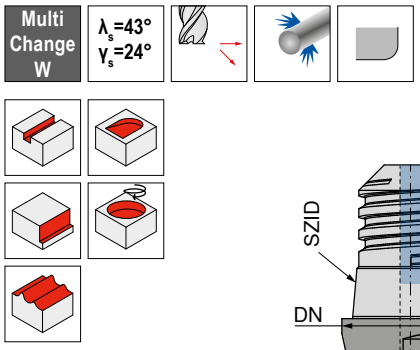
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

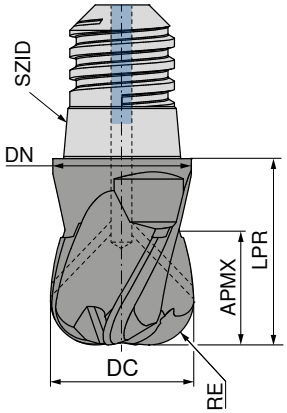
CoreLine – Torus cutters – MultiChange W

The exchangeable head system for a wide range of applications

- ▲ APMX does not correspond to the maximum cutting depth
- ▲ SZID = coupling size
- ▲ TQX = tightening torque

Multi Change W | λ_s=43° γ_s=24°





DLC
DRAGONSKIN



Factory standard

DC mm	RE mm	SZID	APMX mm	DN mm	LPR mm	ZEFP	EH 52 870 ...
10	0.5	08	7.5	9.8	13	3	**10005**
10	1.0	08	7.5	9.8	13	3	**10010**
12	0.5	10	9.0	11.8	16	3	**12005**
12	1.0	10	9.0	11.8	16	3	**12010**
12	2.0	10	9.0	11.8	16	3	**12020**
16	2.0	12	12.0	15.8	20	3	**16020**
16	4.0	12	12.0	15.8	20	3	**16040**
20	2.0	16	15.0	19.8	25	3	**20020**
20	3.0	16	15.0	19.8	25	3	**20030**
20	4.0	16	15.0	19.8	25	3	**20040**

P	
M	
K	
N	●
S	
H	
O	

→ Find the cutting data standard values here.

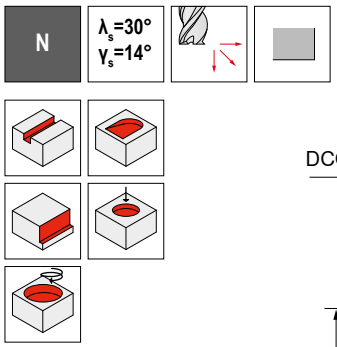
You will find holders and accessories with the product in the online shop.

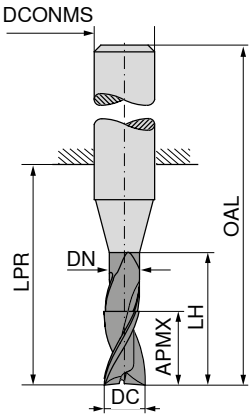
Assembly instructions

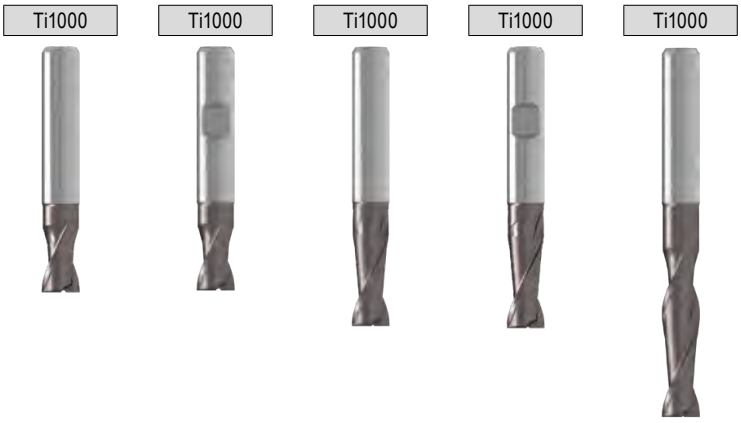
- ▲ Coupling sizes 06 and 08 have to be fitted using a torque key. Recommendation applies to all sizes!
- ▲ The machining parameters must be reduced in the case of unstable applications.

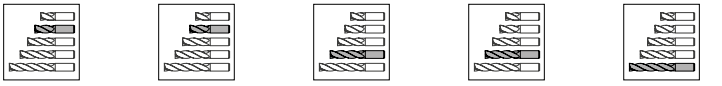
SZID	SW mm	TQX Nm
06	6	5
08	8	12,5
10	10	15
12	13	20
16	16	25

CoreLine – End mill – N







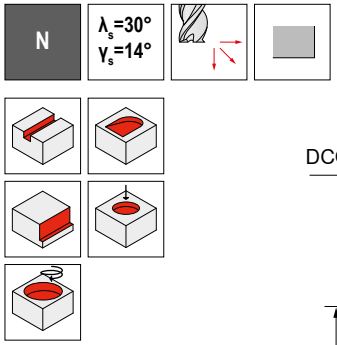


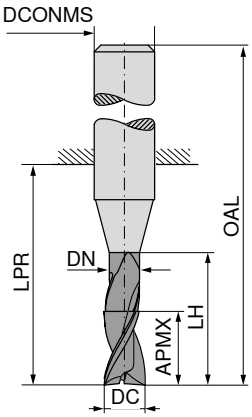
								Factory standard	Factory standard	Factory standard	Factory standard	Factory standard
								CX	CX	CX	CX	CX
DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	54 069 ...	54 079 ...	54 080 ...	54 081 ...	54 082 ...
0.5	1.5			10	38	3	2	95000				
0.6	1.5			10	38	3	2	96000				
0.7	2.0			10	38	3	2	97000				
0.8	2.0			10	38	3	2	98000				
0.9	2.5			10	38	3	2	99000				
1.0	3.0			10	38	3	2	31000				
1.0	4.0	0.9	6	22	58	6	2			01000		
1.1	3.0			10	38	3	2	31100				
1.2	4.0			10	38	3	2	31200				
1.3	4.0			10	38	3	2	31300				
1.4	4.0			10	38	3	2	31400				
1.5	4.0			10	38	3	2	31500				
1.5	3.0	1.4	6	18	54	6	2	01500				
1.5	6.0	1.4	8	22	58	6	2			01500		
1.6	4.0			10	38	3	2	31600				
1.8	5.0			10	38	3	2	31800				
2.0	5.0			10	38	3	2	32000				
2.0	4.0	1.9	8	18	54	6	2	02000				
2.0	7.0	1.9	10	22	58	6	2			02000		
2.5	6.0			10	38	3	2	32500				
2.5	4.0	2.4	8	18	54	6	2	02500				
3.0	6.0			10	38	3	2	33000				
3.0	6.0	2.9	9	18	54	6	2	03000	03000			
3.0	10.0	2.9	14	22	58	6	2			03000	03000	
3.0	20.0	2.9	24	32	60	3	2					33000
3.5	6.0	3.3	9	18	54	6	2	03500				
4.0	7.0	3.8	12	18	54	6	2	04000	04000			
4.0	13.0	3.8	18	22	58	6	2			04000	04000	
4.0	30.0	3.8	35	47	75	4	2					44000
4.5	7.0	4.3	12	18	54	6	2	04500				
5.0	8.0	4.8	16	18	54	6	2	05000	05000			
5.0	15.0	4.8	18	22	58	6	2			05000	05000	
5.0	30.0	4.8	35	47	75	5	2					55000
P								●	●	●	●	●
M								○	○	○	○	○
K								●	●	●	●	●
N								○	○	○	○	○
S								○	○	○	○	○
H												
O												

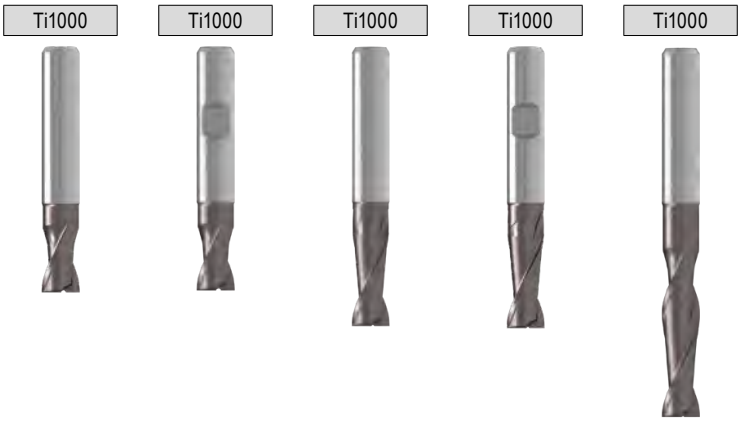
→ Find the cutting data standard values here.

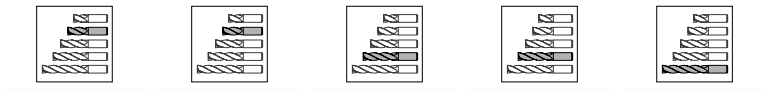
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CoreLine – End mill – N







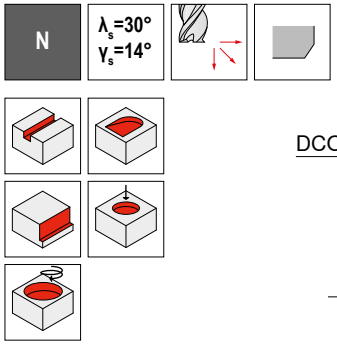


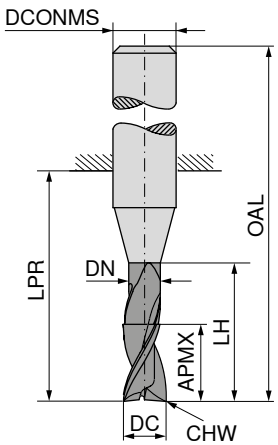
								Factory standard	Factory standard	Factory standard	Factory standard	Factory standard
								CX	CX	CX	CX	CX
DC $_{h10}$	APMX	DN	LH	LPR	OAL	DCONMS $_{h6}$	ZEFP	**54 069 ...**	**54 079 ...**	**54 080 ...**	**54 081 ...**	**54 082 ...**
mm	mm	mm	mm	mm	mm	mm						
6.0	10.0	5.8	16	18	54	6	2	**06000**	**06000**			
6.0	16.0	5.8	20	22	58	6	2			**06000**	**06000**	
6.0	40.0	5.8	60	64	100	6	2					**06000**
8.0	12.0	7.7	20	23	59	8	2	**08000**	**08000**			
8.0	22.0	7.7	25	34	70	8	2			**08000**	**08000**	
8.0	40.0	7.7	60	64	100	8	2					**08000**
10.0	13.0	9.7	24	27	67	10	2	**10000**	**10000**			
10.0	25.0	9.7	30	33	73	10	2			**10000**	**10000**	
10.0	40.0	9.7	55	60	100	10	2					**10000**
12.0	16.0	11.6	26	28	73	12	2	**12000**	**12000**			
12.0	26.0	11.6	35	39	84	12	2			**12000**	**12000**	
12.0	45.0	11.6	50	55	100	12	2					**12000**
P								●	●	●	●	●
M								○	○	○	○	○
K								●	●	●	●	●
N								○	○	○	○	○
S								○	○	○	○	○
H												
O												

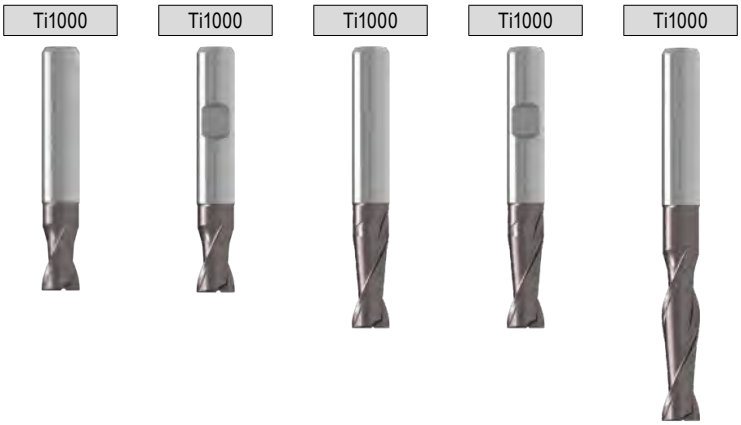


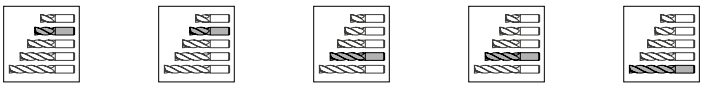
→ Find the cutting data standard values here.

CoreLine – End mill – N

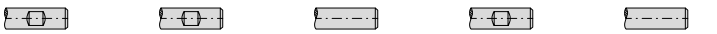








Factory standard | Factory standard | Factory standard | Factory standard | Factory standard



CX | CX | CX | CX | CX

DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 083 ...	54 084 ...	54 085 ...	54 086 ...	54 087 ...
0.5	1.5			10	38	3	0.04	2	95000				
0.6	1.5			10	38	3	0.04	2	96000				
0.7	2.0			10	38	3	0.04	2	97000				
0.8	2.0			10	38	3	0.04	2	98000				
0.9	2.5			10	38	3	0.04	2	99000				
1.0	3.0			10	38	3	0.04	2	31000				
1.0	4.0	0.9	6	22	58	6	0.04	2			01000		
1.1	3.0			10	38	3	0.04	2	31100				
1.2	4.0			10	38	3	0.04	2	31200				
1.3	4.0			10	38	3	0.04	2	31300				
1.4	4.0			10	38	3	0.04	2	31400				
1.5	4.0			10	38	3	0.04	2	31500				
1.5	3.0	1.4	6	18	54	6	0.04	2	01500				
1.5	6.0	1.4	8	22	58	6	0.04	2			01500		
1.6	4.0			10	38	3	0.04	2	31600				
1.8	5.0			10	38	3	0.04	2	31800				
2.0	5.0			10	38	3	0.04	2	32000				
2.0	4.0	1.9	8	18	54	6	0.04	2	02000				
2.0	7.0	1.9	10	22	58	6	0.04	2			22000		
2.5	6.0			10	38	3	0.07	2	32500				
2.5	4.0	2.4	8	18	54	6	0.07	2	02500				
3.0	6.0			10	38	3	0.07	2	33000				
3.0	6.0	2.9	9	18	54	6	0.07	2	03000	03000			
3.0	10.0	2.9	14	22	58	6	0.07	2			33000	03000	
3.0	20.0	2.9	24	32	60	3	0.07	2					33000
3.5	6.0	3.3	9	18	54	6	0.07	2	03500				
4.0	7.0	3.8	12	18	54	6	0.07	2	04000	04000			
4.0	13.0	3.8	18	22	58	6	0.07	2			44000	04000	
4.0	30.0	3.8	35	47	75	4	0.07	2					44000
4.5	7.0	4.3	12	18	54	6	0.12	2	04500				
5.0	8.0	4.8	16	18	54	6	0.12	2	05000	05000			
5.0	15.0	4.8	18	22	58	6	0.12	2			55000	05000	
5.0	30.0	4.8	35	47	75	5	0.12	2					55000

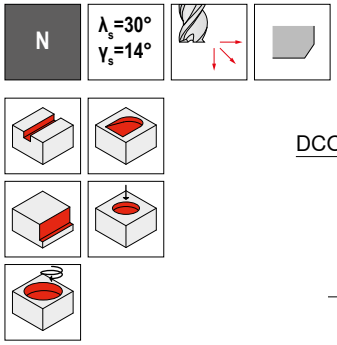
P	●	●	●	●	●
M	○	○	○	○	○
K	●	●	●	●	●
N	○	○	○	○	○
S	○	○	○	○	○
H					
O					

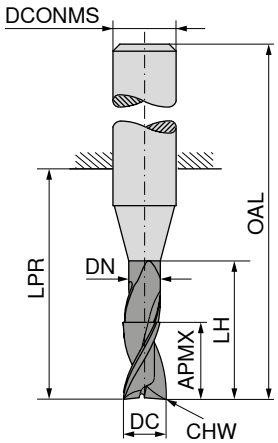


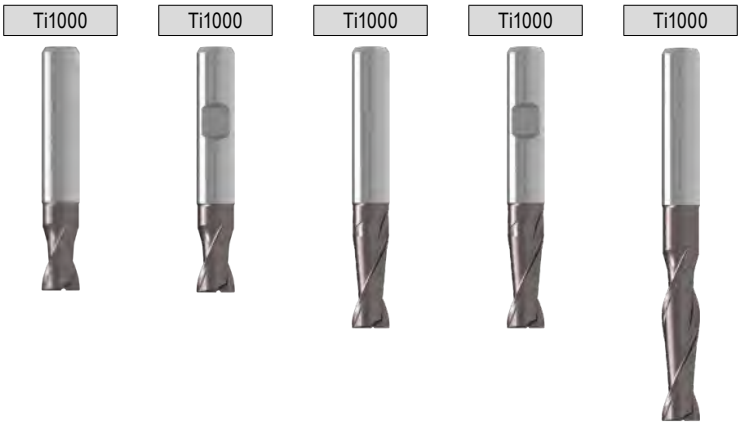
→ Find the cutting data standard values here.

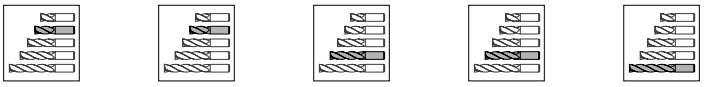
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CoreLine – End mill – N

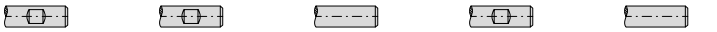








Factory standard | Factory standard | Factory standard | Factory standard | Factory standard



CX | CX | CX | CX | CX

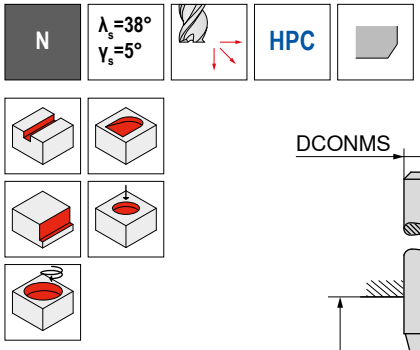
DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 083 ...	54 084 ...	54 085 ...	54 086 ...	54 087 ...
6.0	10.0	5.8	16	18	54	6	0.12	2	**06000**	**06000**			
6.0	16.0	5.8	20	22	58	6	0.12	2			**06000**	**06000**	
6.0	40.0	5.8	60	64	100	6	0.12	2					**06000**
8.0	12.0	7.7	20	23	59	8	0.12	2	**08000**	**08000**			
8.0	22.0	7.7	25	34	70	8	0.12	2			**08000**	**08000**	
8.0	40.0	7.7	60	64	100	8	0.12	2					**08000**
10.0	13.0	9.7	24	27	67	10	0.20	2	**10000**	**10000**			
10.0	25.0	9.7	30	33	73	10	0.20	2			**10000**	**10000**	
10.0	40.0	9.7	55	60	100	10	0.20	2					**10000**
12.0	16.0	11.6	26	28	73	12	0.20	2	**12000**	**12000**			
12.0	26.0	11.6	35	39	84	12	0.20	2			**12000**	**12000**	
12.0	45.0	11.6	50	55	100	12	0.20	2					**12000**

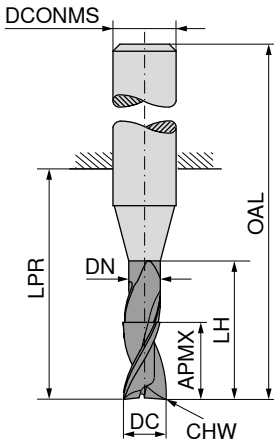
P	●	●	●	●	●
M	○	○	○	○	○
K	●	●	●	●	●
N	○	○	○	○	○
S	○	○	○	○	○
H					
O					

→ Find the cutting data standard values here.

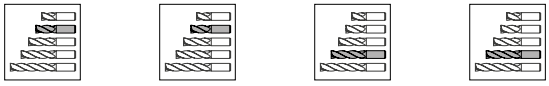
CoreLine – End mill – N

▲ Cutting edges with irregular pitch





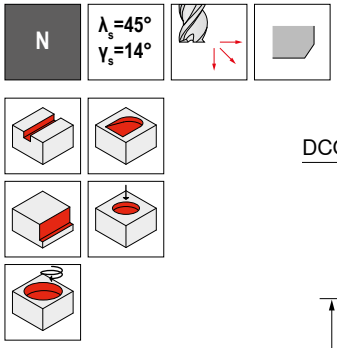


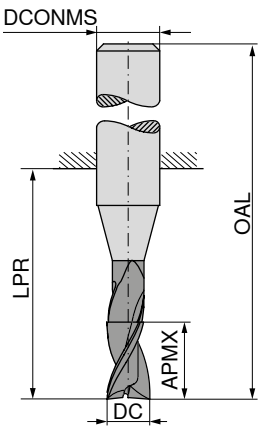


									Factory standard	Factory standard	Factory standard	Factory standard
												
									CX	CX	CX	CX
DC h10 **mm**	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	**54 088 ...**	**54 089 ...**	**54 090 ...**	**54 091 ...**
1.0	2	0.9	3.0	18	54	6	0.04	3	**01000**	**01000**		
1.0	4	0.9	5.0	22	58	6	0.04	3			**01000**	**01000**
1.5	3	1.4	4.5	18	54	6	0.04	3	**01500**	**01500**		
1.5	6	1.4	7.5	22	58	6	0.04	3			**01500**	**01500**
2.0	4	1.9	8.0	18	54	6	0.04	3	**02000**	**02000**		
2.0	7	1.9	10.0	22	58	6	0.04	3			**02000**	**02000**
2.5	5	2.4	8.0	18	54	6	0.07	3	**02500**	**02500**		
2.5	9	2.4	12.0	22	58	6	0.07	3			**02500**	**02500**
3.0	6	2.9	9.0	18	54	6	0.07	3	**03000**	**03000**		
3.0	10	2.9	14.0	22	58	6	0.07	3			**03000**	**03000**
4.0	7	3.8	12.0	18	54	6	0.07	3	**04000**	**04000**		
4.0	13	3.8	17.0	22	58	6	0.07	3			**04000**	**04000**
5.0	8	4.8	16.0	18	54	6	0.12	3	**05000**	**05000**		
5.0	15	4.8	19.0	22	58	6	0.07	3			**05000**	**05000**
6.0	10	5.8	16.0	18	54	6	0.12	3	**06000**	**06000**		
6.0	16	5.8	20.0	22	58	6	0.12	3			**06000**	**06000**
8.0	12	7.7	20.0	23	59	8	0.12	3	**08000**	**08000**		
8.0	22	7.7	26.0	34	70	8	0.12	3			**08000**	**08000**
10.0	14	9.7	24.0	27	67	10	0.20	3	**10000**	**10000**		
10.0	25	9.7	31.0	33	73	10	0.20	3			**10000**	**10000**
12.0	16	11.6	26.0	28	73	12	0.20	3	**12000**	**12000**		
12.0	28	11.6	37.0	39	84	12	0.20	3			**12000**	**12000**
P									●	●	●	●
M									○	○	○	○
K									●	●	●	●
N									○	○	○	○
S									○	○	○	○
H												
O												

→ Find the cutting data standard values here.

CoreLine – End mill – N





Ti1000





Factory standard



CX

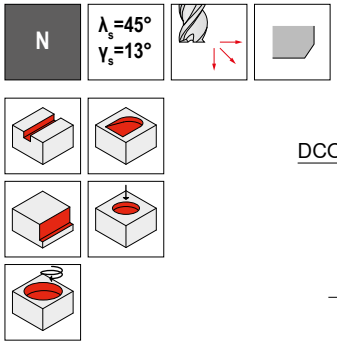
DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 092 ...
3.0	15	23	59	6	0.15	3	**03000**
3.5	15	23	59	6	0.15	3	**03500**
4.0	19	27	63	6	0.15	3	**04000**
4.5	19	27	63	6	0.15	3	**04500**
5.0	24	32	68	6	0.15	3	**05000**
5.5	24	32	68	6	0.15	3	**05500**
6.0	24	32	68	6	0.15	3	**06000**
6.5	30	44	80	8	0.15	3	**06500**
7.0	30	44	80	8	0.15	3	**07000**
8.0	38	52	88	8	0.15	3	**08000**
10.0	45	55	95	10	0.15	3	**10000**
12.0	53	65	110	12	0.15	3	**12000**
16.0	63	75	123	16	0.15	3	**16000**
20.0	75	91	141	20	0.15	3	**20000**

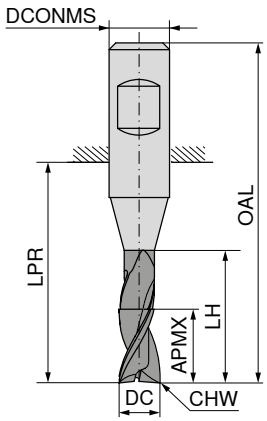
P	●
M	○
K	●
N	○
S	
H	
O	



→ Find the cutting data standard values here.

CoreLine – End mill – N





Ti1000





≈DIN 6527



SM

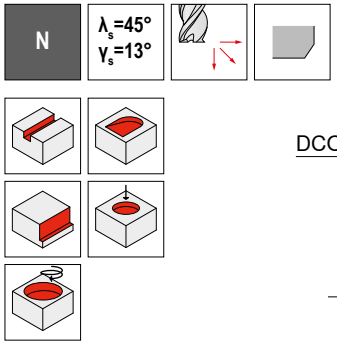
DC e8 mm	APMX mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	50 613 ...
3.0	5	12	14	50	6	3	**030**
3.5	6	13	14	50	6	3	**035**
4.0	8	15	18	54	6	3	**040**
4.5	8	15	18	54	6	3	**045**
5.0	9	16	18	54	6	3	**050**
5.5	10	17	18	54	6	3	**055**
6.0	10	17	18	54	6	3	**060**
8.0	12	20	22	58	8	3	**080**
10.0	14	24	26	66	10	3	**100**
12.0	16	26	28	73	12	3	**120**
14.0	18	28	30	75	14	3	**140**
16.0	22	32	34	82	16	3	**160**
20.0	26	40	42	92	20	3	**200**

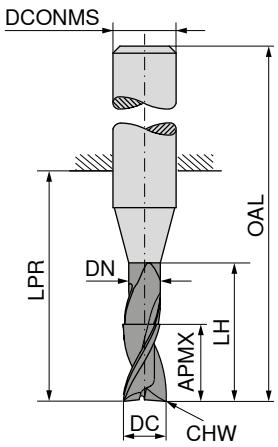
P	○
M	●
K	○
N	○
S	●
H	○
O	○



→ Find the cutting data standard values here.

CoreLine – End mill – N





Ti1000





≈DIN 6527



SM

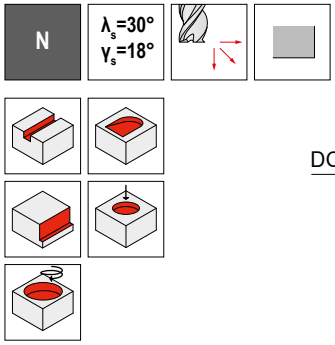
DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	50 615 ...
3.0	8	2.8	15	21	57	6	3	**030**
3.5	11	3.3	15	21	57	6	3	**035**
4.0	11	3.8	15	21	57	6	3	**040**
4.5	13	4.3	21	21	57	6	3	**045**
5.0	13	4.8	21	21	57	6	3	**050**
5.5	13	5.3	21	21	57	6	3	**055**
6.0	13	5.8	21	21	57	6	3	**060**
6.5	16	6.3	27	27	63	8	3	**065**
7.0	16	6.8	27	27	63	8	3	**070**
7.5	19	7.3	27	27	63	8	3	**075**
8.0	21	7.8	27	27	63	8	3	**080**
8.5	21	8.3	32	32	72	10	3	**085**
9.0	21	8.8	32	32	72	10	3	**090**
9.5	22	9.3	32	32	72	10	3	**095**
10.0	22	9.8	32	32	72	10	3	**100**
11.0	26	10.8	38	32	83	12	3	**110**
12.0	26	11.8	38	38	83	12	3	**120**
14.0	26	13.8	38	38	83	14	3	**140**
16.0	36	15.7	44	44	92	16	3	**160**
20.0	41	19.7	54	54	104	20	3	**200**

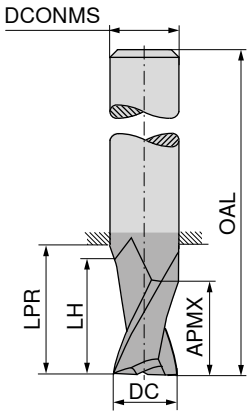
P	○
M	●
K	○
N	○
S	●
H	○
O	○

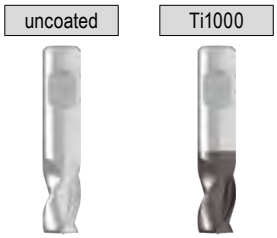
→ Find the cutting data standard values here.

CoreLine – Mini milling cutters – N

▲ Shanks similar to DIN 6535











Factory standard | Factory standard





DC e8 mm	APMX mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 598 ...	SM 50 599 ...
2.00	4	4.0	10	35	6	3	**020**	**020**
2.50	4	4.0	10	35	6	3	**025**	**025**
3.00	5	5.0	10	36	6	3	**030**	**030**
3.50	5	5.0	10	36	6	3	**035**	**035**
4.00	7	7.0	12	38	6	3	**040**	**040**
4.50	7	7.0	12	38	6	3	**045**	**045**
5.00	8	8.0	13	39	6	3	**050**	**050**
5.50	8	8.0	13	39	6	3	**055**	**055**
5.75	8	8.0	13	39	6	3	**057**	**057**
6.00	8	8.5	13	39	6	3	**060**	**060**
6.75	11	11.5	16	43	8	3	**067**	**067**
7.00	11	11.5	16	43	8	3	**070**	**070**
7.75	11	11.5	16	43	8	3	**077**	**077**
8.00	11	11.5	16	43	8	3	**080**	**080**
8.70	13	13.5	18	50	10	3	**087**	**087**
9.00	13	13.5	18	50	10	3	**090**	**090**
9.70	13	13.5	18	50	10	3	**097**	**097**
10.00	13	13.5	18	50	10	3	**100**	**100**
12.00	15	15.5	24	55	12	3	**120**	**120**
14.00	15	15.5	26	58	14	3	**140**	**140**
16.00	18	18.5	28	62	16	3	**160**	**160**
18.00	20	20.5	35	70	18	3	**180**	**180**
20.00	22	22.5	40	75	20	3	**200**	**200**

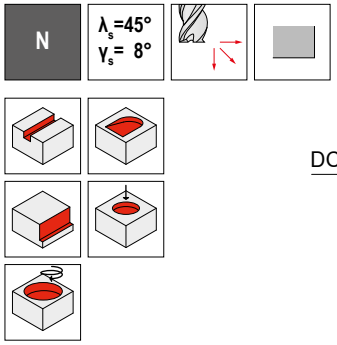
P	○	●
M	○	○
K	○	●
N	●	○
S	○	○
H		○
O	●	○

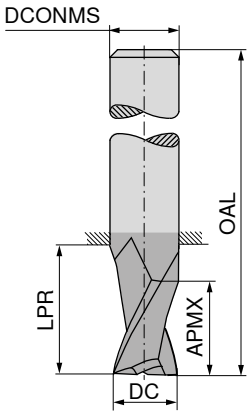


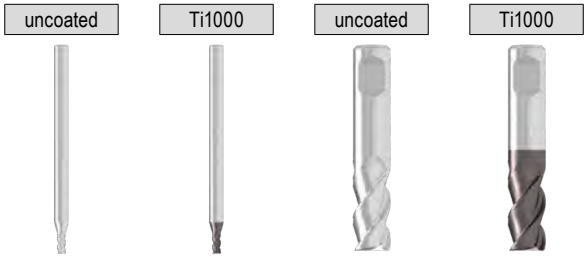
→ Find the cutting data standard values here.

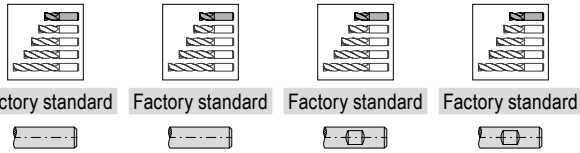
CoreLine – Mini milling cutters – N

▲ Shanks similar to DIN 6535







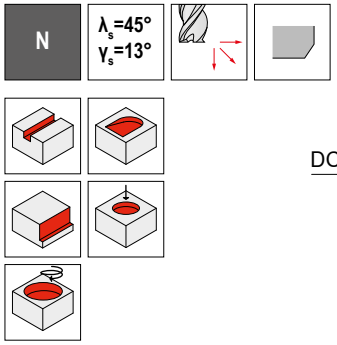


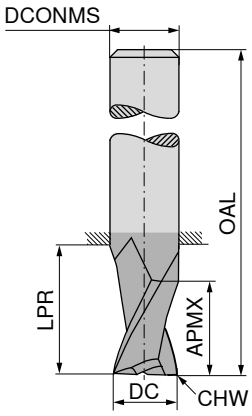
DC e8 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 664 ...	SM 50 691 ...	SM 50 664 ...	SM 50 691 ...
0.50	1.5	17	45	3	3	30500	30500		
1.00	2.0	12	45	6	3			01000	01000
1.00	2.0	17	45	3	3	31000	31000		
1.20	2.0	12	45	6	3			01200	01200
1.20	3.0	17	45	3	3	31200	31200		
1.50	3.0	12	45	6	3			01500	01500
1.50	3.0	17	45	3	3	31500	31500		
1.80	3.0	12	45	6	3			01800	01800
1.80	3.0	17	45	3	3	31800	31800		
2.00	4.0	13	45	6	3			02000	02000
2.50	6.0	13	45	6	3			02500	02500
2.80	6.0	13	45	6	3			02800	02800
3.00	6.0	13	45	6	3			03000	03000
3.50	7.0	13	45	6	3			03500	03500
3.80	7.0	13	45	6	3			03800	03800
4.00	7.0	12	45	6	3			04000	04000
4.50	8.0	11	45	6	3			04500	04500
4.80	8.0	11	45	6	3			04800	04800
5.00	8.0	11	45	6	3			05000	05000
5.50	8.0	9	45	6	3			05500	05500
5.75	8.0	9	45	6	3			05700	05700
6.00	8.0	9	45	6	3			06000	06000
6.70	10.0	19	55	8	3			06700	06700
7.00	12.0	19	55	8	3			07000	07000
7.70	12.0	19	55	8	3			07700	07700
8.00	13.0	19	55	8	3			08000	08000
8.70	14.0	17	55	10	3			08700	08700
9.00	16.0	17	55	10	3			09000	09000
9.70	16.0	17	55	10	3			09700	09700
10.00	16.0	17	55	10	3			10000	10000
P							●		●
M							●		●
K							●		●
N						●	○	●	○
S						○	●	○	●
H									
O									

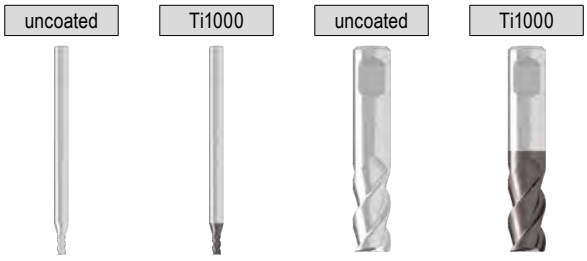
→ Find the cutting data standard values here.

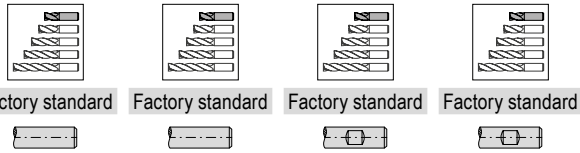
CoreLine – Mini milling cutters – N

▲ Shanks similar to DIN 6535







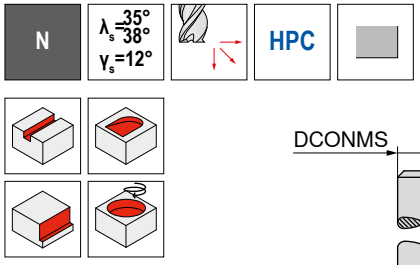


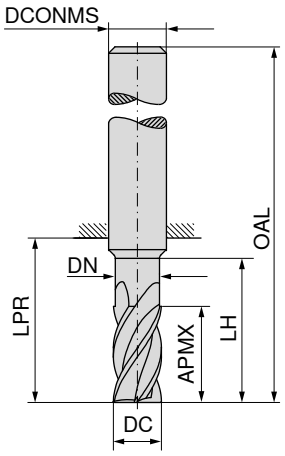
DC e8 mm	CHW mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 608 ...	SM 50 609 ...	SM 50 608 ...	SM 50 609 ...
0.50	0.05	1.5	17	45	3	3	30500	30500		
1.00	0.05	2.0	12	45	6	3			01000	01000
1.00	0.05	2.0	17	45	3	3	31000	31000		
1.20	0.05	2.0	12	45	6	3			01200	01200
1.20	0.05	3.0	17	45	3	3	31200	31200		
1.50	0.05	3.0	12	45	6	3			01500	01500
1.50	0.05	3.0	17	45	3	3	31500	31500		
1.80	0.05	3.0	12	45	6	3			01800	01800
1.80	0.05	3.0	17	45	3	3	31800	31800		
2.00	0.05	4.0	13	45	6	3			020	02000
2.50	0.05	6.0	13	45	6	3			025	02500
2.80	0.05	6.0	13	45	6	3			02800	02800
3.00	0.10	6.0	13	45	6	3			030	03000
3.50	0.10	7.0	13	45	6	3			03500	03500
3.80	0.10	7.0	13	45	6	3			03800	03800
4.00	0.10	7.0	12	45	6	3			040	04000
4.50	0.10	8.0	11	45	6	3			04500	04500
4.80	0.10	8.0	11	45	6	3			04800	04800
5.00	0.10	8.0	11	45	6	3			050	05000
5.50	0.10	8.0	9	45	6	3			05500	05500
5.75	0.10	8.0	9	45	6	3			05700	05700
6.00	0.10	8.0	9	45	6	3			060	06000
6.70	0.10	10.0	19	55	8	3			06700	06700
7.00	0.10	12.0	19	55	8	3			070	07000
7.70	0.10	12.0	19	55	8	3			07700	07700
8.00	0.10	13.0	19	55	8	3			080	08000
8.70	0.10	14.0	17	55	10	3			08700	08700
9.00	0.10	16.0	17	55	10	3			09000	09000
9.70	0.10	16.0	17	55	10	3			09700	09700
10.00	0.10	16.0	17	55	10	3			100	10000

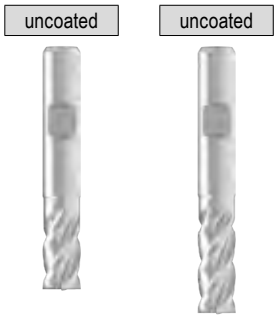
P		●		●
M		●		●
K		●		●
N	●	○	●	○
S	○	●	○	●
H				
O				

→ Find the cutting data standard values here.

CoreLine – End mill – N










Factory standard | Factory standard

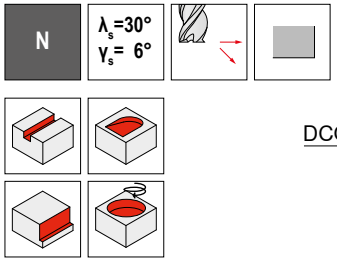


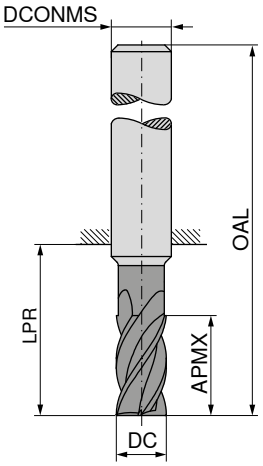

DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 52 209 ...	SM 52 213 ...
2	4	1.9	8	18	54	6	4	02000	
2	7			22	58	6	4		02000
3	6	2.9	9	18	54	6	4	03000	
3	10	2.8	14	22	58	6	4		03000
4	7	3.8	12	18	54	6	4	04000	
4	13	3.8	17	22	58	6	4		04000
5	8	4.8	16	18	54	6	4	05000	
5	15	4.8	19	22	58	6	4		05000
6	10	5.8	16	18	54	6	4	06000	
6	16	5.7	20	22	58	6	4		06000
8	12	7.7	20	22	58	8	4	08000	
8	22	7.7	26	34	70	8	4		08000
10	14	9.7	24	26	66	10	4	10000	
10	25	9.6	31	33	73	10	4		10000
12	16	11.6	26	28	73	12	4	12000	
12	28	11.6	37	39	84	12	4		12000

P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

→ Find the cutting data standard values here.

CoreLine – End mill – N











Factory standard | Factory standard



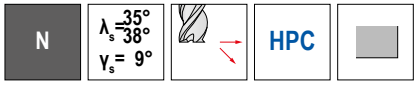


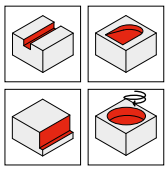
DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	CX 54 093 ...	CX 54 094 ...
2.0	8	8	32	2.0	4	**22000**	
2.5	8	8	32	2.5	4	**22500**	
3.0	12	12	32	3.0	4	**33000**	
3.0	30	32	60	3.0	4		**33000**
3.5	12	12	32	3.5	4	**33500**	
4.0	12	12	40	4.0	4	**44000**	
4.0	30	47	75	4.0	4		**44000**
4.5	14	22	50	4.5	4	**44500**	
5.0	14	22	50	5.0	4	**55000**	
5.0	35	47	75	5.0	4		**55000**
5.5	16	22	50	5.5	4	**55500**	
6.0	14	14	50	6.0	4	**06000**	
6.0	40	64	100	6.0	4		**06000**
8.0	40	64	100	8.0	4		**08000**
10.0	40	60	100	10.0	4		**10000**
12.0	45	55	100	12.0	4		**12000**
14.0	45	55	100	14.0	4		**14000**
16.0	75	102	150	16.0	4		**16000**

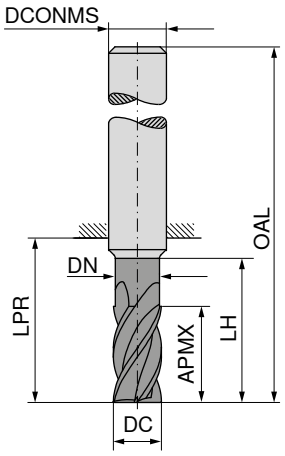
P	●	●
M	○	○
K	●	●
N	○	○
S	○	
H		
O		

→ Find the cutting data standard values here.

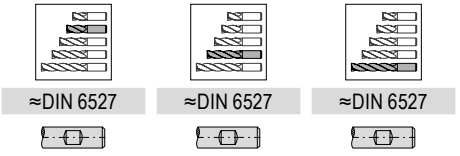
CoreLine – End mill – N









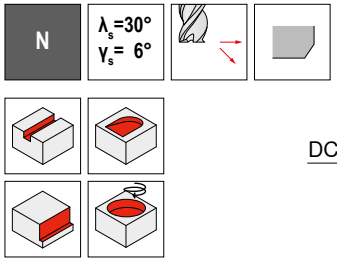


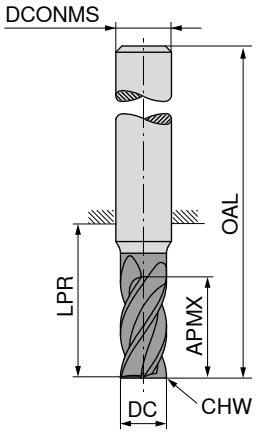
DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	CX 54 070 ...	CX 54 070 ...	CX 54 070 ...
3	5			14	50	6	4	03100		
3	8	2.8	13	21	57	6	4		03200	
3	8	2.8	15	22	69	6	4			03400
4	8			18	54	6	4	04100		
4	11	3.8	17	21	57	6	4		04200	
4	11	3.8	20	26	69	6	4			04400
5	9			18	54	6	4	05100		
5	13	4.8	19	21	57	6	4		05200	
5	13	4.8	25	34	69	6	4			05400
6	10			18	54	6	4	06100		
6	13	5.8	19	21	57	6	4		06200	
6	13	5.8	30	34	69	6	4			06400
8	12			22	58	8	4	08100		
8	17	7.7	40	44	79	8	4			08400
8	19	7.7	25	27	63	8	4		08200	
10	14			26	66	10	4	10100		
10	21	9.7	50	54	93	10	4			10400
10	22	9.7	30	32	72	10	4		10200	
12	16			28	73	12	4	12100		
12	25	11.6	60	64	108	12	4			12400
12	26	11.6	36	38	83	12	4		12200	
16	22			34	82	16	4	16100		
16	32	15.5	42	44	92	16	4		16200	
16	33	15.5	80	84	132	16	4			16400
20	26			42	92	20	4	20100		
20	38	19.5	52	54	104	20	4		20200	
20	42	19.5	100	104	154	20	4			20400

P	●	●	●
M	●	●	○
K	●	●	●
N	○	○	
S	○	○	
H			
O			

→ Find the cutting data standard values here.

CoreLine – End mill – N









Factory standard



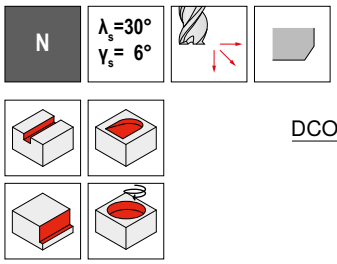
CX

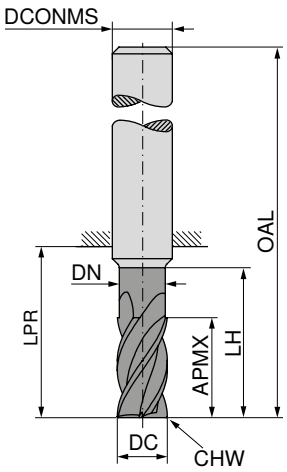
DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 095 ...
2.0	8	8	32	2.0	0.04	4	**22000**
2.5	8	8	32	2.5	0.04	4	**22500**
3.0	12	12	32	3.0	0.07	4	**33000**
3.5	12	12	32	3.5	0.07	4	**33500**
4.0	12	12	40	4.0	0.07	4	**44000**
4.5	14	22	50	4.5	0.07	4	**44500**
5.0	14	22	50	5.0	0.12	4	**55000**
5.5	16	22	50	5.5	0.12	4	**55500**
6.0	14	14	50	6.0	0.12	4	**06000**

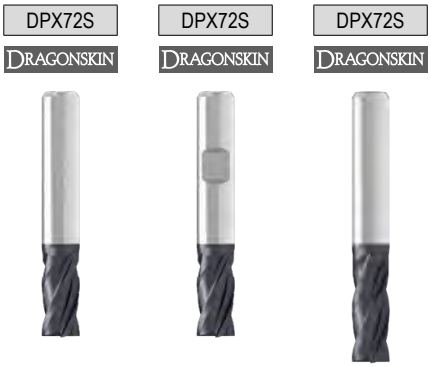
P	●
M	○
K	●
N	○
S	○
H	
O	

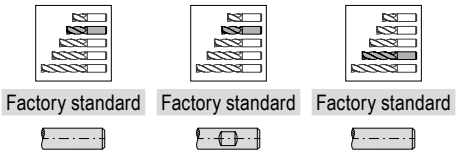
→ Find the cutting data standard values here.

CoreLine – End mill – N









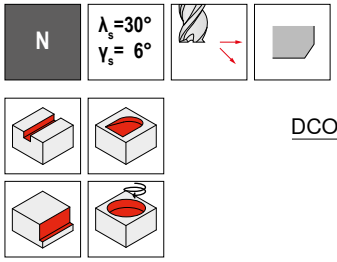
DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 206 ...	SM 52 207 ...	SM 52 210 ...
1.5	3	1.4	6	10	38	3	0.02	4	**31500**		
2.0	4	1.9	8	10	38	3	0.03	4	**32000**		
2.0	4	1.9	8	18	54	6	0.03	4	**02000**	**02000**	
2.0	7			10	38	2	0.03	4			**22000**
2.5	4	2.4	8	10	38	3	0.04	4	**32500**		
3.0	6	2.9	9	10	38	3	0.04	4	**33000**		
3.0	6	2.9	9	18	54	6	0.04	4	**03000**	**03000**	
3.0	10	2.8	14	14	38	3	0.03	4			**33000**
4.0	7	3.8	12	18	54	6	0.05	4	**04000**	**04000**	
4.0	13	3.8	17	22	50	4	0.04	4			**44000**
5.0	8	4.8	16	18	54	6	0.06	4	**05000**	**05000**	
5.0	15	4.8	19	22	50	5	0.04	4			**55000**
6.0	10	5.8	16	18	54	6	0.07	4	**06000**	**06000**	
6.0	16	5.7	20	22	58	6	0.04	4			**06000**

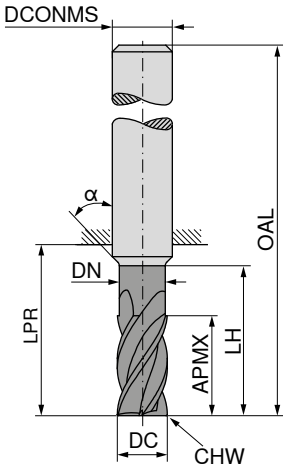
P	●	●	●
M	○	○	○
K	●	●	●
N	○	○	○
S	○	○	○
H	○	○	○
O	○	○	○

→ Find the cutting data standard values here.

CoreLine – End mill – N

▲ Transition angle α = 30°







Factory standard | Factory standard | Factory standard

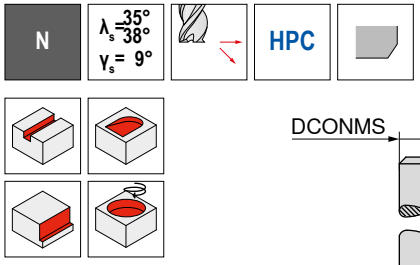
SM | SM | SM

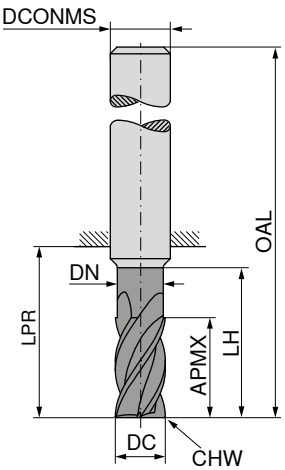
DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 219 ...	52 214 ...	52 222 ...
3	16	2.8	32	47	75	3	0.04	4		**33000**	
4	16	3.8	32	47	75	4	0.05	4		**44000**	
4	20	3.8	48	72	100	4	0.05	4		**44100**	
5	20	4.8	35	47	75	5	0.06	4		**55000**	
5	25	4.8	55	72	100	5	0.06	4		**55100**	
6	24	5.8	42	44	80	6	0.07	4	**06000**		
6	30	5.8	62	64	100	6	0.07	4			**06000**
8	32	7.8	60	64	100	8	0.08	4	**08000**		
8	40	7.8	75	84	120	8	0.08	4			**08000**
10	40	9.8	58	60	100	10	0.10	4	**10000**		
10	50	9.8	78	80	120	10	0.10	4			**10000**
12	48	11.8	60	75	120	12	0.13	4	**12000**		
12	60	11.8	90	105	150	12	0.13	4			**12000**
14	45	13.8	50	55	100	14	0.15	4	**14000**		
14	56	13.8	95	105	150	14	0.15	4			**14000**
16	50	15.8	70	77	125	16	0.18	4	**16000**		
16	65	15.8	95	102	150	16	0.18	4			**16000**
18	72	17.8	95	102	150	18	0.18	4			**18000**
20	60	19.8	80	85	135	20	0.20	4	**20000**		
20	80	19.8	95	100	150	20	0.20	4			**20000**
25	75	24.5	90	94	150	25	0.25	4	**25000**		

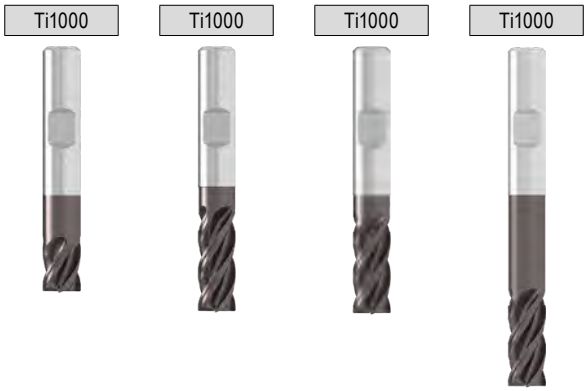
P	●	●	●
M	○	○	○
K	●	●	●
N	○	○	○
S	○	○	○
H	○	○	○
O	○	○	○

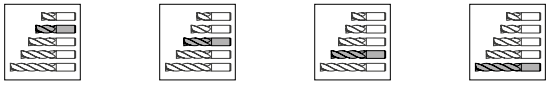
→ Find the cutting data standard values here.

CoreLine – End mill – N









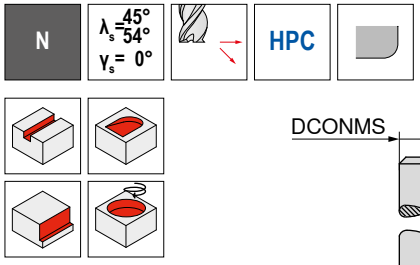
	≈DIN 6527	≈DIN 6527	≈DIN 6527	≈DIN 6527
	CX	CX	CX	CX
DC h10 mm	54 071 ...	54 071 ...	54 071 ...	54 071 ...
3	03100			
3			03200	
3				03400
4	04100			
4			04200	
4				04400
5	05100			
5			05200	
5				05400
6	06100			
6		06300		
6			06200	
6				06400
8	08100			
8				08400
8			08200	
8		08300		
10	10100			
10				10400
10		10300		
10			10200	
12	12100			
12				12400
12		12300		
12			12200	
14		14300		
16	16100			
16				16400
16		16300		
16			16200	
18		18300		
20	20100			
20			20200	
20		20300		
20				20400

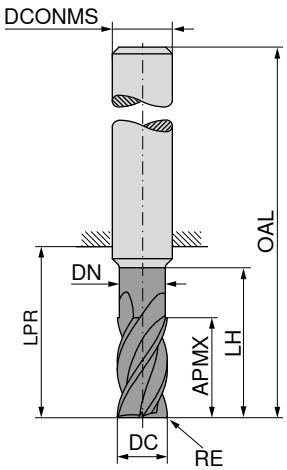
P	●	●	●	●
M	●	●	●	○
K	●	●	●	●
N	○	○	○	
S	○	○	○	
H				
O				

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – N

▲ Quiet running thanks to irregular helix





Ti1000





Factory standard



DC e8 mm	RE ±0,01 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h6 mm	ZEFP	SM 52 102 ...
2	0.2	7	1.8	11	58	6	4	022
3	0.3	8	2.8	13	58	6	4	033
4	0.4	11	3.8	16	58	6	4	044
5	0.5	13	4.8	18	58	6	4	055
6	0.5	16	5.8	26	58	6	4	065
6	1.0	16	5.8	26	58	6	4	066
8	0.5	22	7.8	32	64	8	4	085
8	1.0	22	7.8	32	64	8	4	086
8	1.5	22	7.8	32	64	8	4	087
10	0.5	25	9.8	35	73	10	4	105
10	1.0	25	9.8	35	73	10	4	106
10	1.5	25	9.8	35	73	10	4	107
12	0.5	28	11.8	38	84	12	4	125
12	1.0	28	11.8	38	84	12	4	126
12	1.5	28	11.8	38	84	12	4	127

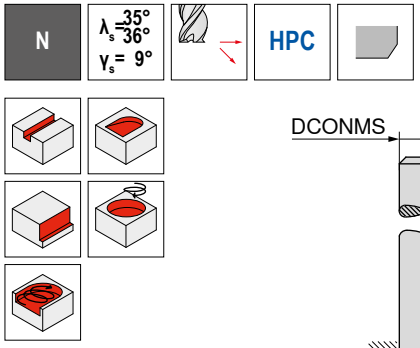
P	○
M	●
K	○
N	●
S	●
H	
O	●

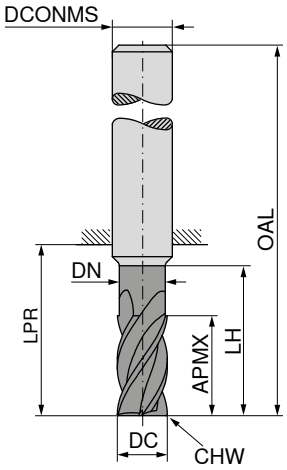


→ Find the cutting data standard values here.

CoreLine – End mill – N

▲ Cutting depth: 3 x DC





Ti1000





≈DIN 6527



CX

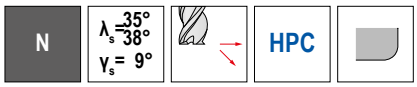
DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 078 ...
6	19	5.8	24	26	62	6	0.1	4	**06200**
8	25	7.7	30	32	68	8	0.2	4	**08200**
10	31	9.7	38	40	80	10	0.2	4	**10200**
12	37	11.6	46	48	93	12	0.2	4	**12200**
16	49	15.5	58	60	108	16	0.3	4	**16200**
20	61	19.5	74	76	126	20	0.3	4	**20200**

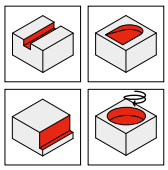
P	●
M	●
K	●
N	
S	
H	
O	

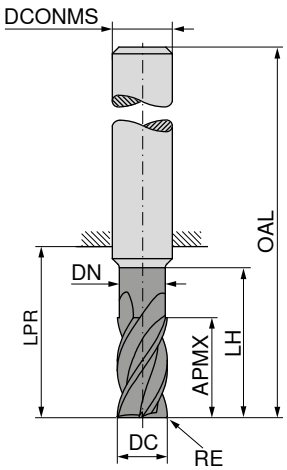


→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – N













≈DIN 6527 ≈DIN 6527





DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	CX 54 072 ...	CX 54 072 ...
3	0.1	8	2.8	13	21	57	6	4	03201	
3	0.3	8	2.8	13	21	57	6	4	03203	
3	0.3	8	2.8	15	22	69	6	4		03403
3	0.5	8	2.8	13	21	57	6	4	03205	
3	0.5	8	2.8	15	22	69	6	4		03405
3	1.0	8	2.8	13	21	57	6	4	03210	
3	1.0	8	2.8	15	22	69	6	4		03410
4	0.1	11	3.8	17	21	57	6	4	04201	
4	0.3	11	3.8	17	21	57	6	4	04203	
4	0.3	11	3.8	20	26	69	6	4		04403
4	0.5	11	3.8	17	21	57	6	4	04205	
4	0.5	11	3.8	20	26	69	6	4		04405
4	1.0	11	3.8	17	21	57	6	4	04210	
4	1.0	11	3.8	20	26	69	6	4		04410
5	0.1	13	4.8	19	21	57	6	4	05201	
5	0.3	13	4.8	19	21	57	6	4	05203	
5	0.3	13	4.8	25	34	69	6	4		05403
5	0.5	13	4.8	19	21	57	6	4	05205	
5	0.5	13	4.8	25	34	69	6	4		05405
5	1.0	13	4.8	19	21	57	6	4	05210	
5	1.0	13	4.8	25	34	69	6	4		05410
6	0.1	13	5.8	19	21	57	6	4	06201	
6	0.3	13	5.8	19	21	57	6	4	06203	
6	0.3	13	5.8	30	34	69	6	4		06403
6	0.5	13	5.8	19	21	57	6	4	06205	
6	0.5	13	5.8	30	34	69	6	4		06405
6	1.0	13	5.8	19	21	57	6	4	06210	
6	1.0	13	5.8	30	34	69	6	4		06410
6	1.5	13	5.8	19	21	57	6	4	06215	
6	1.5	13	5.8	30	34	69	6	4		06415
6	2.0	13	5.8	19	21	57	6	4	06220	
6	2.0	13	5.8	30	34	69	6	4		06420
8	0.1	21	7.7	25	27	63	8	4	08201	
8	0.3	21	7.7	25	27	63	8	4	08203	

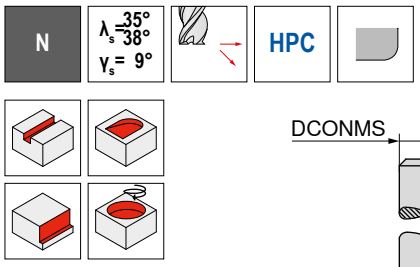
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M	●	○
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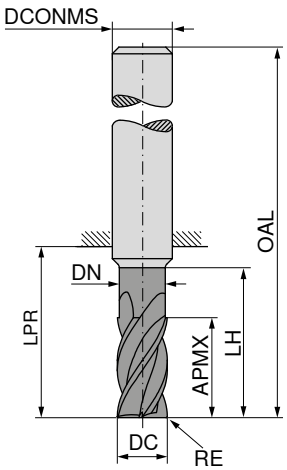


→ Find the cutting data standard values here.

Continued on next page

CoreLine – End mills with corner radius – N











≈DIN 6527 ≈DIN 6527





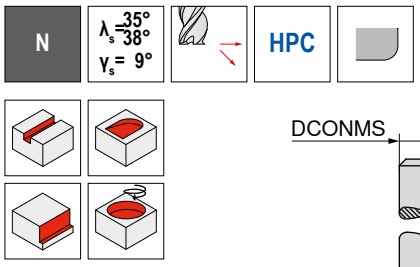
DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	CX 54 072 ...	CX 54 072 ...
8	0.3	17	7.7	40	44	79	8	4		08403
8	0.5	21	7.7	25	27	63	8	4	08205	
8	0.5	17	7.7	40	44	79	8	4		08405
8	1.0	21	7.7	25	27	63	8	4	08210	
8	1.0	17	7.7	40	44	79	8	4		08410
8	1.5	21	7.7	25	27	63	8	4	08215	
8	1.5	17	7.7	40	44	79	8	4		08415
8	2.0	21	7.7	25	27	63	8	4	08220	
8	2.0	17	7.7	40	44	79	8	4		08420
10	0.1	22	9.7	30	32	72	10	4	10201	
10	0.3	22	9.7	30	32	72	10	4	10203	
10	0.3	21	9.7	50	54	93	10	4		10403
10	0.5	22	9.7	30	32	72	10	4	10205	
10	0.5	21	9.7	50	54	93	10	4		10405
10	1.0	22	9.7	30	32	72	10	4	10210	
10	1.0	21	9.7	50	54	93	10	4		10410
10	1.5	22	9.7	30	32	72	10	4	10215	
10	1.5	21	9.7	50	54	93	10	4		10415
10	2.0	22	9.7	30	32	72	10	4	10220	
10	2.0	21	9.7	50	54	93	10	4		10420
12	0.1	26	11.6	36	38	83	12	4	12201	
12	0.3	26	11.6	36	38	83	12	4	12203	
12	0.3	25	11.6	60	64	108	12	4		12403
12	0.5	26	11.6	36	38	83	12	4	12205	
12	0.5	25	11.6	60	64	108	12	4		12405
12	1.0	26	11.6	36	38	83	12	4	12210	
12	1.0	25	11.6	60	64	108	12	4		12410
12	1.5	26	11.6	36	38	83	12	4	12215	
12	1.5	25	11.6	60	64	108	12	4		12415
12	2.0	26	11.6	36	38	83	12	4	12220	
12	2.0	25	11.6	60	64	108	12	4		12420
12	3.0	26	11.6	36	38	83	12	4	12230	
12	3.0	25	11.6	60	64	108	12	4		12430
16	0.1	36	15.5	42	44	92	16	4	16201	

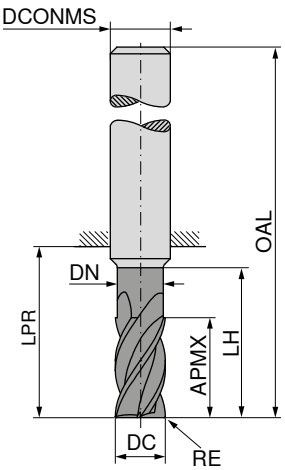
P	●	●
M	●	○
K	●	●
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→ Find the cutting data standard values here.

Continued on next page

CoreLine – End mills with corner radius – N










≈DIN 6527 ≈DIN 6527




DC h10	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	CX	CX
mm	mm	mm	mm	mm	mm	mm	mm		54 072 ...	54 072 ...
16	0.3	36	15.5	42	44	92	16	4	16203	
16	0.3	33	15.5	80	84	132	16	4		16403
16	0.5	36	15.5	42	44	92	16	4	16205	
16	0.5	33	15.5	80	84	132	16	4		16405
16	1.0	36	15.5	42	44	92	16	4	16210	
16	1.0	33	15.5	80	84	132	16	4		16410
16	1.5	36	15.5	42	44	92	16	4	16215	
16	1.5	33	15.5	80	84	132	16	4		16415
16	2.0	36	15.5	42	44	92	16	4	16220	
16	2.0	33	15.5	80	84	132	16	4		16420
16	3.0	36	15.5	42	44	92	16	4	16230	
16	3.0	33	15.5	80	84	132	16	4		16430
16	4.0	36	15.5	42	44	92	16	4	16240	
16	4.0	33	15.5	80	84	132	16	4		16440
20	0.1	41	19.5	52	54	104	20	4	20201	
20	0.3	41	19.5	52	54	104	20	4	20203	
20	0.3	42	19.5	100	104	154	20	4		20403
20	0.5	41	19.5	52	54	104	20	4	20205	
20	0.5	42	19.5	100	104	154	20	4		20405
20	1.0	41	19.5	52	54	104	20	4	20210	
20	1.0	42	19.5	100	104	154	20	4		20410
20	1.5	41	19.5	52	54	104	20	4	20215	
20	1.5	42	19.5	100	104	154	20	4		20415
20	2.0	41	19.5	52	54	104	20	4	20220	
20	2.0	42	19.5	100	104	154	20	4		20420
20	3.0	41	19.5	52	54	104	20	4	20230	
20	3.0	42	19.5	100	104	154	20	4		20430
20	4.0	41	19.5	52	54	104	20	4	20240	
20	4.0	42	19.5	100	104	154	20	4		20440

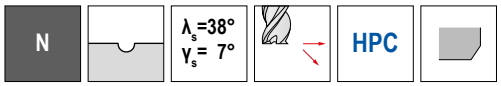
P	●	●
M	●	○
K	●	●
N	○	
S	○	
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O		

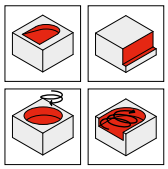
→ Find the cutting data standard values here.

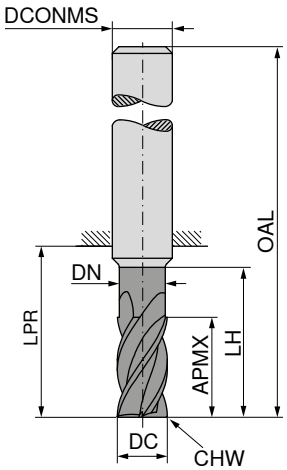
CoreLine – End mill – N

Optimized for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 3 x DC
- ▲ Cutting edges with irregular pitch







Ti1000





Factory standard



CX

DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 098 ...
6	18	5.8	24	26	62	6	0.1	5	**06000**
8	24	7.7	30	32	68	8	0.2	5	**08000**
10	30	9.7	38	40	80	10	0.2	5	**10000**
12	36	11.6	46	48	93	12	0.3	5	**12000**
16	48	15.5	58	60	108	16	0.3	5	**16000**
20	60	19.5	74	76	126	20	0.3	5	**20000**

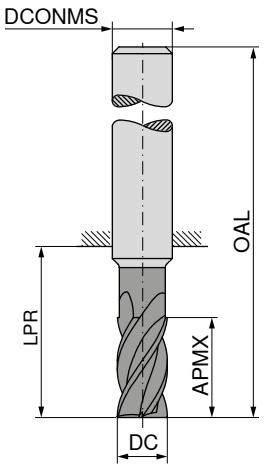
P	●
M	○
K	●
N	
S	○
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→ Find the cutting data standard values here.

CoreLine – Finishing milling cutters – N

N | λ_s=45° γ_s=14°



Ti1000





Factory standard



CX

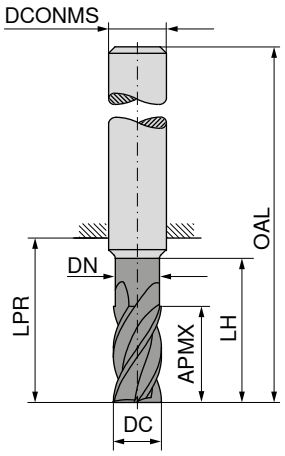
DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	54 099 ...
4	16	26	62	6	6	**04000**
5	18	26	62	6	6	**05000**
6	18	26	62	6	6	**06000**
8	24	32	68	8	6	**08000**
10	30	40	80	10	6	**10000**
12	36	48	93	12	6	**12000**
16	48	60	108	16	6	**16000**
20	60	76	126	20	8	**20000**

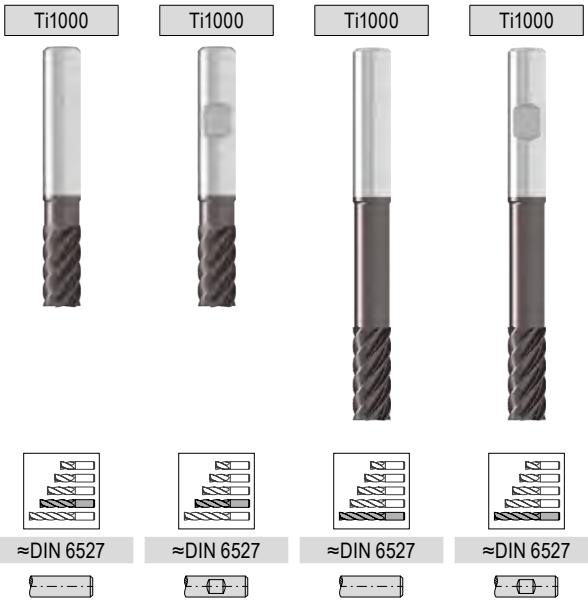
P	●
M	○
K	●
N	
S	○
H	
O	

→ Find the cutting data standard values here.

CoreLine – Finishing milling cutters – N

N | λ_s=48° 50° γ_s=13° | → | HPC





≈DIN 6527 | ≈DIN 6527 | ≈DIN 6527 | ≈DIN 6527

CX | CX | CX | CX

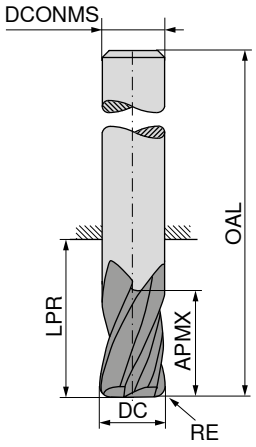
DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	54 076 ...	54 075 ...	54 076 ...	54 075 ...
6	13	5.6	19	21	57	6	6	**06200**	**06200**		
6	15	5.6	42	44	80	6	6			**06400**	**06400**
8	19	7.6	25	27	63	8	6	**08200**	**08200**		
8	20	7.6	62	64	100	8	6			**08400**	**08400**
10	22	9.6	30	32	72	10	6	**10200**	**10200**		
10	25	9.6	58	60	100	10	6			**10400**	**10400**
12	26	11.5	36	38	83	12	6	**12200**	**12200**		
12	30	11.5	73	75	120	12	6			**12400**	**12400**
16	32	15.0	42	44	92	16	6	**16200**	**16200**		
16	40	15.0	100	102	150	16	6			**16400**	**16400**
20	38	19.0	52	54	104	20	6	**20200**	**20200**		
20	50	19.0	98	100	150	20	6			**20400**	**20400**
P								●	●	●	●
M								●	●	●	●
K								○	○	○	○
N								○	○	○	○
S								○	○	○	○
H											
O											

→ Find the cutting data standard values here.

CoreLine – Finishing milling cutters with corner radius – N

N | λ_s=45° γ_s=14°





Ti1000





Factory standard



DC f8 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 50 634 ...
6	0.5	18	26	62	6	6	**060**
6	1.0	18	26	62	6	6	**061**
8	0.5	24	32	68	8	6	**080**
8	1.0	24	32	68	8	6	**081**
8	2.0	24	32	68	8	6	**082**
10	0.5	30	40	80	10	6	**100**
10	1.0	30	40	80	10	6	**101**
10	2.0	30	40	80	10	6	**102**
12	0.5	36	48	93	12	6	**120**
12	1.0	36	48	93	12	6	**121**
12	2.0	36	48	93	12	6	**122**
12	3.0	36	48	93	12	6	**123**
16	0.5	48	60	108	16	6	**160**
16	1.0	48	60	108	16	6	**161**
16	2.0	48	60	108	16	6	**162**
16	3.0	48	60	108	16	6	**163**
20	0.5	60	76	126	20	8	**200**
20	1.0	60	76	126	20	8	**201**
20	2.0	60	76	126	20	8	**202**
20	3.0	60	76	126	20	8	**203**

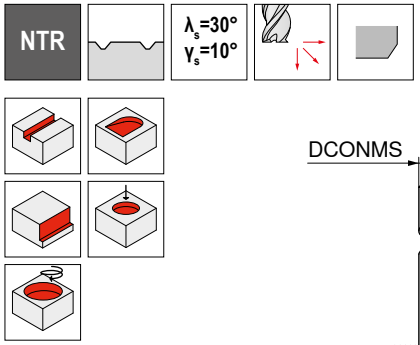
P	○
M	●
K	●
N	
S	○
H	
O	

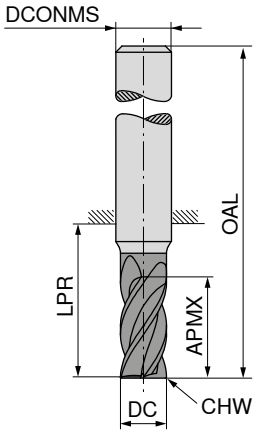


→ Find the cutting data standard values here.

CoreLine – Roughing-finishing milling cutters – NTR

▲ With trapezoidal cord profile





APA72S





DIN 6527



DC h10 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 318 ...
6	13	21	57	6		3	**06000**
8	19	27	63	8	0.08	3	**08000**
10	22	32	72	10	0.12	4	**10000**
12	26	38	83	12	0.15	4	**12000**
14	26	38	83	14	0.17	4	**14000**
16	32	44	92	16	0.20	4	**16000**
18	32	48	92	18	0.22	4	**18000**
20	38	54	104	20	0.25	4	**20000**

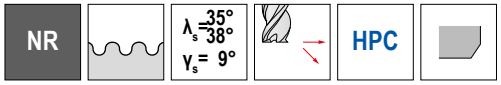
P	●
M	○
K	●
N	○
S	
H	
O	

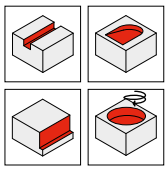


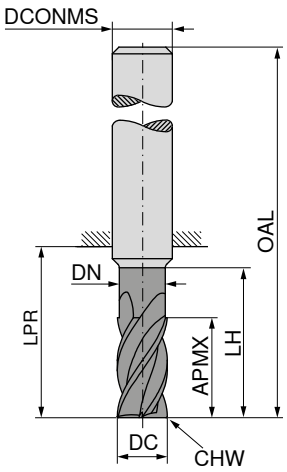
→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – NR

▲ With round cord profile







Ti1000





≈DIN 6527



CX

DC d11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	54 077 ...
3	8	2.8	13	21	57	6	0.1	4	**00300**
4	11	3.8	17	21	57	6	0.1	4	**00400**
5	13	4.8	19	21	57	6	0.1	4	**00500**
6	13	5.8	19	21	57	6	0.1	4	**00600**
8	21	7.7	25	27	63	8	0.2	4	**00800**
10	22	9.7	30	32	72	10	0.2	4	**01000**
12	26	11.6	36	38	83	12	0.3	4	**01200**
16	36	15.5	42	44	92	16	0.3	4	**01600**
20	41	19.5	52	54	104	20	0.3	4	**02000**

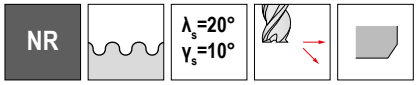
P	●
M	●
K	●
N	○
S	○
H	
O	

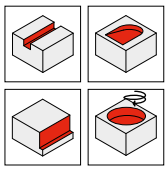


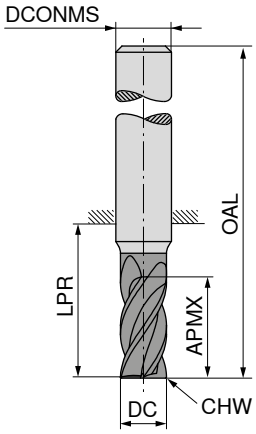
→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – NR

▲ With round cord profile












DIN 6527 DIN 6527



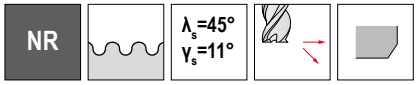

DC d11 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	SM 50 618 ...	SM 50 624 ...
4	8	21	57	6	0.6	4		**040**
5	8	18	54	6	0.6	4	**050**	
5	13	21	57	6	0.6	4		**050**
6	8	18	54	6	0.6	4	**060**	
6	13	21	57	6	0.6	4		**060**
7	11	22	58	8	0.6	4	**070**	
7	19	27	63	8	0.6	4		**070**
8	11	22	58	8	0.6	4	**080**	
8	19	27	63	8	0.6	4		**080**
9	13	26	66	10	0.6	4	**090**	
9	22	32	72	10	0.6	4		**090**
10	13	26	66	10	0.6	4	**100**	
10	22	32	72	10	0.6	4		**100**
11	26	38	83	12	0.6	4		**110**
12	16	28	73	12	0.6	4	**120**	
12	26	38	83	12	0.6	4		**120**
13	26	38	83	14	0.6	4		**130**
14	16	31	76	14	0.6	4	**140**	
14	26	38	83	14	0.6	4		**140**
16	19	34	82	16	0.6	4	**160**	
16	32	44	92	16	0.6	4		**160**
18	19	36	84	18	0.6	4	**180**	
18	32	44	92	18	0.6	4		**180**
20	19	42	92	20	0.6	4	**200**	
20	38	54	104	20	0.6	4		**200**
25	45	65	121	25	0.6	5		**250**

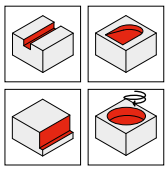
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

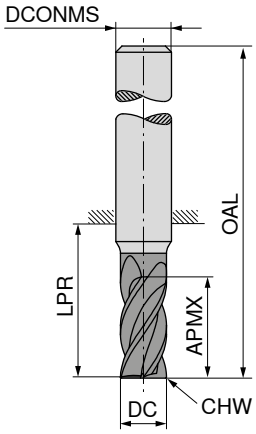
→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – NR

▲ With round cord profile











DIN 6527



SM

DC d11 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	50 637 ...
6	13	21	57	6	0.5	4	**060**
8	19	27	63	8	0.5	4	**080**
10	22	32	72	10	0.5	4	**100**
12	26	38	83	12	0.5	4	**120**
14	26	38	83	14	0.5	4	**140**
16	32	44	92	16	0.5	5	**160**
18	32	44	92	18	0.5	5	**180**
20	38	54	104	20	0.5	6	**200**
25	45	65	121	25	0.5	6	**250**

P	○
M	●
K	○
N	○
S	●
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O	○



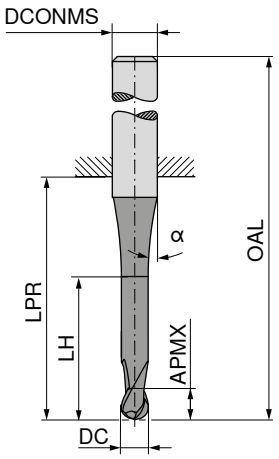
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – N

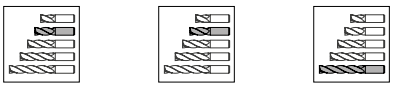
▲ Radius accuracy: ± 0.01 mm

N | λ_s=30° γ_s=14° | ≤ 52 HRC

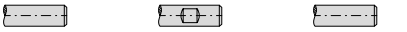








Factory standard | Factory standard | Factory standard



SM | SM | SM

DC f8 mm	APMX mm	LH mm	LPR mm	OAL mm	α°	DCONMS h6 mm	ZEFP	52 054 ...	52 056 ...	52 055 ...
0.10	0.2	0.7	12.5	38	8	3	2	**91000**		
0.15	0.3	0.8	11.5	38	8	3	2	**91500**		
0.20	0.4	0.9	12.0	38	8	3	2	**92000**		
0.25	0.5	1.0	12.5	38	8	3	2	**92500**		
0.30	1.0	1.5	11.3	38	8	3	2	**93000**		
0.35	1.0	1.5	11.1	38	8	3	2	**93500**		
0.40	1.0	1.5	10.9	38	8	3	2	**94000**		
0.50	1.5	2.5	11.7	38	7	3	2	**95000**		
0.50	1.5	2.5	47.0	75	7	3	2			**95000**
0.50	1.5	2.5	44.0	80	11	6	2			**95100**
0.50	1.5	2.5	18.0	54	11	6	2	**95100**		
0.60	1.5	2.5	11.3	38	7	3	2	**96000**		
0.70	2.0	3.0	11.4	38	7	3	2	**97000**		
0.80	2.0	3.3	11.7	38	7	3	2	**98000**		
0.90	2.5	3.8	11.7	38	7	3	2	**99000**		
1.00	2.0	3.5	22.0	50	7	3	2	**31000**		
1.00	2.0	3.5	18.0	54	10	6	2	**01000**	**01000**	
1.00	3.0	4.5	44.0	80	10	6	2			**01000**
1.00	3.0	4.5	47.0	75	7	3	2			**31000**
1.10	3.0	4.5	22.0	50	6	3	2	**31100**		
1.20	3.0	4.5	22.0	50	5	3	2	**31200**		
1.40	3.0	4.5	22.0	50	5	3	2	**31400**		
1.50	3.0	4.5	22.0	50	6	3	2	**31500**		
1.50	3.0	4.5	18.0	54	10	6	2	**01500**	**01500**	
1.50	4.0	5.5	44.0	80	10	6	2			**01500**
1.50	4.0	5.5	47.0	75	5	3	2			**31500**
1.60	4.0	6.0	22.0	50	6	3	2	**31600**		
1.80	4.0	6.0	22.0	50	6	3	2	**31800**		
2.00	4.0	6.0	18.0	54	9	6	2	**02000**	**02000**	
2.00	4.0	6.0	22.0	50	5	3	2	**32000**		
2.00	6.0	8.0	44.0	80	10	6	2			**02000**
2.00	6.0	8.0	47.0	75	5	3	2			**32000**

P	●	●	●
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→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

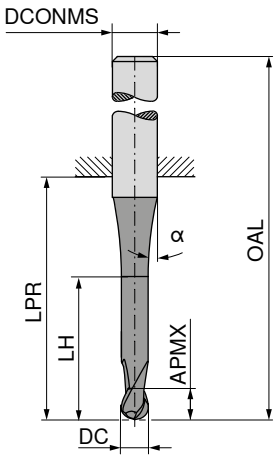
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CoreLine – Ball-nosed end mills – N

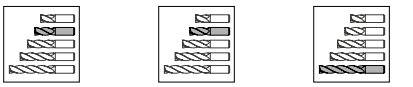
▲ Radius accuracy: ± 0.01 mm

N | λ_s=30° γ_s=14° | ≤ 52 HRC

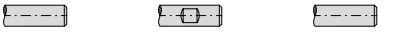








Factory standard | Factory standard | Factory standard



SM | SM | SM

DC f8 mm	APMX mm	LH mm	LPR mm	OAL mm	α°	DCONMS h6 mm	ZEFP	52 054 ...	52 056 ...	52 055 ...
2.50	5.0	7.0	18.0	54	9	6	2	**02500**	**02500**	
2.50	5.0	7.0	22.0	50	3	3	2	**32500**		
2.50	8.0	10.0	44.0	80	10	6	2			**02500**
2.50	8.0	10.0	47.0	75	3	3	2			**32500**
3.00	6.0	8.5	18.0	54	9	6	2	**03000**	**03000**	
3.00	6.0		22.0	50		3	2	**33000**		
3.00	10.0		47.0	75		3	2			**33000**
3.00	10.0	12.5	44.0	80	9	6	2			**03000**
4.00	7.0	9.5	18.0	54	10	6	2	**04000**	**04000**	
4.00	7.0		26.0	54		4	2	**44000**		
4.00	13.0		47.0	75		4	2			**44000**
4.00	13.0	16.5	44.0	80	8	6	2			**04000**
5.00	8.0	11.5	18.0	54	6	6	2	**05000**	**05000**	
5.00	8.0		26.0	54		5	2	**55000**		
5.00	14.0		47.0	75		5	2			**55000**
5.00	14.0	17.5	64.0	100	5	6	2			**05000**
6.00	10.0		18.0	54		6	2	**06000**	**06000**	
6.00	16.0		64.0	100		6	2			**06000**
8.00	12.0		23.0	59		8	2	**08000**	**08000**	
8.00	22.0		64.0	100		8	2			**08000**
10.00	13.0		27.0	67		10	2	**10000**	**10000**	
10.00	25.0		60.0	100		10	2			**10000**
12.00	16.0		28.0	73		12	2	**12000**	**12000**	
12.00	26.0		55.0	100		12	2			**12000**
14.00	16.0		30.0	75		14	2	**14000**	**14000**	
14.00	26.0		55.0	100		14	2			**14000**
16.00	20.0		35.0	83		16	2	**16000**	**16000**	
16.00	30.0		102.0	150		16	2			**16000**
18.00	22.0		45.0	93		18	2	**18000**	**18000**	
20.00	25.0		43.0	93		20	2	**20000**	**20000**	
20.00	40.0		100.0	150		20	2			**20000**

P	●	●	●
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S	○	○	○
H	○	○	○
O	○	○	○



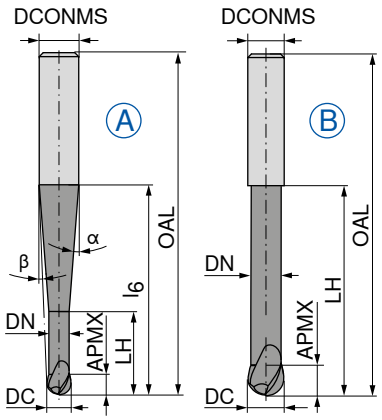
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.005 mm
▲ For Ø DC ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

N | λ_s=30° γ_s= 3° | ≤ 56 HRC







DC ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	ZEFP	Fig.	SM 52 714 ...	SM 52 717 ...
0.5	1.0	0.45	2.0	20	57	10	8,5	6	2	A	**005**	
1.0	2.0	0.95	4.0	20	57	10	8	6	2	A	**010**	
1.0	2.0	0.95	4.0	40	80	4,5	4	6	2	A		**010**
1.5	2.5	1.40	7.5	20	57	12,5	7	6	2	A	**015**	
1.5	2.5	1.40	7.5	40	80	4,5	3,5	6	2	A		**015**
2.0	3.0	1.80	8.0	20	57	12	6,5	6	2	A	**020**	
2.0	3.0	1.80	8.0	40	80	4	3	6	2	A		**020**
3.0	3.5	2.80	10.0	20	57	11,5	5	6	2	A	**030**	
3.0	3.5	2.80	12.0	40	80	3,5	2,5	6	2	A		**030**
4.0	4.0	3.80	12.0	20	57	11	3,5	6	2	A	**040**	
4.0	4.0	3.80	20.0	40	80	4	1,5	6	2	A		**040**
5.0	5.0	4.70	14.0	20	57	10	2	6	2	A	**050**	
5.0	5.0	4.70	25.0	40	80	3	1	6	2	A		**050**
6.0	6.0	5.60	20.0		57			6	2	B	**060**	
6.0	6.0	5.60	40.0		80			6	2	B		**060**
6.0	6.0	5.60	25.0	60	100	2	1	8	2	A		**061**
8.0	7.0	7.60	25.0		63			8	2	B	**080**	
8.0	7.0	7.60	60.0		100			8	2	B		**080**
8.0	7.0	7.60	30.0	75	120	2	1	10	2	A		**081**
10.0	8.0	9.60	30.0		72			10	2	B	**100**	
10.0	8.0	9.60	50.0		100			10	2	B		**102**
10.0	8.0	9.60	75.0		120			10	2	B		**100**
10.0	8.0	9.60	40.0	110	160	1	1	12	2	A		**101**
12.0	10.0	11.50	35.0		83			12	2	B	**120**	
12.0	10.0	11.50	35.0	40	92	35	3,5	16	2	A	**121**	
12.0	10.0	11.50	70.0		120			12	2	B		**122**
12.0	10.0	11.50	70.0		160			12	2	B		**120**
12.0	10.0	11.50	50.0	150	200	1,5	1	16	2	A		**121**
16.0	12.0	15.50	40.0		92			16	2	B	**160**	
16.0	12.0	15.50	80.0		200			16	2	B		**160**

P	●	●
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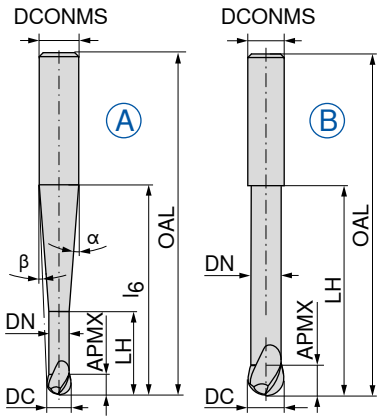
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.01 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°







uncoated





Factory standard



DC e8 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h6 mm	ZEFP	Fig.	SM 52 320 ...
2	3	1.8	8	40	100	3,6	3	6	2	A	**020**
3	4	2.8	12	40	100	3,1	2,1	6	2	A	**030**
4	5	3.8	16	40	100	2,4	1,2	6	2	A	**040**
5	6	4.7	20	40	100	1,4	0,7	6	2	A	**050**
6	6	5.7	25	50	100	2,3	1,2	8	2	A	**061**
6	6	5.7	25		100			6	2	B	**060**

P	●
M	○
K	●
N	○
S	○
H	
O	○



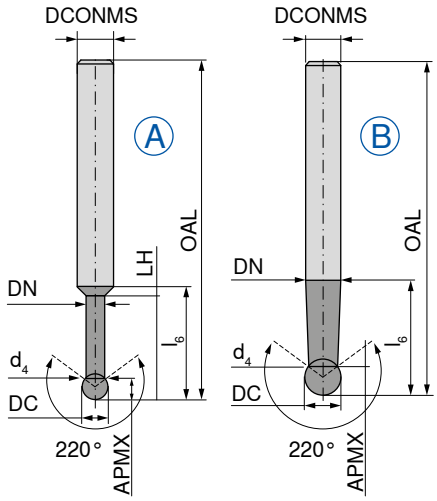
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – Ball nosed cutter 220° – N

▲ Radius accuracy: ± 0.005 mm









Factory standard

DC f8 mm	APMX mm	DN mm	d4 mm	LH mm	l6 mm	OAL mm	DCONMS h6 mm	ZEFP	Fig.	SM 52 323 ...
1.0	0.7	0.80	0.8	5	17	58	6	2	A	**010**
1.5	1.2	1.20	1.2	8	20	58	6	2	A	**015**
2.0	1.5	1.40	1.4	10	21	58	6	2	A	**020**
3.0	2.3	2.40	2.4	15	22	65	6	2	A	**030**
4.0	3.0	3.40	3.4	20	25	70	6	2	A	**040**
5.0	3.5	4.30	4.3	25	28	80	6	2	A	**050**
6.0	4.0	5.90	5.3	30	30	100	6	2	A	**060**
8.0	6.5	7.90	6.2		40	100	8	2	B	**080**
10.0	8.2	9.90	7.6		50	100	10	2	B	**100**
12.0	9.9	11.90	9.2		110	160	12	2	B	**121**
12.0	9.9	11.90	9.2		70	120	12	2	B	**120**

P	●
M	○
K	●
N	○
S	○
H	○
O	○



→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

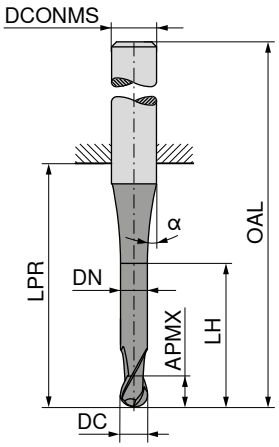
CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.01 mm

N | λ_s=30° γ_s=13°







Ti1000





≈DIN 6527



CX

DC $_{h10}$ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	α°	ZEFP	54 073 ...
3	5	2.9	9	14	50	6	15	2	**03115**
4	8	3.9	12	18	54	6	45	2	**04120**
5	9	4.9	15	18	54	6	45	2	**05125**
6	10	5.9	17	18	54	6	45	2	**06130**
8	12	7.8	20	22	58	8	45	2	**08140**
10	14	9.8	26	26	66	10	45	2	**10150**
12	16	11.8	28	28	73	12	45	2	**12160**
16	22	15.7	32	34	82	16	45	2	**16180**
20	26	19.7	40	42	92	20	45	2	**20110**

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K	●
N	●
S	○
H	
O	

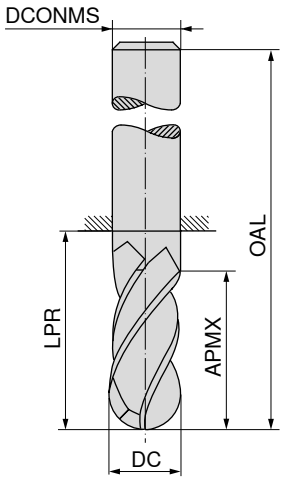


→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.01 mm

N | λ_s=30° γ_s= 6°







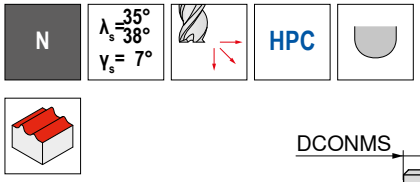
DIN 6527 | Factory standard

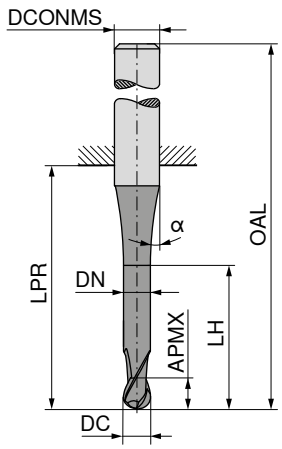
DC f8 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 642 ...	SM 50 642 ...
3	8	21	57	6	4	**030**	
4	11	21	57	6	4	**040**	
6	13	21	57	6	4	**060**	
6	40	64	100	6	4		**061**
8	19	36	72	8	4	**080**	
8	40	64	100	8	4		**081**
10	22	32	72	10	4	**100**	
10	40	60	100	10	4		**101**
12	26	38	83	12	4	**120**	
12	45	55	100	12	4		**121**
12	75	105	150	12	4		**122**
14	26	38	83	14	4	**140**	
14	45	55	100	14	4		**141**
16	32	44	92	16	4	**160**	
16	75	102	150	16	4		**161**
20	38	54	104	20	4	**200**	
20	75	100	150	20	4		**201**
P						●	●
M						○	○
K						●	●
N						○	○
S						○	○
H							
O						○	○

→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.01 mm













≈DIN 6527 ≈DIN 6527





DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	α°	ZEFP	CX 54 074 ...	CX 54 074 ...
3	8			21	57	6	30	4	**03115**	
3	8	2.8	13	21	57	6	30	4		**03215**
4	11			21	57	6	30	4	**04120**	
4	11	3.8	17	21	57	6	30	4		**04220**
5	13			21	57	6	30	4	**05125**	
5	13	4.8	19	21	57	6	30	4		**05225**
6	13			21	57	6	30	4	**06130**	
6	13	5.8	19	21	57	6	30	4		**06430**
8	19			36	72	8	30	4	**08140**	
8	19	7.7	25	36	72	8	30	4		**08440**
10	22			32	72	10	30	4	**10150**	
10	22	9.7	30	32	72	10	30	4		**10450**
12	26			38	83	12	30	4	**12160**	
12	26	11.6	36	38	83	12	30	4		**12460**
16	32			44	92	16	30	4	**16180**	
16	32	15.5	42	44	92	16	30	4		**16480**
20	38			54	104	20	30	4	**20110**	
20	38	19.5	52	54	104	20	30	4		**20410**

P	●	●
M	●	●
K	●	●
N	○	○
S		
H		
O		



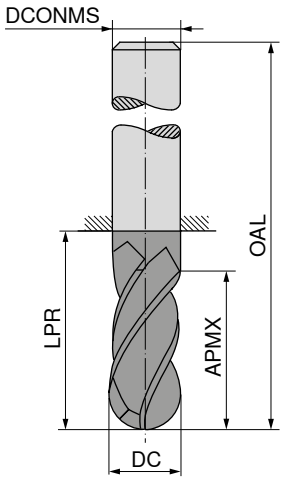
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – N

▲ Radius accuracy: ± 0.01 mm

N | λ_s=30° γ_s= 6°





Ti1000





DIN 6527



DC f8 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 643 ...
6	40	64	100	6	4	**061**
8	40	64	100	8	4	**081**
10	40	60	100	10	4	**101**
12	45	55	100	12	4	**121**
12	75	105	150	12	4	**122**
14	45	55	100	14	4	**141**
16	75	102	150	16	4	**161**
20	75	100	150	20	4	**201**

P	●
M	○
K	●
N	○
S	○
H	○
O	○



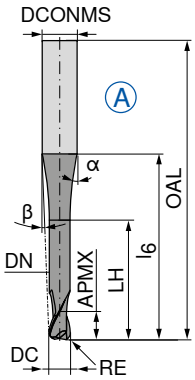
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

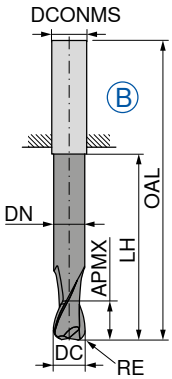
CoreLine – Torus cutters – N

▲ Radius accuracy: ± 0.005 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

N | λ_s=30° γ_s= 3° | ≤ 56 HRC















Factory standard | Factory standard





DC ±0,01 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	ZEFP	Fig.	SM 52 730 ...	SM 52 734 ...
0.5	0.10	1.0	0.45	2.0	20	57	10	8,5	6	2	A	**005**	
1.0	0.25	2.0	0.95	4.0	20	57	10	8	6	2	A	**010**	
1.0	0.25	2.0	0.95	4.0	40	80	4,5	4	6	2	A		**010**
1.5	0.30	2.5	1.40	7.5	20	57	12,5	7	6	2	A	**015**	
1.5	0.30	2.5	1.40	7.5	40	80	4,5	3,5	6	2	A		**015**
2.0	0.50	3.0	1.80	8.0	20	57	12	6,5	6	2	A	**020**	
2.0	0.50	3.0	1.80	8.0	40	80	4	3	6	2	A		**020**
3.0	0.50	3.5	2.80	10.0	20	57	11,5	5	6	2	A	**030**	
3.0	0.50	3.5	2.80	12.0	40	80	3,5	2,5	6	2	A		**030**
4.0	0.50	4.0	3.80	12.0	20	57	11	3,5	6	2	A	**041**	
4.0	0.50	4.0	3.80	20.0	40	80	4	1,5	6	2	A		**041**
4.0	1.00	4.0	3.80	12.0	20	57	11	3,5	6	2	A	**040**	
4.0	1.00	4.0	3.80	20.0	40	80	4	1,5	6	2	A		**040**
5.0	1.00	5.0	4.70	14.0	20	57	10	2	6	2	A	**051**	
5.0	1.00	5.0	4.70	25.0	40	80	3	1	6	2	A		**051**
5.0	1.50	5.0	4.70	14.0	20	57	10	2	6	2	A	**050**	
5.0	1.50	5.0	4.70	25.0	40	80	3	1	6	2	A		**050**
6.0	1.00	6.0	5.60	20.0		57			6	2	B	**961**	
6.0	1.00	6.0	5.60	40.0		80			6	2	B		**961**
6.0	2.00	6.0	5.60	20.0		57			6	2	B	**060**	
6.0	2.00	6.0	5.60	40.0		80			6	2	B		**060**
6.0	2.00	6.0	5.60	25.0	60	100	2	1	8	2	A		**061**
8.0	1.00	7.0	7.60	25.0		63			8	2	B	**082**	
8.0	1.00	7.0	7.60	60.0		100			8	2	B		**082**
8.0	2.00	7.0	7.60	25.0		63			8	2	B	**080**	
8.0	2.00	7.0	7.60	60.0		100			8	2	B		**080**
8.0	2.00	7.0	7.60	30.0	75	120	2	1	10	2	A		**081**
8.0	2.50	7.0	7.60	60.0		100			8	2	B		**083**
10.0	1.50	8.0	9.60	30.0		72			10	2	B	**102**	
10.0	1.50	8.0	9.60	75.0		120			10	2	B		**102**
10.0	2.50	8.0	9.60	75.0		120			10	2	B		**104**

P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H	○	○
O	○	○

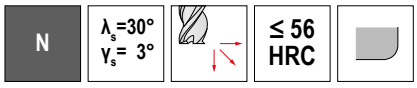


→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

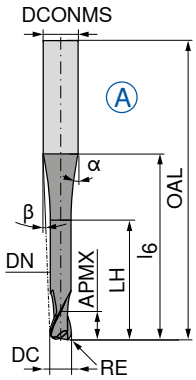
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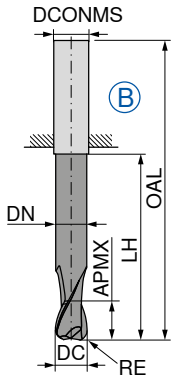
CoreLine – Torus cutters – N

▲ Radius accuracy: ± 0.005 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

















Factory standard | Factory standard





DC ±0,01 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS h5 mm	ZEFP	Fig.	SM 52 730 ...	SM 52 734 ...
10.0	3.00	8.0	9.60	30.0		72			10	2	B	**100**	
10.0	3.00	8.0	9.60	50.0		100			10	2	B		**103**
10.0	3.00	8.0	9.60	75.0		120			10	2	B		**100**
10.0	3.00	8.0	9.60	40.0	110	160	1	0,5	12	2	A		**101**
12.0	1.50	10.0	11.50	35.0		83			12	2	B	**122**	
12.0	1.50	10.0	11.50	70.0		160			12	2	B		**122**
12.0	4.00	10.0	11.50	35.0		83			12	2	B	**120**	
12.0	4.00	10.0	11.50	35.0	40	92	37	3,5	16	2	A	**121**	
12.0	4.00	10.0	11.50	70.0		160			12	2	B		**120**
12.0	4.00	10.0	11.50	50.0	150	200	1,5	1	16	2	A		**121**
16.0	5.00	12.0	15.50	40.0		92			16	2	B	**160**	
16.0	5.00	12.0	15.50	80.0		200			16	2	B		**160**

P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H	○	○
O	○	○

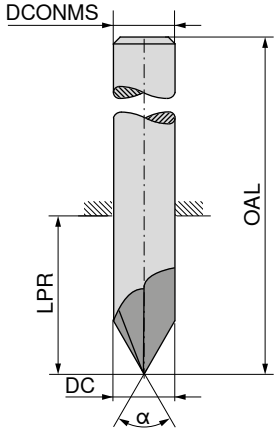


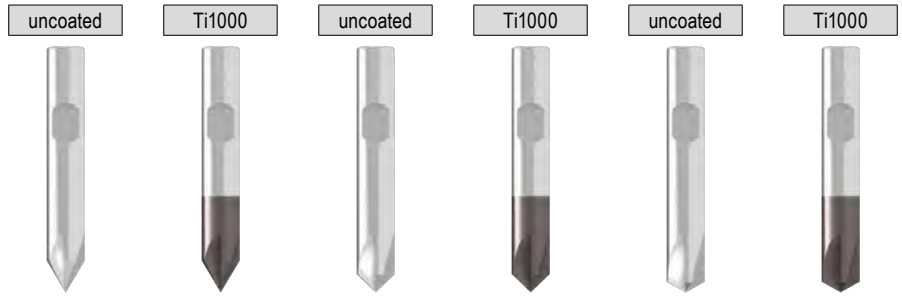
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – NC deburring cutters – N

▲ 50 940 ... / 50 943 ... Point angle α = 60°
▲ 50 941 ... / 50 944 ... Point angle α = 90°
▲ 50 942 ... / 50 945 ... Point angle α = 120°

N | λ_s=0° γ_s=0°





					α = 60°	α = 60°	α = 90°	α = 90°	α = 120°	α = 120°
					Factory standard	Factory standard	Factory standard	Factory standard	Factory standard	Factory standard
					SM	SM	SM	SM	SM	SM
DC $_{h6}$ mm	OAL mm	LPR mm	DCONMS $_{h6}$ mm	ZEFP	50 940 ...	50 943 ...	50 941 ...	50 944 ...	50 942 ...	50 945 ...
4	54	26	4	4	040 [1]	040 [1]	040 [1]	040 [1]	040 [1]	040 [1]
6	54	18	6	4	060	060	060	060	060	060
8	58	22	8	4	080	080	080	080	080	080
10	66	26	10	4	100	100	100	100	100	100
12	73	28	12	4	120	120	120	120	120	120
P					●	●	●	●	●	●
M					○	○	○	○	○	○
K					●	●	●	●	●	●
N					○	○	○	○	○	○
S					○	○	○	○	○	○
H						○		○		○
O					●	●	●	●	●	●

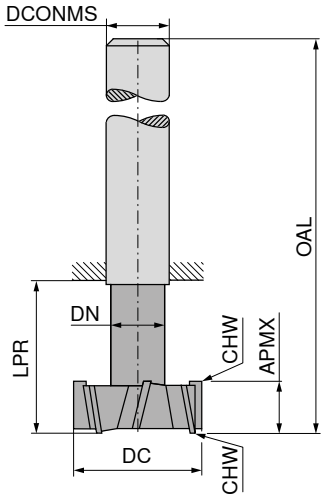
1) Shank type DIN 6535 HA

→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – T-slot milling cutters – N

- Solid carbide cutting head with soldered steel shank
- For slots according to DIN 650
- **The feed f_z must be reduced by 50% until the tool is fully engaged**

N



Ti1000



DIN 851 A



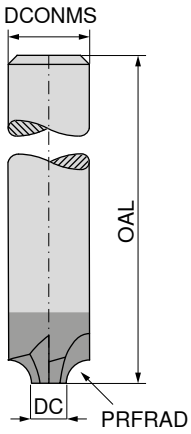
DC e9 mm	APMX d11 mm	DN mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 54 065 ...
11.0	4	4	13.5	53.5	10	0.10	6	**11000**
12.5	6	5	17.0	57.0	10	0.10	6	**12500**
16.0	8	7	22.0	62.0	10	0.20	6	**16000**
18.0	8	8	25.0	70.0	12	0.20	6	**18000**
19.0	9	8	26.0	71.0	12	0.20	6	**19000**
21.0	9	10	29.0	74.0	12	0.25	6	**21000**
22.0	10	10	30.0	75.0	12	0.25	6	**22000**
25.0	11	12	34.0	82.0	16	0.30	8	**25000**
28.0	12	13	37.0	85.0	16	0.30	8	**28000**
32.0	14	15	42.0	90.0	16	0.35	8	**32000**
36.0	16	17	47.0	103.0	25	0.40	8	**36000**
40.0	18	19	52.0	108.0	25	0.40	10	**40000**

P	●
M	○
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find application tips here.

CoreLine – Quarter round profile milling cutters, concave – UNI

UNI | λ_s=0° γ_s=0°



Ti1000



Factory standard



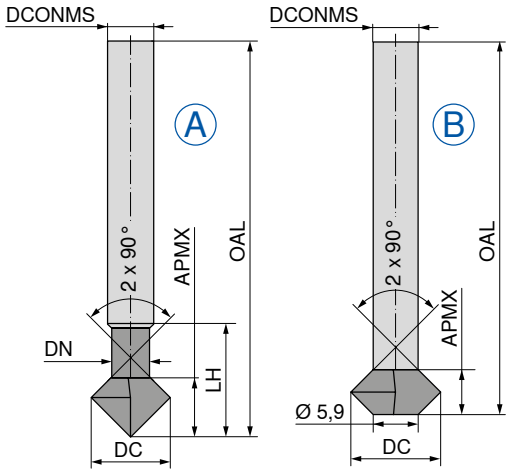
PRFRAD +/-0,02 mm	DC mm	OAL mm	DCONMS h6 mm	ZEFP	CX 52 247 ...
0.50	7.0	70	8	4	**00500**
1.00	6.0	70	8	4	**01000**
1.25	7.5	75	10	4	**01200**
1.50	7.0	75	10	4	**01500**
2.00	6.0	75	10	4	**02000**
2.50	7.0	73	12	4	**02500**
3.00	6.0	73	12	4	**03000**
3.50	9.0	80	16	4	**03500**
4.00	8.0	80	16	4	**04000**
4.50	7.0	80	16	4	**04500**
5.00	10.0	80	20	4	**05000**
6.00	8.0	80	20	4	**06000**

P	●
M	●
K	●
N	○
S	○
H	
O	

→ Find the cutting data standard values here.

CoreLine – NC front and rear chamfer milling cutters – UNI

UNI | λ_s=0° γ_s=0°



Ti1000



Factory standard



CX

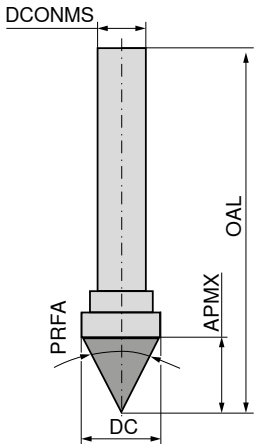
DC +0,09 / -0,1 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	DCONMS h6 mm	ZEFP	Fig.	52 189 ...
3.0	2.00	2.2	12.0	75	47	4	4	A	**03000**
4.0	2.65	2.9	17.7	75	47	4	4	A	**04000**
4.8	2.95	3.7	18.0	75	47	5	4	A	**04800**
5.0	3.05	3.9	18.0	75	47	5	4	A	**05000**
5.8	3.85	3.9	19.0	100	64	6	4	A	**05800**
6.0	4.05	3.9	19.0	100	64	6	4	A	**06000**
7.8	2.05			100	64	6	4	B	**07800**
8.0	2.25			100	64	6	4	B	**08000**
10.0	4.25			100	64	6	4	B	**10000**
12.0	6.25			100	64	6	4	B	**12000**

P	●
M	●
K	●
N	
S	○
H	
O	

→ Find the cutting data standard values here.

CoreLine – Carbide deburring cutters – KSJ

KSJ







DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	PRFA		Z3 ≈DIN 8033	Z6 ≈DIN 8033
						NEW	NEW
						SM	SM
						50 029 ...	50 029 ...
6.0	5	50	6	60°		**30600**	**60600**
12.7	11	58	6	60°		**31270**	**61270**
P						●	●
M						●	●
K						●	●
N						●	●
S						●	●
H						○	○
O						○	○

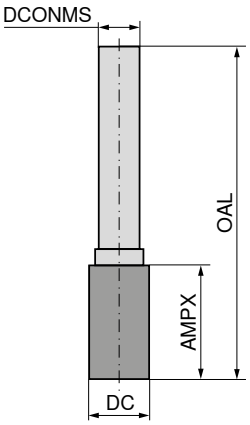
Z3 / Z6: v_c in m/min = 300–600

Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

CoreLine – Carbide deburring cutters – ZYA

ZYA





				Z1 ≈DIN 8033	**Z3** ≈DIN 8033	**Z6** ≈DIN 8033	**Z9** ≈DIN 8033
				NEW	NEW	NEW	NEW
				SM	SM	SM	SM
DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	**50 040 ...**	**50 031 ...**	**50 031 ...**	**50 048 ...**
3.00	14.0	38	3		**30300**	**60300**	
5.98	18.2	50	6	**05980**			
6.00	16.0	50	6		**30600**	**60600**	
6.35	12.7	50	3		**30635**	**60635**	
8.00	19.0	64	6		**30800**	**60800**	**08000**
9.50	19.0	64	6	**09500**			**09500**
10.00	20.0	60	6		**31000**	**61000**	
12.00	25.0	65	6		**31200**	**61200**	
12.70	25.0	70	6	**12700**			**12700**
16.00	25.0	76	6	**16000**			
P					●	●	●
M					●	●	●
K					●	●	●
N				●	●	●	●
S					●	●	●
H					○	○	○
O					○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

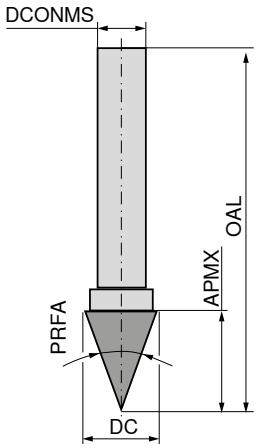
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

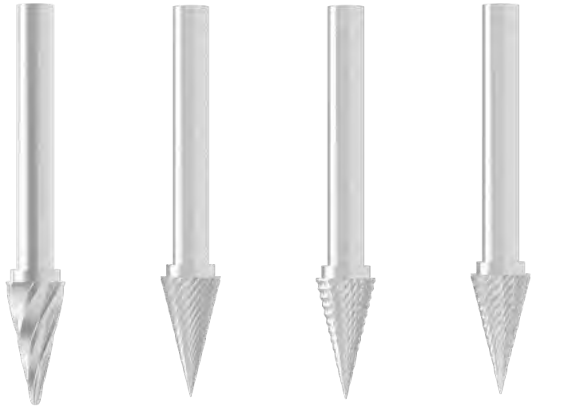
Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – SKM

SKM





Z1 ≈DIN 8033 | **Z3** ≈DIN 8033 | **Z6** ≈DIN 8033 | **Z9** ≈DIN 8033

DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	PRFA	NEW SM 50 042 ...	NEW SM 50 033 ...	NEW SM 50 033 ...	NEW SM 50 050 ...
3.00	9.00	38	3	12°		**30300**	**60300**	
6.00	12.70	50	6	22°	**06000**			
6.00	19.00	50	6	14°		**30600**	**60600**	
6.35	12.70	54	3	22°		**30635**	**60635**	
9.50	16.00	64	6	28°	**09500**			
9.80	16.70	64	6	28°			**60980**	
9.80	16.00	64	6	28°		**30980**		
12.70	22.00	70	6	28°	**12700**			**12700**
13.00	23.57	70	6	28°			**61300**	
13.00	22.00	70	6	28°		**31300**		
P						●	●	●
M						●	●	●
K						●	●	●
N					●	●	●	●
S						●	●	●
H						○	○	○
O						○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

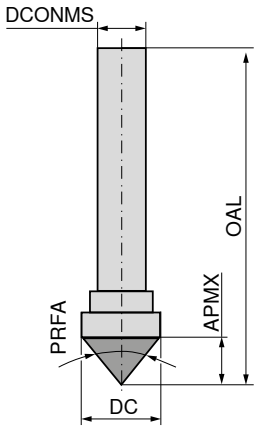
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – KSK

KSK







DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	PRFA	Z3 ≈DIN 8033 NEW SM 50 030 ...	Z6 ≈DIN 8033 NEW SM 50 030 ...
6.0	3.0	50	6	90°	**30600**	**60600**
12.7	6.3	54	6	90°	**31270**	**61270**

P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	○	○
O	○	○

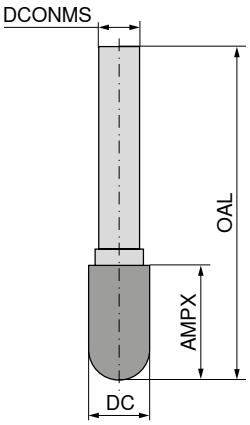
Z3 / Z6: v_c in m/min = 300–600

Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

CoreLine – Carbide deburring cutters – WRC

WRC





DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	Z1 ≈DIN 8033 NEW SM 50 041 ...	Z3 ≈DIN 8033 NEW SM 50 032 ...	Z6 ≈DIN 8033 NEW SM 50 032 ...	Z9 ≈DIN 8033 NEW SM 50 049 ...
3.00	14.0	38	3		**30300**	**60300**	
5.96	19.0	50	6	**05960**			
6.00	15.5	50	6		**30600**		
6.00	16.0	50	6			**60600**	
6.30	12.7	50	3		**30630**	**60630**	
8.00	19.0	64	6		**30800**	**60800**	**08000**
9.50	19.0	64	6	**09500**			**09500**
10.00	20.0	60	6		**31000**	**61000**	
12.00	25.0	65	6		**31200**	**61200**	
12.70	25.0	70	6	**12700**			**12700**
16.00	25.0	76	6		**31600**	**61600**	
16.00	25.4	76	6	**16000**			

	Z1	Z3	Z6	Z9
P		●	●	●
M		●	●	●
K		●	●	●
N	●	●	●	●
S		●	●	●
H		○	○	○
O		○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

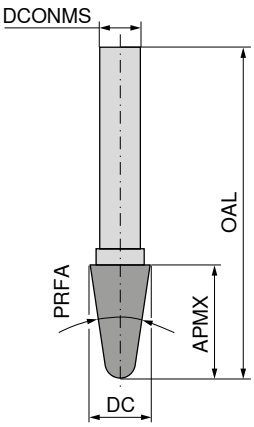
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

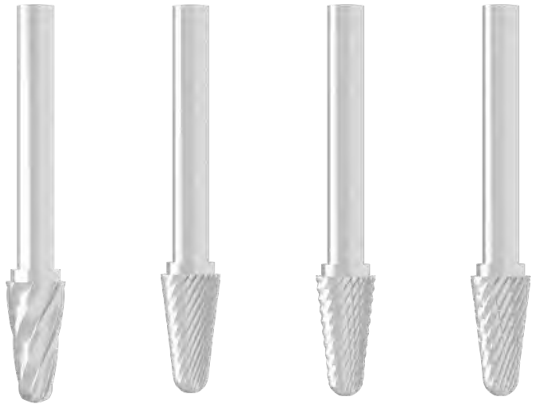
Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – KEL

KEL





Z1 ≈DIN 8033 | **Z3** ≈DIN 8033 | **Z6** ≈DIN 8033 | **Z9** ≈DIN 8033

DC mm	APMX mm	OAL mm	DCONMS h6 mm	PRFA	NEW SM 50 043 ...	NEW SM 50 034 ...	NEW SM 50 034 ...	NEW SM 50 051 ...
3.0	12.7	38	3	8°		**30300**	**60300**	
6.0	16.0	50	6	14°	**06000**	**30600**	**60600**	
6.3	12.7	50	3	14°		**30630**	**60630**	
8.0	22.0	70	6	14°		**30800**	**60800**	**08000**
9.5	28.0	75	6	14°		**30950**	**60950**	**09500**
9.5	27.0	75	6	14°	**09500**			
12.7	29.5	76	6	14°		**31270**	**61270**	
12.7	29.0	76	6	14°				**12700**
12.7	27.0	76	6	14°	**12700**			
16.0	33.0	84	6	14°	**16000**			

P		●	●	●
M		●	●	●
K		●	●	●
N	●	●	●	●
S		●	●	●
H		○	○	○
O		○	○	○

Z1: vc in m/min = 500–800
Z3 / Z6: vc in m/min = 300–600
Z9: vc in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

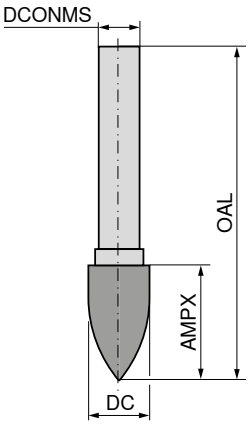
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

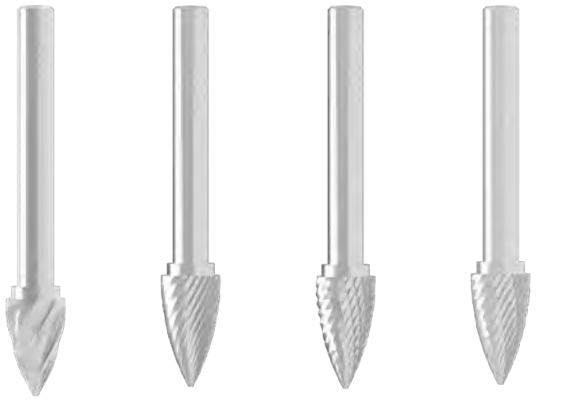
Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – SPG

SPG





Z1 ≈DIN 8033 | **Z3** ≈DIN 8033 | **Z6** ≈DIN 8033 | **Z9** ≈DIN 8033

DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	NEW SM 50 044 ...	NEW SM 50 035 ...	NEW SM 50 035 ...	NEW SM 50 052 ...
3.00	12.7	38	3		**30300**	**60300**	
5.95	19.0	50	6	**05950**			
6.00	16.0	50	6		**30600**	**60600**	
6.30	12.7	50	3		**30630**	**60630**	
8.00	19.0	64	6		**30800**	**60800**	**08000**
9.50	19.0	64	6	**09500**		**60950**	**09500**
10.00	20.0	60	6		**31000**		
12.00	25.0	65	6		**31200**	**61200**	
12.70	25.0	70	6	**12700**			**12700**

P		●	●	●
M		●	●	●
K		●	●	●
N	●	●	●	●
S		●	●	●
H		○	○	○
O		○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

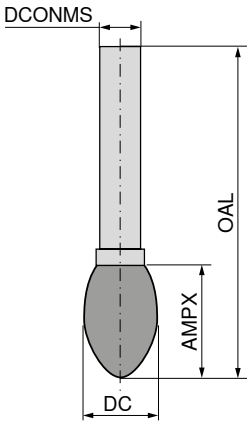
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – TRE

TRE





DC mm	APMX mm	OAL mm	DCONMS h6 mm	Z1 ≈DIN 8033 NEW SM 50 046 ...	Z3 ≈DIN 8033 NEW SM 50 037 ...	Z6 ≈DIN 8033 NEW SM 50 037 ...	Z9 ≈DIN 8033 NEW SM 50 054 ...
3.0	6.3	38	3		**30300**	**60300**	
6.0	9.5	50	6	**06000**			
6.0	16.0	50	6		**30600**	**60600**	
8.0	19.0	64	6		**30800**	**60800**	
9.5	16.0	60	6	**09500**			**09500**
12.7	32.0	76	6		**31270**	**61270**	
12.7	22.0	67	6	**12700**			**12700**
16.0	25.0	76	6	**16000**			

	Z1	Z3	Z6	Z9
P		●	●	●
M		●	●	●
K		●	●	●
N	●	●	●	●
S		●	●	●
H		○	○	○
O		○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

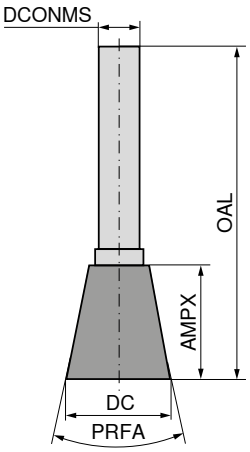
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – WKN

WKN







DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	PRFA		**Z3** ≈DIN 8033	**Z6** ≈DIN 8033
						NEW	NEW
						SM	SM
						50 039 ...	**50 039 ...**
3.0	4.0	38	3	10°		**30300**	**60300**
6.0	8.0	50	6	10°		**30600**	**60600**
12.7	12.7	57	6	28°		**31270**	**61270**
P						●	●
M						●	●
K						●	●
N						●	●
S						●	●
H						○	○
O						○	○

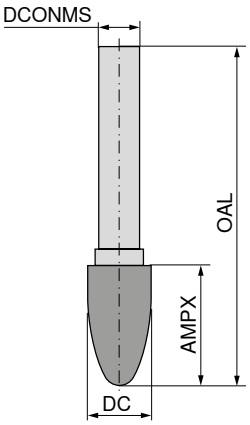
Z3 / Z6: v_c in m/min = 300–600

Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

CoreLine – Carbide deburring cutters – RBF

RBF




Z1
≈DIN 8033


Z3
≈DIN 8033


Z6
≈DIN 8033


Z9
≈DIN 8033

DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	NEW SM 50 045 ...	NEW SM 50 036 ...	NEW SM 50 036 ...	NEW SM 50 053 ...
3.0	12.7	38	3		**30300**	**60300**	
6.0	16.0	50	6		**30600**	**60600**	
6.0	19.0	50	6	**06000**			
6.3	12.7	50	3		**30630**	**60630**	
9.5	19.0	64	6	**09500**	**30950**	**60950**	**09500**
12.0	25.4	65	6		**31200**	**61200**	
12.7	25.0	70	6	**12700**			**12700**
16.0	25.4	76	6		**31600**	**61600**	
16.0	25.0	76	6	**16000**			
P					●	●	●
M					●	●	●
K					●	●	●
N				●	●	●	●
S					●	●	●
H					○	○	○
O					○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

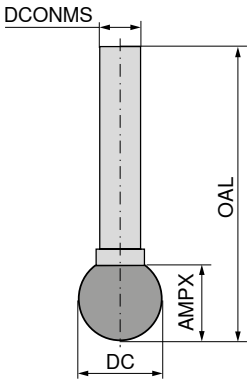
Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Carbide deburring cutters – KUD

KUD





DC mm	APMX mm	OAL mm	DCONMS $_{h6}$ mm	Z1 ≈DIN 8033 NEW SM 50 047 ...	Z3 ≈DIN 8033 NEW SM 50 038 ...	Z6 ≈DIN 8033 NEW SM 50 038 ...	Z9 ≈DIN 8033 NEW SM 50 055 ...
2.90	2.40	38	3			**60290**	
3.00	2.40	38	3		**30300**		
5.95	5.50	50	6	**05950**			
6.00	5.25	50	6		**30600**		
6.00	5.50	50	6			**60600**	
6.30	5.50	44	3		**30630**	**60630**	
8.00	6.00	51	6		**30800**	**60800**	
8.00	6.40	51	6				**08000**
9.50	8.00	50	6	**09500**			
9.50	7.90	53	6				**09500**
10.00	9.00	49	6		**31000**	**61000**	
12.00	10.80	51	6		**31200**	**61200**	
12.70	11.00	56	6	**12700**			
12.70	11.10	56	6				**12700**
16.00	14.00	65	6		**31600**	**61600**	
16.00	14.30	65	6	**16000**			
P					●	●	●
M					●	●	●
K					●	●	●
N				●	●	●	●
S					●	●	●
H					○	○	○
O					○	○	○

Z1: v_c in m/min = 500–800
Z3 / Z6: v_c in m/min = 300–600
Z9: v_c in m/min = 250–550

Tooth system 1 – non-ferrous metals: Particularly well suited to aluminum, plastics, and other non-ferrous metals. Allows high cutting performance and efficient chip removal without blocking of chip spaces.

Tooth system 3 – medium: Suitable for steel up to approx. 56 HRC, cast steel, alloyed steels, and weld seams. Offers high cutting performance with good surface quality.

Tooth system 6 – cross-pitched: Suitable for practically all metallic materials, including hardened and corrosion-resistant steels. Allows low-vibration machining with a high cutting performance and good surface quality.

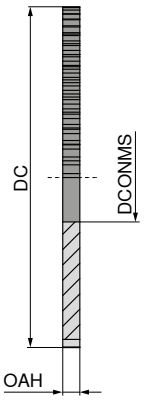
Tooth system 9 – coarse cross-pitched: Suitable for demanding rough machining of steel up to approx. 56 HRC, cast steel, alloyed steels and weld seams. First choice for high material removal rates.

CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

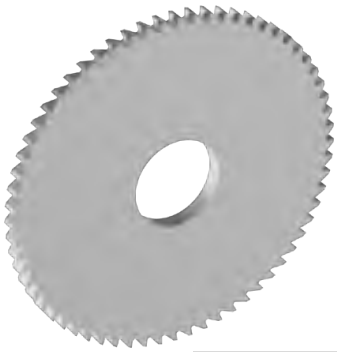
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
15	0.20	5	64	102
	0.25	5	64	103
	0.30	5	64	104
	0.40	5	64	106
	0.50	5	48	107
	0.60	5	48	108
	0.70	5	48	109
	0.80	5	40	110
	0.90	5	40	111
	1.00	5	40	112
	1.10	5	40	113
	1.20	5	40	114
	1.30	5	40	115
	1.40	5	40	116
	1.50	5	40	117
	1.60	5	40	118
	1.70	5	40	119
	1.80	5	40	120
	2.00	5	40	122
	2.50	5	40	123
	3.00	5	40	124

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

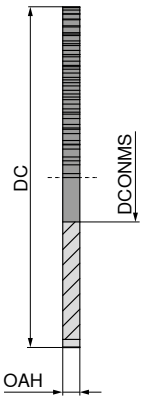
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

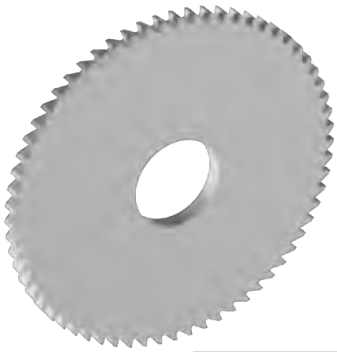
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
20	0.20	5	80	152
	0.25	5	64	153
	0.30	5	64	154
	0.35	5	64	155
	0.40	5	64	156
	0.50	5	48	157
	0.60	5	48	158
	0.70	5	48	159
	0.80	5	48	160
	0.90	5	40	161
	1.00	5	40	162
	1.10	5	40	163
	1.20	5	40	164
	1.30	5	40	165
	1.40	5	40	166
	1.50	5	40	167
	1.60	5	40	168
	1.70	5	40	169
	1.80	5	32	170
	2.00	5	32	172
	2.50	5	32	173
	3.00	5	32	174
	3.50	5	24	175
	4.00	5	24	176

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

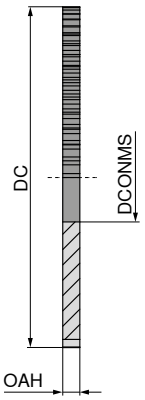
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

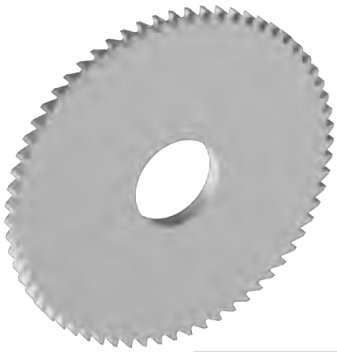
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
25	0.20	8	80	202
	0.25	8	80	203
	0.30	8	80	204
	0.40	8	64	206
	0.50	8	64	207
	0.60	8	64	208
	0.70	8	48	209
	0.80	8	48	210
	0.90	8	48	211
	1.00	8	48	212
	1.20	8	48	214
	1.30	8	40	215
	1.40	8	40	216
	1.50	8	40	217
	1.60	8	40	218
	1.70	8	40	219
	1.80	8	40	220
	2.00	8	40	222
	2.50	8	40	223
	3.00	8	32	224

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

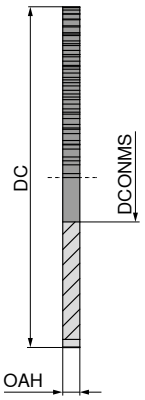
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

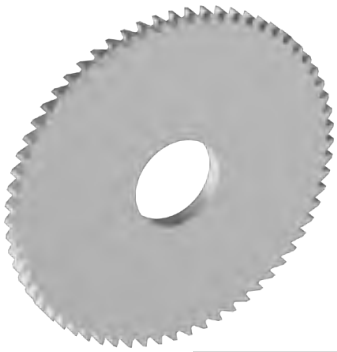
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
30	0.20	8	100	252
	0.25	8	100	253
	0.30	8	80	254
	0.35	8	80	255
	0.40	8	80	256
	0.50	8	80	257
	0.60	8	64	258
	0.70	8	64	259
	0.80	8	64	260
	0.90	8	64	261
	1.00	8	64	262
	1.10	8	64	263
	1.20	8	48	264
	1.30	8	48	265
	1.40	8	48	266
	1.50	8	48	267
	1.60	8	48	268
	1.70	8	48	269
	1.80	8	48	270
	1.90	8	48	271
	2.00	8	48	272
	2.50	8	40	273
	3.00	8	40	274
	3.50	8	40	275
	4.00	8	40	276
	5.00	8	32	278
	6.00	8	32	280

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

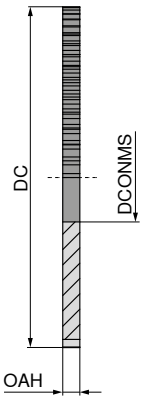
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

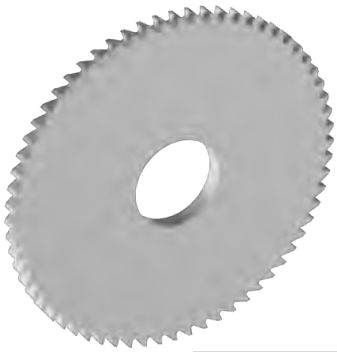
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
40	0.20	10	128	302
	0.25	10	100	303
	0.30	10	100	304
	0.40	10	100	306
	0.50	10	80	307
	0.60	10	80	308
	0.70	10	80	309
	0.80	10	80	310
	0.90	10	64	311
	1.00	10	64	312
	1.10	10	64	313
	1.20	10	64	314
	1.30	10	64	315
	1.40	10	64	316
	1.50	10	64	317
	1.60	10	64	318
	1.70	10	48	319
	1.80	10	48	320
	2.00	10	48	322
	2.50	10	48	323
	3.00	10	48	324
	3.50	10	48	325
	4.00	10	40	326
	4.50	10	40	327
	5.00	10	40	328
	5.50	10	40	329
	6.00	10	40	330

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

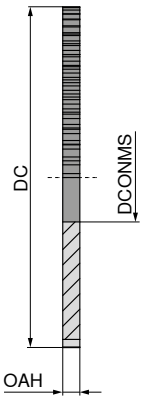
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

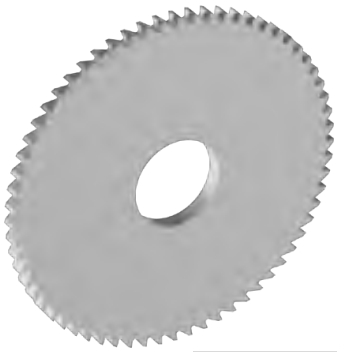
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
50	0.30	13	128	354
	0.40	13	100	356
	0.50	13	100	357
	0.60	13	100	358
	0.70	13	80	359
	0.80	13	80	360
	0.90	13	80	361
	1.00	13	80	362
	1.10	13	80	363
	1.20	13	80	364
	1.30	13	64	365
	1.40	13	64	366
	1.50	13	64	367
	1.60	13	64	368
	1.70	13	64	369
	1.80	13	64	370
	1.90	13	64	371
	2.00	13	64	372
	2.50	13	64	373
	3.00	13	48	374
	3.50	13	48	375
	4.00	13	48	376

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

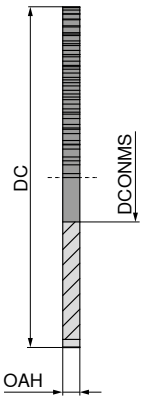
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

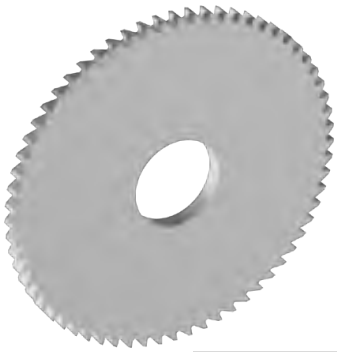
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
63	0.40	16	128	406
	0.50	16	128	407
	0.60	16	100	408
	0.70	16	100	409
	0.80	16	100	410
	1.00	16	100	412
	1.10	16	80	413
	1.20	16	80	414
	1.30	16	80	415
	1.40	16	80	416
	1.50	16	80	417
	1.60	16	80	418
	1.70	16	80	419
	1.80	16	80	420
	2.00	16	80	422
	2.50	16	64	423
	3.00	16	64	424
	3.50	16	64	425
	4.00	16	64	426
	4.50	16	64	427
	5.00	16	48	428
	5.50	16	48	429
	6.00	16	48	430
80	0.50	22	128	45700
	0.60	22	128	45800
	0.70	22	128	45900
	0.80	22	128	46000
	0.90	22	100	46100
	1.00	22	100	46200
	1.20	22	100	46400
	1.50	22	100	46700
	1.60	22	100	46800
	1.80	22	80	47000
	2.00	22	80	47200
	2.50	22	80	47300
	3.00	22	80	47400
	3.50	22	64	47500
	4.00	22	64	47600
	4.50	22	64	47700
	5.00	22	64	47800

P	●
M	●
K	●
N	●
S	●
H	
O	●



→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

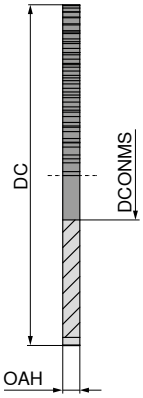
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CoreLine – Solid carbide circular saw blades, fine-toothed, DIN 1837A

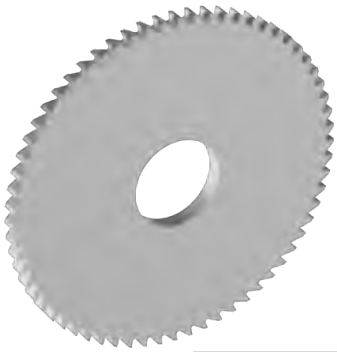
▲ Fine-toothed







uncoated



DIN 1837 A

DC js15 mm	OAH ±0.01 mm	DCONMS H6 mm	ZEFP	SM 54 700 ...
100	0.50	22	160	50700
	0.80	22	128	51000
	1.00	22	128	51200
	1.10	22	128	51300
	1.20	22	128	51400
	1.50	22	100	51700
	2.00	22	100	52200
	2.50	22	100	52300
	3.00	22	80	52400
	3.50	22	80	52500
	4.00	22	80	52600
	4.50	22	80	52700
	5.00	22	80	52800
	5.50	22	64	52900

P	●
M	●
K	●
N	●
S	●
H	
O	●



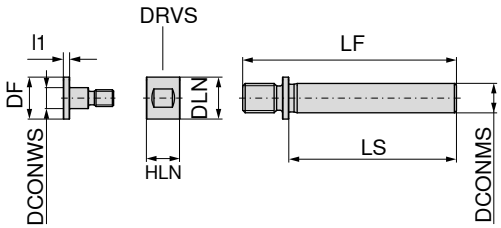
→ Find the cutting data standard values here.



Other dimensions and coarse-toothed circular saw blades – DIN1838B – available on request.

CoreLine – Cylindrical shank adapter for circular saw blades

▲ DCONWS = saw blade hole





DCONWS $_{H7}$ mm	DCONMS $_{h7}$ mm	DLN mm	DF mm	LF mm	LS mm	HLN mm	l_1 mm	DRVS mm	TO 72 900 ...
5	7	10	10	51	40	8	3	9	**005**
5	10	10	10	61	50	8	3	9	**105**
8	7	15	15	51	40	8	3	14	**008**
8	10	15	15	61	50	8	3	14	**108**
10	7	17	17	53	40	10	3	16	**010**
10	10	17	17	63	50	10	3	16	**110**
10	16	17	17	74	55	10	3	16	**210**
13	10	20	20	66	50	10	3	18	**113**
13	16	20	20	77	55	10	3	18	**213**
16	10	24	24	66	50	14	3	22	**116**
16	16	24	24	79	55	14	3	22	**216**


Screw – SR

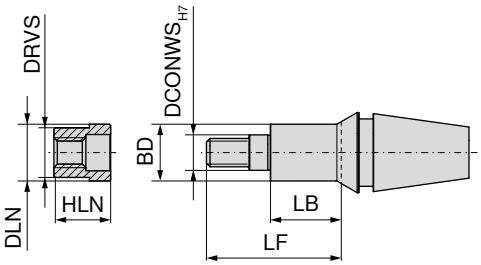

Lock nut – KM

Spare parts for article number	AS 72 945 ...	AS 72 945 ...
72 900 005	**000**	**005**
72 900 105	**000**	**005**
72 900 008	**001**	**006**
72 900 108	**001**	**006**
72 900 010	**002**	**007**
72 900 110	**002**	**007**
72 900 210	**010**	**012**
72 900 113	**003**	**008**
72 900 213	**003**	**008**
72 900 116	**004**	**009**
72 900 216	**011**	**013**

CoreLine – ER mono clamping – Circular saw blades

▲ DCONWS = saw blade hole

Scope of supply:
Adapter including lock nut





DCONWS H7 mm	LB mm	LF mm	BD mm	DLN mm	HLN mm	DRVS mm	CT 72 930 ...
5	10	21	8	8	8	7	**51100**
5	18	29	10	10	8	9	**51600**
5	18	29	10	10	8	9	**52000**
8	18	29	15	15	8	13	**82000**
10	30	41	15	16	8	14	**12000**



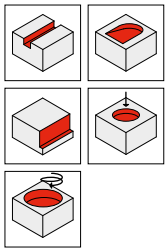
Lock nut – ER

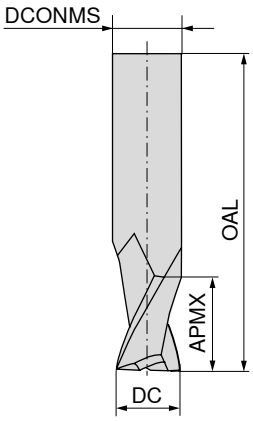
Spare parts for article number	CT 72 946 ...
72 930 51100	**51100**
72 930 51600	**51600**
72 930 52000	**52000**
72 930 82000	**82000**
72 930 12000	**12000**

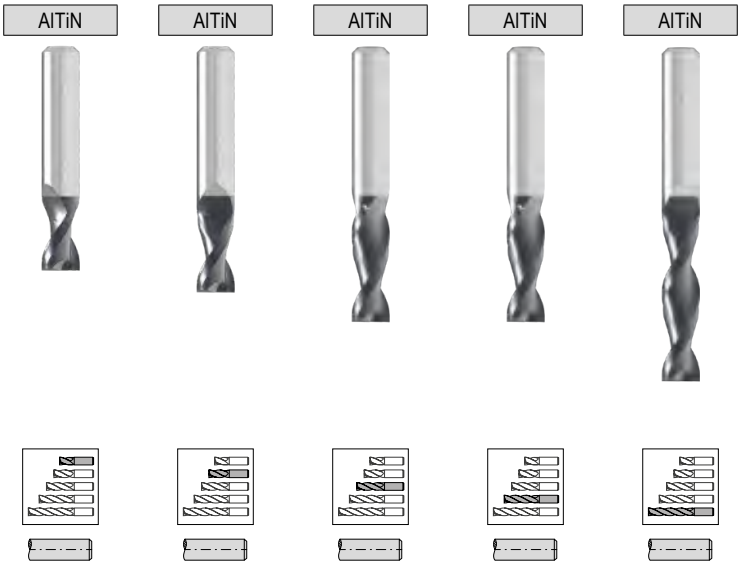
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S642 | UN | λ_s=38° γ_s=8°







DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...
1/16	1/8	1 1/2	1/8	2		06320			
1/16	3/16	1 1/2	1/8	2				06330	
3/32	3/16	1 1/2	1/8	2		09420			
3/32	9/32	1 1/2	1/8	2				09430	
1/8	1/4	1 1/2	1/8	2	12520				
1/8	1/2	1 1/2	1/8	2		12540			
1/8	3/4	2 1/2	1/8	2				12560	
1/8	3/4	3	1/8	2			12660		
1/8	1	3	1/8	2					12580
5/32	3/8	2	3/16	2		15624			
5/32	1/2	2	3/16	2				15632	
5/32	3/4	2 1/2	3/16	2					15648
3/16	3/8	2	3/16	2	18820				
3/16	5/8	2	3/16	2		18833			
3/16	3/4	2 1/2	3/16	2				18840	
3/16	1	2 1/2	3/16	2			18853		
3/16	1 1/8	3	3/16	2					18860
3/16	1	4	3/16	2					18953
7/32	3/8	2	1/4	2		21917			
7/32	5/8	2 1/2	1/4	2				21929	
7/32	1	3	1/4	2					21946
1/4	3/8	2	1/4	2		25015			
1/4	3/4	2 1/2	1/4	2				25030	
1/4	1 1/8	3	1/4	2			25045		
1/4	1 1/4	3	1/4	2					25050
1/4	1	4	1/4	2			25040		
1/4	1 1/2	4	1/4	2					25060
1/4	1 1/2	6	1/4	2					25160
9/32	1/2	2	5/16	2		28118			
9/32	3/4	2 1/2	5/16	2				28127	
9/32	1 1/4	3	5/16	2					28144
5/16	1/2	2	5/16	2	31316				
5/16	3/4	2 1/2	5/16	2		31324			
5/16	1 1/8	3	5/16	2				31336	
5/16	1 3/8	3	5/16	2			31344		
5/16	1	4	5/16	2			31332		

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

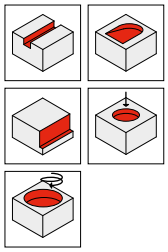
→ Find the cutting data standard values here.

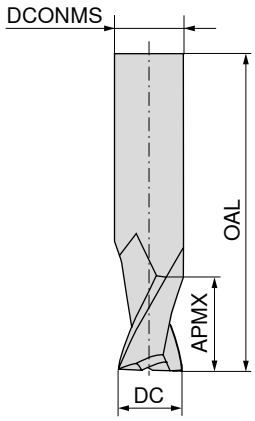
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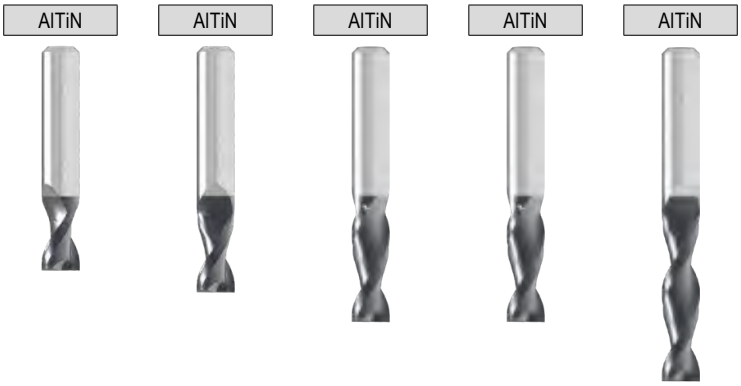
CoreLine – End mill – UN

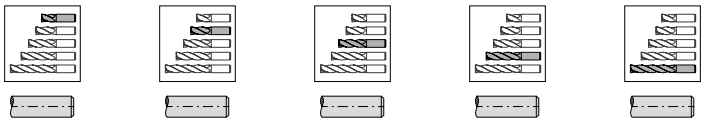
▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S642 | UN | λ_s=38° γ_s=8°









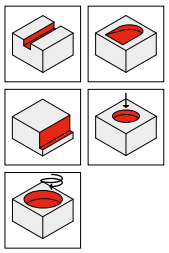
DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...	*PA* 59 069 ...
5/16	1 5/8	4	5/16	2					31352
5/16	1 1/2	6	5/16	2					31348
3/8	5/8	2	3/8	2	37517				
3/8	7/8	2 1/2	3/8	2		37523			
3/8	1 1/8	3	3/8	2				37530	
3/8	1 3/8	3	3/8	2			37537		
3/8	1	4	3/8	2			37527		
3/8	1 3/4	4	3/8	2					37547
3/8	1 1/2	6	3/8	2					37540
3/8	3	6	3/8	2					37580
1/2	5/8	2 1/2	1/2	2	50013				
1/2	1	3	1/2	2		50020			
1/2	1 1/2	3 1/2	1/2	2				50030	
1/2	1	4	1/2	2			50120		
1/2	2	4	1/2	2					50040
1/2	1 1/2	6	1/2	2					50130
1/2	3	6	1/2	2					50060
5/8	7/8	3	5/8	2	62514				
5/8	1 1/4	3 1/2	5/8	2		62520			
5/8	2 1/8	4 5/8	5/8	2				62534	
5/8	2	6	5/8	2			62532		
5/8	3	6	5/8	2					62548
3/4	1	3	3/4	2	75013				
3/4	1 1/2	4	3/4	2		75020			
3/4	2 1/4	5	3/4	2				75030	
3/4	2	6	3/4	2			75027		
3/4	3	6	3/4	2					75040
1	1 3/4	4	1	2		99918			
1	2 1/4	5	1	2				99923	
1	2	6	1	2			99920		
1	3	6	1	2					99930

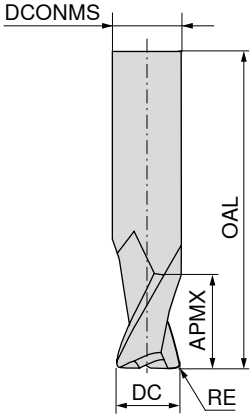
P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

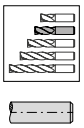
S642 UN λ_s=38° γ_s=8°

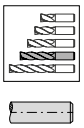












DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 069 ...	*PA* 59 069 ...
1/8	0.010	1/2	1 1/2	1/8	2	90040	
1/8	0.015	1/2	1 1/2	1/8	2	90140	
1/8	0.020	1/2	1 1/2	1/8	2	90240	
1/8	0.030	1/2	1 1/2	1/8	2	90340	
1/8	0.045	1/2	1 1/2	1/8	2	90440	
3/16	0.010	5/8	2	3/16	2	90033	
3/16	0.015	5/8	2	3/16	2	90133	
3/16	0.020	5/8	2	3/16	2	90233	
3/16	0.030	5/8	2	3/16	2	90333	
3/16	0.045	5/8	2	3/16	2	90433	
3/16	0.060	5/8	2	3/16	2	90533	
1/4	0.010	3/4	2 1/2	1/4	2		90030
1/4	0.015	3/4	2 1/2	1/4	2		90130
1/4	0.020	3/4	2 1/2	1/4	2		90230
1/4	0.030	3/4	2 1/2	1/4	2		90330
1/4	0.045	3/4	2 1/2	1/4	2		90430
1/4	0.060	3/4	2 1/2	1/4	2		90530
1/4	0.090	3/4	2 1/2	1/4	2		90630
5/16	0.010	3/4	2 1/2	5/16	2	90024	
5/16	0.015	3/4	2 1/2	5/16	2	90124	
5/16	0.020	3/4	2 1/2	5/16	2	90224	
5/16	0.030	3/4	2 1/2	5/16	2	90324	
5/16	0.045	3/4	2 1/2	5/16	2	90424	
5/16	0.060	3/4	2 1/2	5/16	2	90524	
5/16	0.090	3/4	2 1/2	5/16	2	90624	
3/8	0.010	7/8	2 1/2	3/8	2	90023	
3/8	0.015	7/8	2 1/2	3/8	2	90223	
3/8	0.020	7/8	2 1/2	3/8	2	90323	
3/8	0.030	7/8	2 1/2	3/8	2	90423	
3/8	0.045	7/8	2 1/2	3/8	2	90523	
3/8	0.060	7/8	2 1/2	3/8	2	90623	
3/8	0.090	7/8	2 1/2	3/8	2	90723	
3/8	0.125	7/8	2 1/2	3/8	2	90123	
1/2	0.010	1	3	1/2	2	90020	
1/2	0.015	1	3	1/2	2	90220	
1/2	0.020	1	3	1/2	2	90320	
1/2	0.030	1	3	1/2	2	90420	
1/2	0.045	1	3	1/2	2	90520	
1/2	0.060	1	3	1/2	2	90620	
1/2	0.090	1	3	1/2	2	90720	

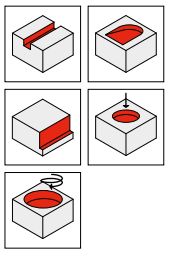
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M	●	●
K	●	●
N	●	●
S	●	●
H		
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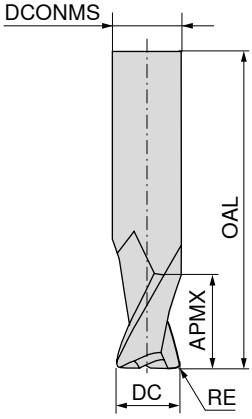
→ Find the cutting data standard values here.

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CoreLine – End mills with corner radius – UN

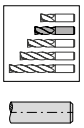
S642 | UN | λ_s=38° γ_s=8°

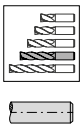












DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 069 ...	*PA* 59 069 ...
1/2	0.125	1	3	1/2	2	**90120**	
5/8	0.030	1 1/4	3 1/2	5/8	2		**90920**
5/8	0.045	1 1/4	3 1/2	5/8	2		**91020**
5/8	0.060	1 1/4	3 1/2	5/8	2		**91120**
5/8	0.090	1 1/4	3 1/2	5/8	2		**91220**
5/8	0.125	1 1/4	3 1/2	5/8	2		**90820**
3/4	0.030	1 1/2	4	3/4	2		**91420**
3/4	0.045	1 1/2	4	3/4	2		**91520**
3/4	0.060	1 1/2	4	3/4	2		**91620**
3/4	0.090	1 1/2	4	3/4	2		**91720**
3/4	0.125	1 1/2	4	3/4	2		**91320**
P						●	●
M						●	●
K						●	●
N						●	●
S						●	●
H							
O							

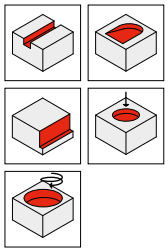


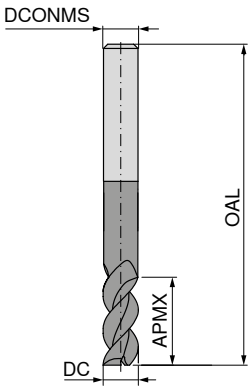
→ Find the cutting data standard values here.

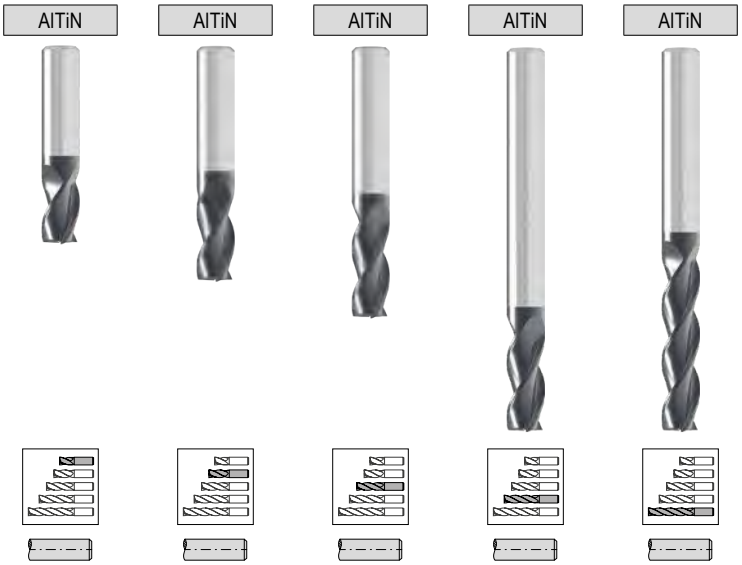
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S643 | UN | λ_s=38° γ_s=8°







DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...
1/16	1/8	1 1/2	1/8	3		06320			
1/16	3/16	1 1/2	1/8	3				06330	
5/64	1/4	1 1/2	1/8	3		07832			
3/32	3/16	1 1/2	1/8	3		09420			
3/32	9/32	1 1/2	1/8	3				09430	
1/8	1/4	1 1/2	1/8	3	12520				
1/8	1/2	1 1/2	1/8	3		12540			
1/8	3/4	3	1/8	3			12660		
1/8	3/4	2 1/2	1/8	3				12560	
1/8	1	3	1/8	3					12580
5/32	3/8	2	3/16	3		15624			
5/32	1/2	2	3/16	3				15632	
3/16	3/8	2	3/16	3	18820				
3/16	5/8	2	3/16	3		18833			
3/16	3/4	2 1/2	3/16	3				18840	
3/16	1	2 1/2	3/16	3			18853		
3/16	1	4	3/16	3					18953
3/16	1 1/8	3	3/16	3					18860
7/32	3/8	2	1/4	3		21917			
7/32	5/8	2 1/2	1/4	3				21929	
1/4	3/8	2	1/4	3	25015				
1/4	3/4	2 1/2	1/4	3		25030			
1/4	1	4	1/4	3				25040	
1/4	1 1/8	3	1/4	3			25045		
1/4	1 1/2	6	1/4	3					25160
1/4	1 1/2	4	1/4	3					25060
9/32	1/2	2	5/16	3		28118			
9/32	3/4	2 1/2	5/16	3				28127	
5/16	1/2	2	5/16	3	31316				
5/16	3/4	2 1/2	5/16	3		31324			
5/16	1	4	5/16	3				31332	
5/16	1 1/8	3	5/16	3			31336		
5/16	1 1/2	6	5/16	3					31348
5/16	1 5/8	4	5/16	3					31352
3/8	5/8	2	3/8	3	37517				
3/8	7/8	2 1/2	3/8	3		37523			

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

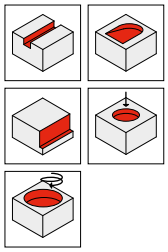
→ Find the cutting data standard values here.

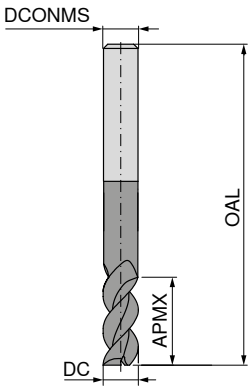
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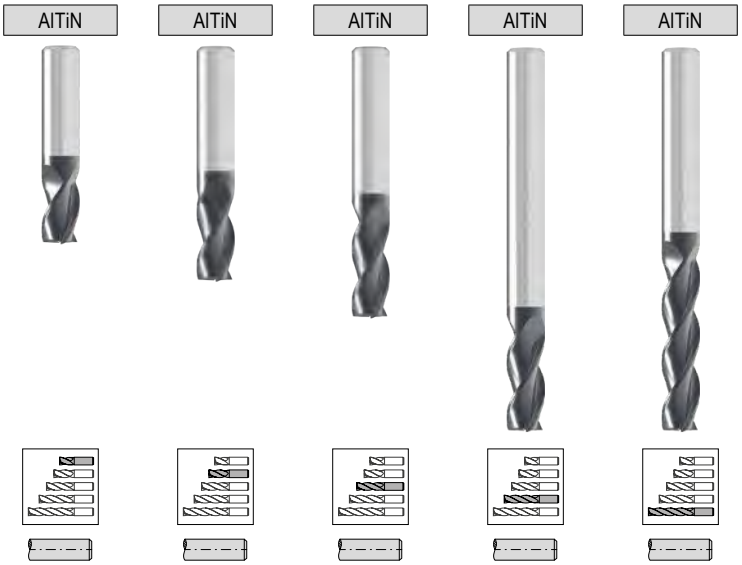
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S643 | UN | λ_s=38° γ_s=8°





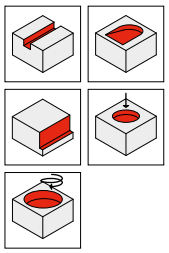


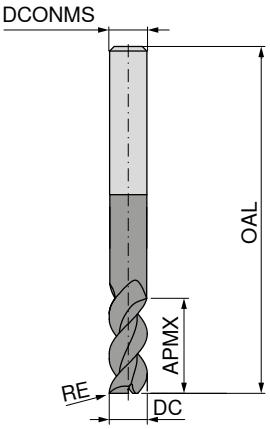
DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...	*PA* 59 071 ...
3/8	1	4	3/8	3				37527	
3/8	1 1/8	3	3/8	3			37530		
3/8	1 1/2	6	3/8	3			37540		
3/8	1 3/4	4	3/8	3					37547
3/8	3	6	3/8	3					37580
1/2	5/8	2 1/2	1/2	3	50013				
1/2	1	4	1/2	3				50120	
1/2	1	3	1/2	3		50020			
1/2	1 1/2	6	1/2	3			50030		
1/2	2	4	1/2	3					50040
1/2	3	6	1/2	3					50060
5/8	7/8	3	5/8	3	62514				
5/8	1 1/4	3 1/2	5/8	3		62520			
5/8	2	6	5/8	3				62532	
5/8	2 1/8	4 5/8	5/8	3			62534		
5/8	3	6	5/8	3					62548
3/4	1	3	3/4	3	75013				
3/4	1 1/2	4	3/4	3		75020			
3/4	2	6	3/4	3				75027	
3/4	2 1/4	5	3/4	3			75030		
3/4	3	6	3/4	3					75040
1	1 3/4	4	1	3		99918			
1	2	6	1	3				99920	
1	2 1/4	5	1	3			99923		
1	3	6	1	3					99930
P					●	●	●	●	●
M					●	●	●	●	●
K					●	●	●	●	●
N					●	●	●	●	●
S					●	●	●	●	●
H									
O									

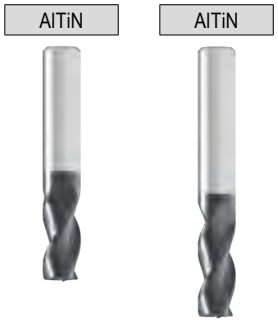
→ Find the cutting data standard values here.

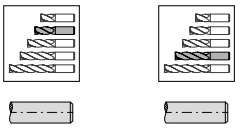
CoreLine – End mills with corner radius – UN

S643 UN λ_s=38° γ_s=8°









DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 071 ...	*PA* 59 071 ...
1/8	0.010	1/2	1 1/2	1/8	3	90040	
1/8	0.015	1/2	1 1/2	1/8	3	90140	
1/8	0.020	1/2	1 1/2	1/8	3	90240	
1/8	0.030	1/2	1 1/2	1/8	3	90340	
1/8	0.045	1/2	1 1/2	1/8	3	90440	
3/16	0.010	5/8	2	3/16	3	90033	
3/16	0.015	5/8	2	3/16	3	90133	
3/16	0.020	5/8	2	3/16	3	90233	
3/16	0.030	5/8	2	3/16	3	90333	
3/16	0.045	5/8	2	3/16	3	90433	
3/16	0.060	5/8	2	3/16	3	90533	
1/4	0.010	3/4	2 1/2	1/4	3		90030
1/4	0.015	3/4	2 1/2	1/4	3		90130
1/4	0.020	3/4	2 1/2	1/4	3		90230
1/4	0.030	3/4	2 1/2	1/4	3		90330
1/4	0.045	3/4	2 1/2	1/4	3		90430
1/4	0.060	3/4	2 1/2	1/4	3		90530
1/4	0.090	3/4	2 1/2	1/4	3		90630
5/16	0.010	3/4	2 1/2	5/16	3	90024	
5/16	0.015	3/4	2 1/2	5/16	3	90124	
5/16	0.020	3/4	2 1/2	5/16	3	90224	
5/16	0.030	3/4	2 1/2	5/16	3	90324	
5/16	0.045	3/4	2 1/2	5/16	3	90424	
5/16	0.060	3/4	2 1/2	5/16	3	90524	
5/16	0.090	3/4	2 1/2	5/16	3	90624	
3/8	0.010	7/8	2 1/2	3/8	3	90023	
3/8	0.015	7/8	2 1/2	3/8	3	90223	
3/8	0.020	7/8	2 1/2	3/8	3	90323	
3/8	0.030	7/8	2 1/2	3/8	3	90423	
3/8	0.045	7/8	2 1/2	3/8	3	90523	
3/8	0.060	7/8	2 1/2	3/8	3	90623	
3/8	0.090	7/8	2 1/2	3/8	3	90723	
3/8	0.125	7/8	2 1/2	3/8	3	90123	
1/2	0.010	1	3	1/2	3	90020	

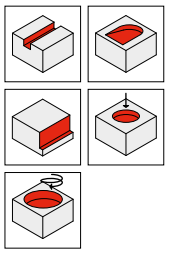
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H		
O		

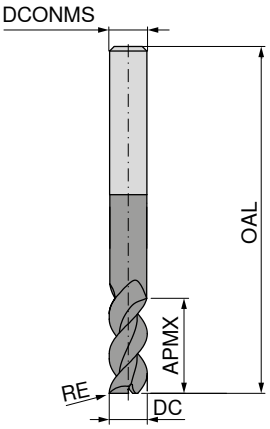
→ Find the cutting data standard values here.

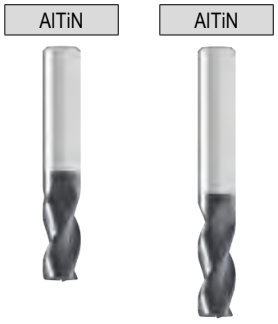
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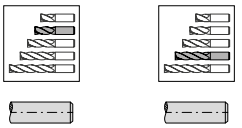
CoreLine – End mills with corner radius – UN

S643 UN λ_s=38° γ_s=8°









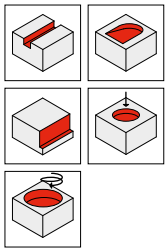
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 071 ...	*PA* 59 071 ...
1/2	0.015	1	3	1/2	3	**90220**	
1/2	0.020	1	3	1/2	3	**90320**	
1/2	0.030	1	3	1/2	3	**90420**	
1/2	0.045	1	3	1/2	3	**90520**	
1/2	0.060	1	3	1/2	3	**90620**	
1/2	0.090	1	3	1/2	3	**90720**	
1/2	0.125	1	3	1/2	3	**90120**	
5/8	0.015	1 1/4	3 1/2	5/8	3		**90920**
5/8	0.020	1 1/4	3 1/2	5/8	3		**91020**
5/8	0.030	1 1/4	3 1/2	5/8	3		**91120**
5/8	0.045	1 1/4	3 1/2	5/8	3		**91220**
5/8	0.060	1 1/4	3 1/2	5/8	3		**91320**
5/8	0.090	1 1/4	3 1/2	5/8	3		**91420**
5/8	0.125	1 1/4	3 1/2	5/8	3		**90820**
3/4	0.020	1 1/2	4	3/4	3		**91620**
3/4	0.030	1 1/2	4	3/4	3		**91720**
3/4	0.045	1 1/2	4	3/4	3		**91820**
3/4	0.060	1 1/2	4	3/4	3		**91920**
3/4	0.090	1 1/2	4	3/4	3		**92020**
3/4	0.125	1 1/2	4	3/4	3		**91520**
1	0.030	1 3/4	4	1	3	**90118**	
1	0.045	1 3/4	4	1	3	**90218**	
1	0.060	1 3/4	4	1	3	**90318**	
1	0.090	1 3/4	4	1	3	**90418**	
1	0.125	1 3/4	4	1	3	**90018**	
P						●	●
M						●	●
K						●	●
N						●	●
S						●	●
H							
O							

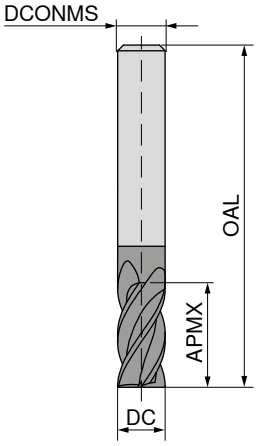
→ Find the cutting data standard values here.

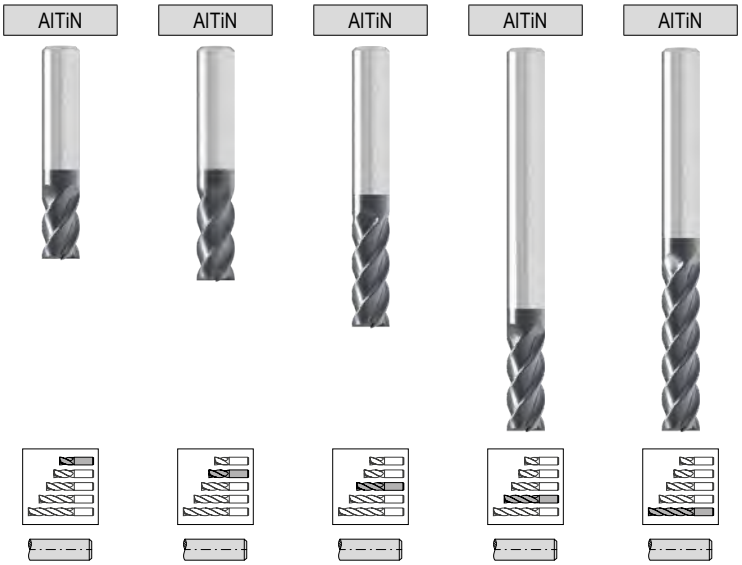
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S644 | UN | λ_s=38° γ_s=8°







DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/32	1/16	1 1/2	1/8	4		03120			
1/32	3/32	1 1/2	1/8	4				03130	
3/64	3/32	1 1/2	1/8	4		04720			
3/64	9/64	1 1/2	1/8	4				04730	
1/16	1/8	1 1/2	1/8	4		06320			
1/16	3/16	1 1/2	1/8	4				06330	
5/64	1/4	1 1/2	1/8	4		07832			
3/32	3/16	1 1/2	1/8	4		09420			
3/32	9/32	1 1/2	1/8	4				09430	
7/64	3/16	1 1/2	1/8	4		10917			
7/64	3/8	1 1/2	1/8	4				10934	
1/8	1/4	1 1/2	1/8	4	12520				
1/8	1/2	1 1/2	1/8	4		12540			
1/8	3/4	2 1/2	1/8	4				12560	
1/8	3/4	3	1/8	4			12660		
1/8	1	3	1/8	4					12580
5/32	3/8	2	3/16	4		15624			
5/32	1/2	2	3/16	4				15632	
5/32	3/4	2 1/2	3/16	4					15648
3/16	3/8	2	3/16	4	18820				
3/16	5/8	2	3/16	4		18833			
3/16	3/4	2 1/2	3/16	4				18840	
3/16	1	2 1/2	3/16	4			18853		
3/16	1 1/8	3	3/16	4					18860
3/16	1	4	3/16	4					18953
7/32	3/8	2	1/4	4		21917			
7/32	5/8	2 1/2	1/4	4				21929	
7/32	1	3	1/4	4					21946
1/4	3/8	2	1/4	4	25015				
1/4	3/4	2 1/2	1/4	4		25030			
1/4	1 1/8	3	1/4	4				25045	

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

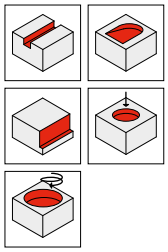
→ Find the cutting data standard values here.

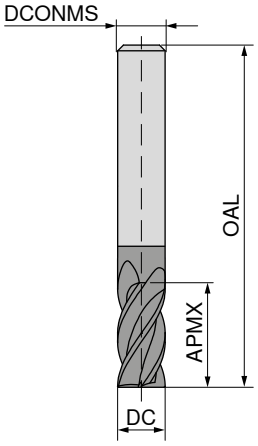
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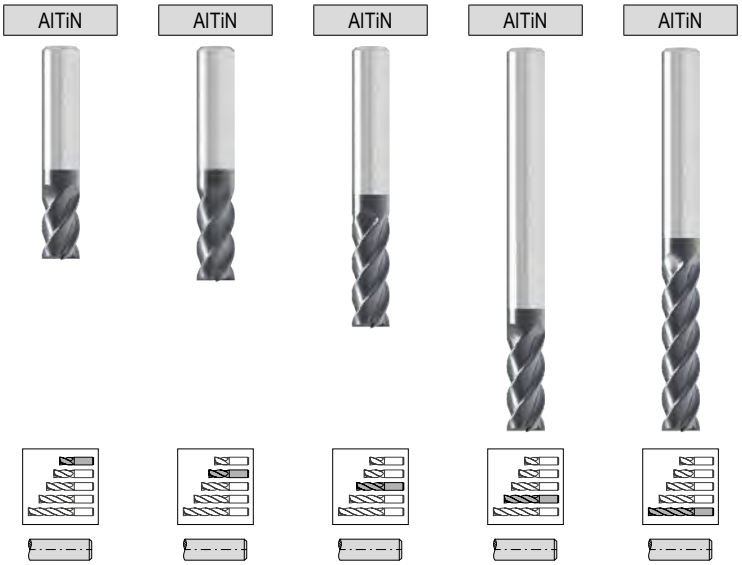
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S644 | UN | λ_s=38° γ_s=8°







DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/4	1 1/4	3	1/4	4			25050		
1/4	1	4	1/4	4			25040		
1/4	1 1/2	4	1/4	4					25060
1/4	1 1/2	6	1/4	4					25160
9/32	1/2	2	5/16	4		28118			
9/32	3/4	2 1/2	5/16	4				28127	
9/32	1 1/4	3	5/16	4					28144
5/16	1/2	2	5/16	4	31316				
5/16	3/4	2 1/2	5/16	4		31324			
5/16	1 1/8	3	5/16	4				31336	
5/16	1 3/8	3	5/16	4			31344		
5/16	1	4	5/16	4			31332		
5/16	1 5/8	4	5/16	4					31352
5/16	1 1/2	6	5/16	4					31348
3/8	5/8	2	3/8	4	37517				
3/8	7/8	2 1/2	3/8	4		37523			
3/8	1 1/8	3	3/8	4			37530		
3/8	1 3/8	3	3/8	4			37537		
3/8	1	4	3/8	4				37527	
3/8	1 3/4	4	3/8	4					37547
3/8	1 1/2	6	3/8	4					37540
3/8	3	6	3/8	4					37580
1/2	5/8	2 1/2	1/2	4	50013				
1/2	1	3	1/2	4		50020			
1/2	1 1/2	3 1/2	1/2	4			50030		
1/2	1	4	1/2	4				50120	
1/2	2	4	1/2	4					50040
1/2	1 1/2	6	1/2	4			50130		
1/2	3	6	1/2	4					50060
5/8	7/8	3	5/8	4	62514				
5/8	1 1/4	3 1/2	5/8	4		62520			

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

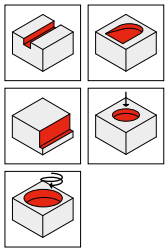
→ Find the cutting data standard values here.

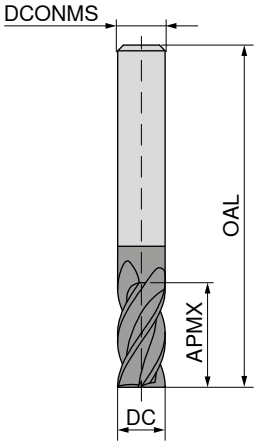
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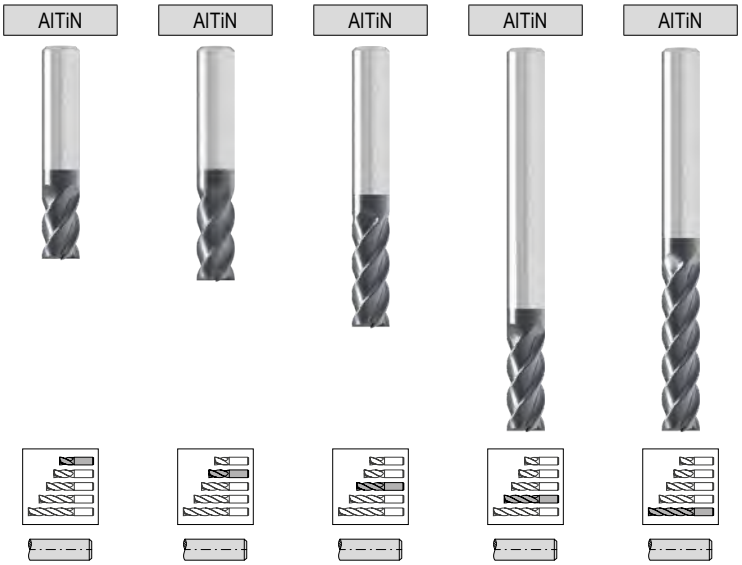
CoreLine – End mill – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 / - 0.002

S644 | UN | λ_s=38° γ_s=8°





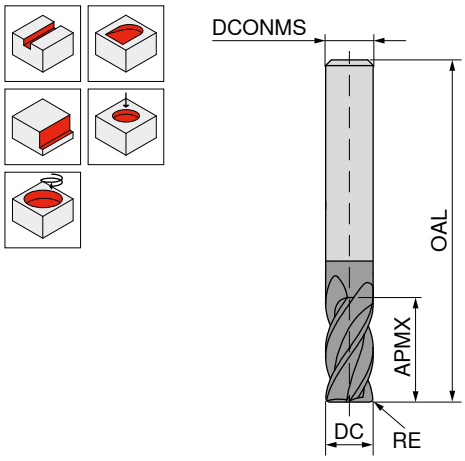


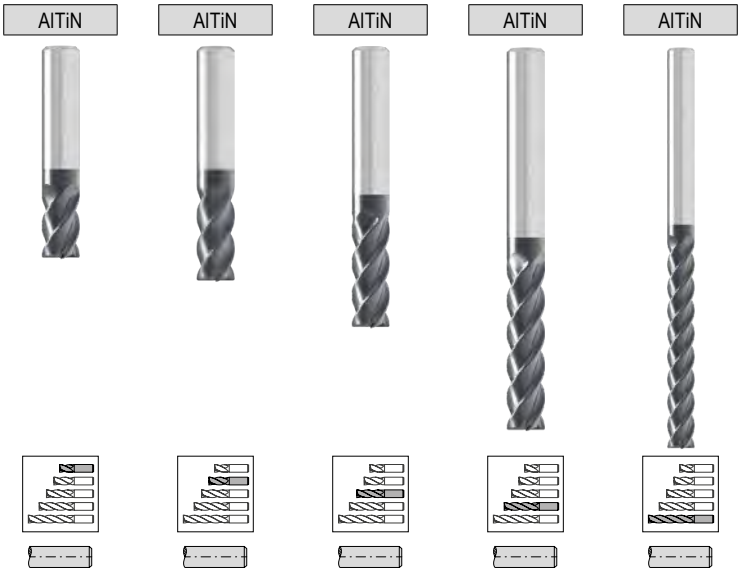
DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
5/8	2 1/8	4 5/8	5/8	4			**62534**		
5/8	2	6	5/8	4				**62532**	
5/8	3	6	5/8	4					**62548**
3/4	1	3	3/4	4	**75013**				
3/4	1 1/2	4	3/4	4		**75020**			
3/4	2 1/4	5	3/4	4			**75030**		
3/4	2	6	3/4	4				**75027**	
3/4	3	6	3/4	4					**75040**
1	1 3/4	4	1	4		**99918**			
1	2 1/4	5	1	4			**99923**		
1	2	6	1	4				**99920**	
1	3	6	1	4					**99930**
P					●	●	●	●	●
M					●	●	●	●	●
K					●	●	●	●	●
N					●	●	●	●	●
S					●	●	●	●	●
H									
O									

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

S644 UN λ_s=38° γ_s=8°





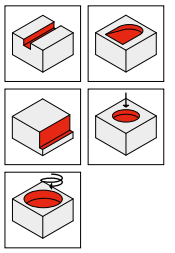
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/8	0.010	1/4	1 1/2	1/8	4		92120			
1/8	0.015	1/4	1 1/2	1/8	4		92220			
1/8	0.020	1/4	1 1/2	1/8	4		92320			
1/8	0.030	1/4	1 1/2	1/8	4		92420			
1/8	0.045	1/4	1 1/2	1/8	4		92520			
1/8	0.010	1/2	1 1/2	1/8	4				90040	
1/8	0.015	1/2	1 1/2	1/8	4				90140	
1/8	0.020	1/2	1 1/2	1/8	4				90240	
1/8	0.030	1/2	1 1/2	1/8	4				90340	
1/8	0.010	1	3	1/8	4					90180
1/8	0.015	1	3	1/8	4					90280
1/8	0.020	1	3	1/8	4					90380
1/8	0.030	1	3	1/8	4					90480
1/8	0.045	1	3	1/8	4					90580
3/16	0.010	3/8	2	3/16	4		92620			
3/16	0.015	3/8	2	3/16	4		92720			
3/16	0.020	3/8	2	3/16	4		92820			
3/16	0.030	3/8	2	3/16	4		92920			
3/16	0.045	3/8	2	3/16	4		93020			
3/16	0.060	3/8	2	3/16	4		93120			
3/16	0.010	5/8	2	3/16	4			90033		
3/16	0.015	5/8	2	3/16	4			90133		
3/16	0.020	5/8	2	3/16	4			90233		
3/16	0.030	5/8	2	3/16	4			90333		
3/16	0.045	5/8	2	3/16	4			90433		
3/16	0.060	5/8	2	3/16	4			90533		
3/16	0.010	1	4	3/16	4				90153	
3/16	0.015	1	4	3/16	4				90253	
3/16	0.020	1	4	3/16	4				90353	
3/16	0.030	1	4	3/16	4				90453	
3/16	0.045	1	4	3/16	4				90553	
3/16	0.060	1	4	3/16	4				90653	
3/16	0.010	1 1/8	3	3/16	4					90160
3/16	0.015	1 1/8	3	3/16	4					90260
3/16	0.020	1 1/8	3	3/16	4					90360
3/16	0.030	1 1/8	3	3/16	4					90460
3/16	0.045	1 1/8	3	3/16	4					90560
3/16	0.060	1 1/8	3	3/16	4					90660
1/4	0.010	3/8	2	1/4	4	90015				
P						●	●	●	●	●
M						●	●	●	●	●
K						●	●	●	●	●
N						●	●	●	●	●
S						●	●	●	●	●
H										
O										

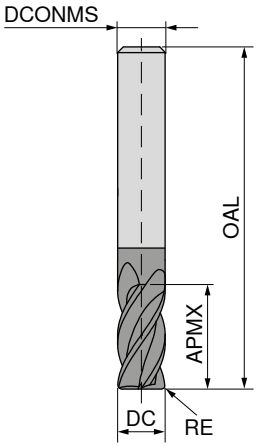
→ Find the cutting data standard values here.

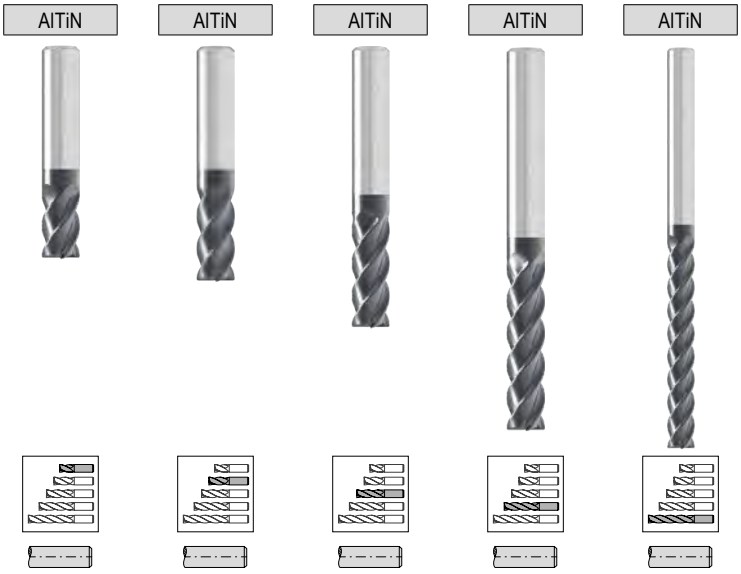
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/4	0.015	3/8	2	1/4	4	90115				
1/4	0.020	3/8	2	1/4	4	90215				
1/4	0.030	3/8	2	1/4	4	90315				
1/4	0.045	3/8	2	1/4	4	90415				
1/4	0.060	3/8	2	1/4	4	90515				
1/4	0.090	3/8	2	1/4	4	90615				
1/4	0.010	3/4	2 1/2	1/4	4		90030			
1/4	0.015	3/4	2 1/2	1/4	4		90130			
1/4	0.020	3/4	2 1/2	1/4	4		90230			
1/4	0.030	3/4	2 1/2	1/4	4		90330			
1/4	0.045	3/4	2 1/2	1/4	4		90430			
1/4	0.060	3/4	2 1/2	1/4	4		90530			
1/4	0.090	3/4	2 1/2	1/4	4		90630			
1/4	0.010	1	4	1/4	4			91840		
1/4	0.015	1	4	1/4	4			91940		
1/4	0.020	1	4	1/4	4			92040		
1/4	0.030	1	4	1/4	4			92140		
1/4	0.045	1	4	1/4	4			92240		
1/4	0.060	1	4	1/4	4			92340		
1/4	0.090	1	4	1/4	4			92440		
1/4	0.010	1 1/8	3	1/4	4				90045	
1/4	0.015	1 1/8	3	1/4	4				90145	
1/4	0.020	1 1/8	3	1/4	4				90245	
1/4	0.030	1 1/8	3	1/4	4				90345	
1/4	0.045	1 1/8	3	1/4	4				90445	
1/4	0.060	1 1/8	3	1/4	4				90545	
1/4	0.090	1 1/8	3	1/4	4				90645	
1/4	0.010	1 1/2	4	1/4	4					90760
1/4	0.015	1 1/2	4	1/4	4					90860
1/4	0.020	1 1/2	4	1/4	4					90960
1/4	0.030	1 1/2	4	1/4	4					91060
1/4	0.045	1 1/2	4	1/4	4					91160
1/4	0.060	1 1/2	4	1/4	4					91260
1/4	0.090	1 1/2	4	1/4	4					91360
1/4	0.010	1 1/2	6	1/4	4					92260
1/4	0.015	1 1/2	6	1/4	4					92360
1/4	0.020	1 1/2	6	1/4	4					92460
1/4	0.030	1 1/2	6	1/4	4					92560
1/4	0.045	1 1/2	6	1/4	4					92660

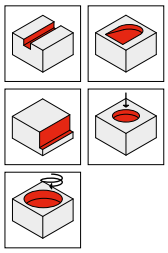
P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

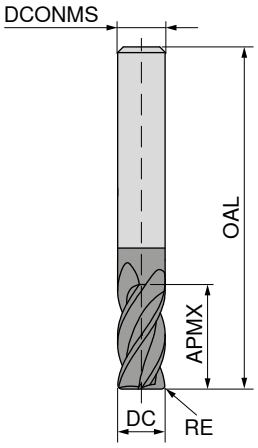
→ Find the cutting data standard values here.

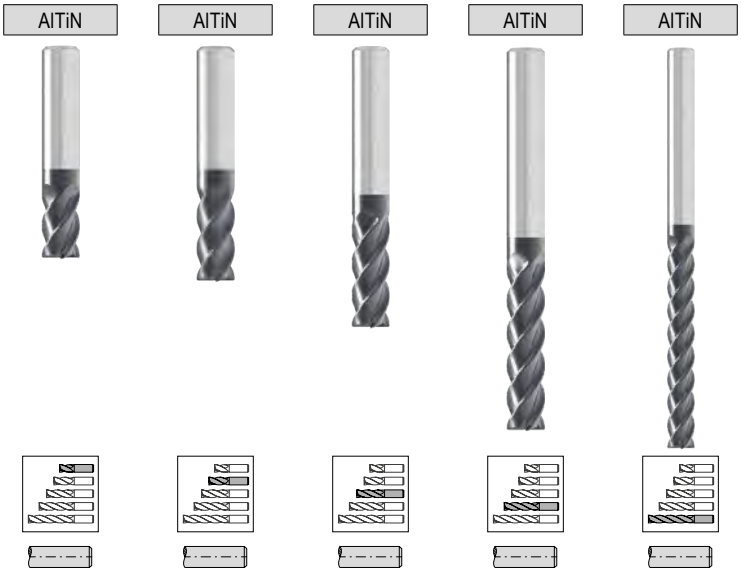
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CoreLine – End mills with corner radius – UN

S644 UN λ_s=38° γ_s=8°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/4	0.060	1 1/2	6	1/4	4					**92760**
1/4	0.090	1 1/2	6	1/4	4					**92860**
5/16	0.010	1/2	2	5/16	4	**90016**				
5/16	0.015	1/2	2	5/16	4	**90216**				
5/16	0.020	1/2	2	5/16	4	**90316**				
5/16	0.030	1/2	2	5/16	4	**90416**				
5/16	0.045	1/2	2	5/16	4	**90516**				
5/16	0.060	1/2	2	5/16	4	**90616**				
5/16	0.090	1/2	2	5/16	4	**90716**				
5/16	0.125	1/2	2	5/16	4	**90116**				
5/16	0.010	3/4	2 1/2	5/16	4		**90024**			
5/16	0.015	3/4	2 1/2	5/16	4		**90124**			
5/16	0.020	3/4	2 1/2	5/16	4		**90224**			
5/16	0.030	3/4	2 1/2	5/16	4		**90324**			
5/16	0.045	3/4	2 1/2	5/16	4		**90424**			
5/16	0.060	3/4	2 1/2	5/16	4		**90524**			
5/16	0.090	3/4	2 1/2	5/16	4		**90624**			
5/16	0.010	1	4	5/16	4			**90032**		
5/16	0.015	1	4	5/16	4			**90232**		
5/16	0.020	1	4	5/16	4			**90332**		
5/16	0.030	1	4	5/16	4			**90432**		
5/16	0.045	1	4	5/16	4			**90532**		
5/16	0.060	1	4	5/16	4			**90632**		
5/16	0.090	1	4	5/16	4			**90732**		
5/16	0.125	1	4	5/16	4			**90132**		
5/16	0.010	1 1/8	3	5/16	4			**90036**		
5/16	0.015	1 1/8	3	5/16	4			**90236**		
5/16	0.020	1 1/8	3	5/16	4			**90336**		
5/16	0.030	1 1/8	3	5/16	4			**90436**		
5/16	0.045	1 1/8	3	5/16	4			**90536**		
5/16	0.060	1 1/8	3	5/16	4			**90636**		
5/16	0.090	1 1/8	3	5/16	4			**90736**		
5/16	0.125	1 1/8	3	5/16	4			**90136**		
5/16	0.010	1 1/2	6	5/16	4				**90748**	
5/16	0.015	1 1/2	6	5/16	4				**90948**	
5/16	0.020	1 1/2	6	5/16	4				**91048**	
5/16	0.030	1 1/2	6	5/16	4				**91148**	
5/16	0.045	1 1/2	6	5/16	4				**91248**	
5/16	0.060	1 1/2	6	5/16	4				**91348**	

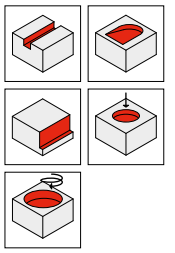
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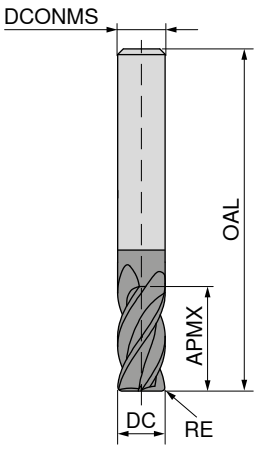
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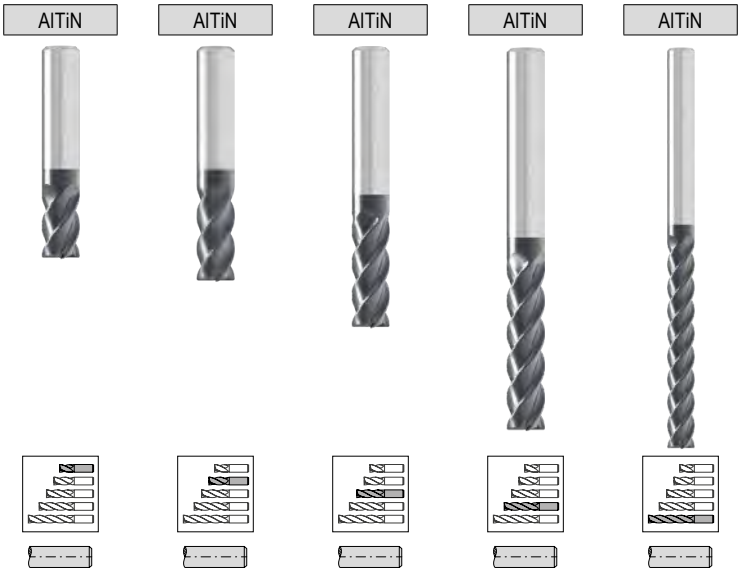
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
5/16	0.090	1 1/2	6	5/16	4				91448	
5/16	0.125	1 1/2	6	5/16	4				90848	
5/16	0.010	1 5/8	4	5/16	4					90152
5/16	0.015	1 5/8	4	5/16	4					90352
5/16	0.020	1 5/8	4	5/16	4					90452
5/16	0.030	1 5/8	4	5/16	4					90552
5/16	0.045	1 5/8	4	5/16	4					90652
5/16	0.060	1 5/8	4	5/16	4					90752
5/16	0.090	1 5/8	4	5/16	4					90852
5/16	0.125	1 5/8	4	5/16	4					90252
3/8	0.010	5/8	2	3/8	4	90017				
3/8	0.015	5/8	2	3/8	4	90217				
3/8	0.020	5/8	2	3/8	4	90317				
3/8	0.030	5/8	2	3/8	4	90417				
3/8	0.045	5/8	2	3/8	4	90517				
3/8	0.060	5/8	2	3/8	4	90617				
3/8	0.090	5/8	2	3/8	4	90717				
3/8	0.125	5/8	2	3/8	4	90117				
3/8	0.010	7/8	2 1/2	3/8	4		90023			
3/8	0.015	7/8	2 1/2	3/8	4		90223			
3/8	0.020	7/8	2 1/2	3/8	4		90323			
3/8	0.030	7/8	2 1/2	3/8	4		90423			
3/8	0.045	7/8	2 1/2	3/8	4		90523			
3/8	0.060	7/8	2 1/2	3/8	4		90623			
3/8	0.090	7/8	2 1/2	3/8	4		90723			
3/8	0.125	7/8	2 1/2	3/8	4		90123			
3/8	0.010	1	4	3/8	4			90027		
3/8	0.015	1	4	3/8	4			90227		
3/8	0.020	1	4	3/8	4			90327		
3/8	0.030	1	4	3/8	4			90427		
3/8	0.045	1	4	3/8	4			90527		
3/8	0.060	1	4	3/8	4			90627		
3/8	0.090	1	4	3/8	4			90727		
3/8	0.125	1	4	3/8	4			90127		
3/8	0.010	1 1/8	3	3/8	4			90730		
3/8	0.015	1 1/8	3	3/8	4			90930		
3/8	0.020	1 1/8	3	3/8	4			91030		
3/8	0.030	1 1/8	3	3/8	4			91130		
3/8	0.045	1 1/8	3	3/8	4			91230		

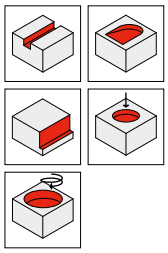
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N	●	●	●	●	●
S	●	●	●	●	●
H					
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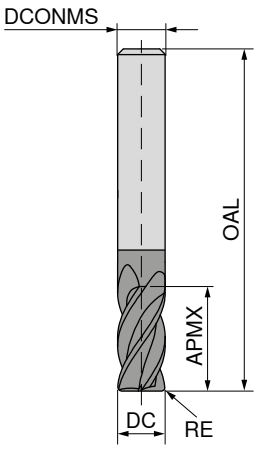
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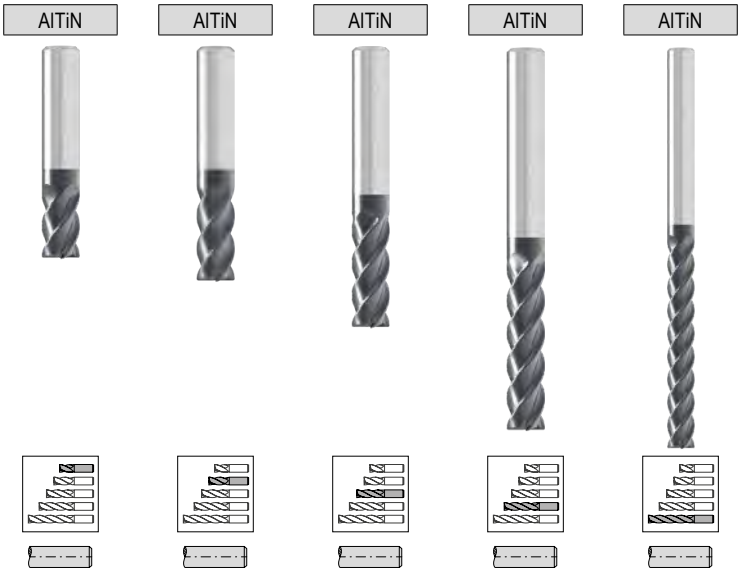
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
3/8	0.060	1 1/8	3	3/8	4			91330		
3/8	0.090	1 1/8	3	3/8	4			91430		
3/8	0.125	1 1/8	3	3/8	4			90830		
3/8	0.010	1 1/2	6	3/8	4				92540	
3/8	0.015	1 1/2	6	3/8	4				92740	
3/8	0.020	1 1/2	6	3/8	4				92840	
3/8	0.030	1 1/2	6	3/8	4				92940	
3/8	0.045	1 1/2	6	3/8	4				93040	
3/8	0.060	1 1/2	6	3/8	4				93140	
3/8	0.090	1 1/2	6	3/8	4				93240	
3/8	0.125	1 1/2	6	3/8	4				92640	
3/8	0.010	1 3/4	4	3/8	4				90047	
3/8	0.015	1 3/4	4	3/8	4				90247	
3/8	0.020	1 3/4	4	3/8	4				90347	
3/8	0.030	1 3/4	4	3/8	4				90447	
3/8	0.045	1 3/4	4	3/8	4				90547	
3/8	0.060	1 3/4	4	3/8	4				90647	
3/8	0.090	1 3/4	4	3/8	4				90747	
3/8	0.125	1 3/4	4	3/8	4				90147	
3/8	0.010	3	6	3/8	4					90680
3/8	0.015	3	6	3/8	4					90880
3/8	0.020	3	6	3/8	4					90980
3/8	0.030	3	6	3/8	4					91080
3/8	0.045	3	6	3/8	4					91180
3/8	0.060	3	6	3/8	4					91280
3/8	0.090	3	6	3/8	4					91380
3/8	0.125	3	6	3/8	4					90780
1/2	0.010	5/8	2 1/2	1/2	4	90013				
1/2	0.015	5/8	2 1/2	1/2	4	90213				
1/2	0.020	5/8	2 1/2	1/2	4	90313				
1/2	0.030	5/8	2 1/2	1/2	4	90413				
1/2	0.045	5/8	2 1/2	1/2	4	90513				
1/2	0.060	5/8	2 1/2	1/2	4	90613				
1/2	0.090	5/8	2 1/2	1/2	4	90713				
1/2	0.125	5/8	2 1/2	1/2	4	90113				
1/2	0.010	1	3	1/2	4		90020			
1/2	0.015	1	3	1/2	4		90220			
1/2	0.020	1	3	1/2	4		90320			
1/2	0.030	1	3	1/2	4		90420			

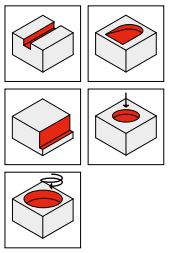
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M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
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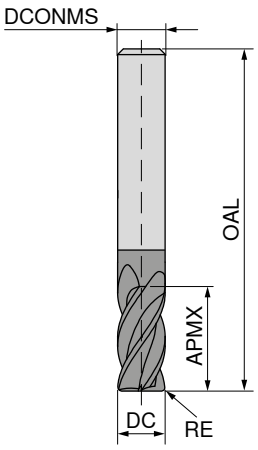
→ Find the cutting data standard values here.

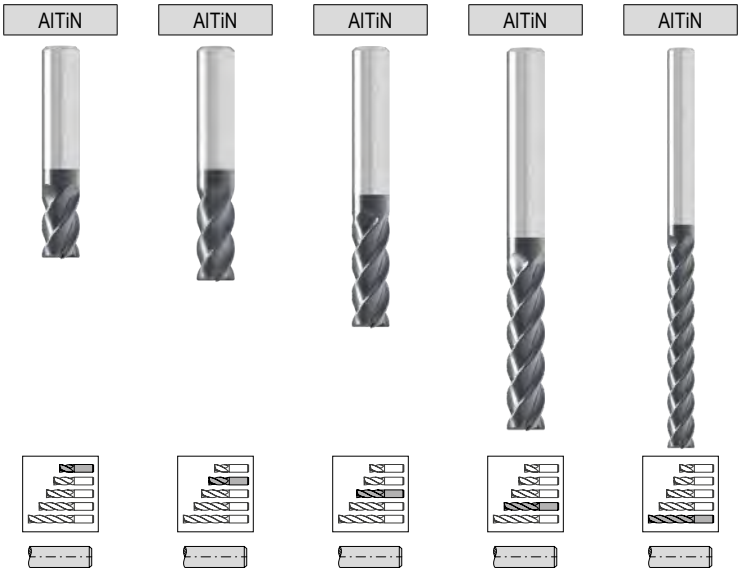
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°







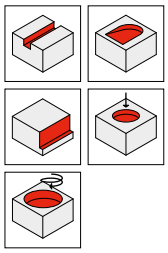
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
1/2	0.045	1	3	1/2	4		90520			
1/2	0.060	1	3	1/2	4		90620			
1/2	0.090	1	3	1/2	4		90720			
1/2	0.125	1	3	1/2	4		90120			
1/2	0.010	1	4	1/2	4		93720			
1/2	0.015	1	4	1/2	4		93920			
1/2	0.020	1	4	1/2	4		94020			
1/2	0.030	1	4	1/2	4		94120			
1/2	0.045	1	4	1/2	4		94220			
1/2	0.060	1	4	1/2	4		94320			
1/2	0.090	1	4	1/2	4		94420			
1/2	0.125	1	4	1/2	4		93820			
1/2	0.010	1 1/2	6	1/2	4			92630		
1/2	0.015	1 1/2	6	1/2	4			92830		
1/2	0.020	1 1/2	6	1/2	4			92930		
1/2	0.030	1 1/2	6	1/2	4			93030		
1/2	0.045	1 1/2	6	1/2	4			93130		
1/2	0.060	1 1/2	6	1/2	4			93230		
1/2	0.090	1 1/2	6	1/2	4			93330		
1/2	0.125	1 1/2	6	1/2	4			92730		
1/2	0.010	2	4	1/2	4				90440	
1/2	0.015	2	4	1/2	4				90640	
1/2	0.020	2	4	1/2	4				90740	
1/2	0.030	2	4	1/2	4				90840	
1/2	0.045	2	4	1/2	4				90940	
1/2	0.060	2	4	1/2	4				91040	
1/2	0.090	2	4	1/2	4				91140	
1/2	0.125	2	4	1/2	4				90540	
1/2	0.010	3	6	1/2	4					91460
1/2	0.015	3	6	1/2	4					91660
1/2	0.020	3	6	1/2	4					91760
1/2	0.030	3	6	1/2	4					91860
1/2	0.045	3	6	1/2	4					91960
1/2	0.060	3	6	1/2	4					92060
1/2	0.090	3	6	1/2	4					92160
1/2	0.125	3	6	1/2	4					91560
5/8	0.015	1 1/4	3 1/2	5/8	4		90920			
5/8	0.020	1 1/4	3 1/2	5/8	4		91020			
5/8	0.030	1 1/4	3 1/2	5/8	4		91120			
P						●	●	●	●	●
M						●	●	●	●	●
K						●	●	●	●	●
N						●	●	●	●	●
S						●	●	●	●	●
H										
O										

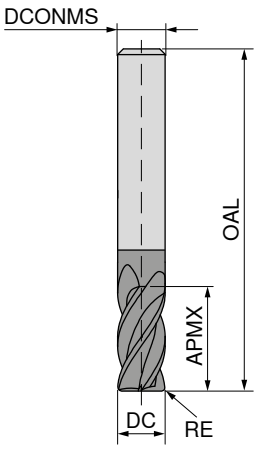
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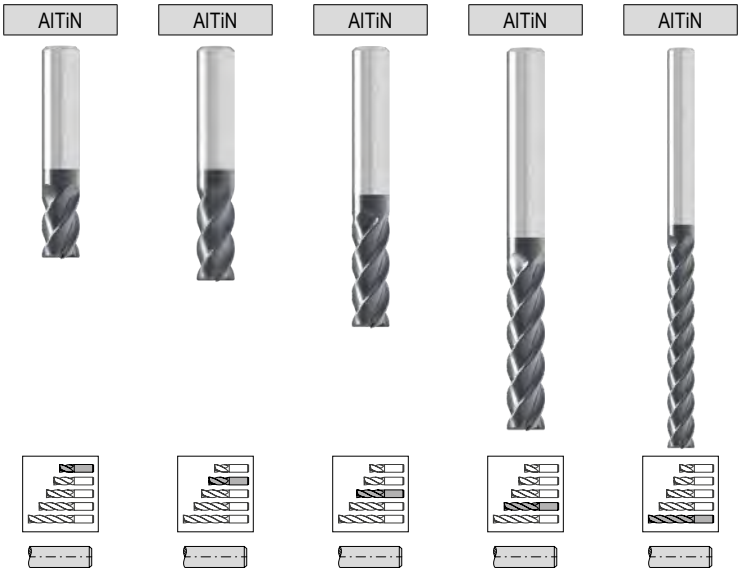
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°







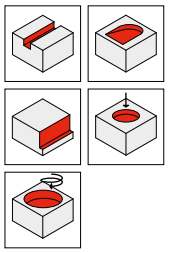
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
5/8	0.045	1 1/4	3 1/2	5/8	4		91220			
5/8	0.060	1 1/4	3 1/2	5/8	4		91320			
5/8	0.090	1 1/4	3 1/2	5/8	4		91420			
5/8	0.125	1 1/4	3 1/2	5/8	4		90820			
5/8	0.015	2	6	5/8	4			90932		
5/8	0.020	2	6	5/8	4			91032		
5/8	0.030	2	6	5/8	4			91132		
5/8	0.045	2	6	5/8	4			91232		
5/8	0.060	2	6	5/8	4			91332		
5/8	0.090	2	6	5/8	4			91432		
5/8	0.125	2	6	5/8	4			90832		
5/8	0.015	2 1/8	4 5/8	5/8	4				90134	
5/8	0.020	2 1/8	4 5/8	5/8	4				90234	
5/8	0.030	2 1/8	4 5/8	5/8	4				90334	
5/8	0.045	2 1/8	4 5/8	5/8	4				90434	
5/8	0.060	2 1/8	4 5/8	5/8	4				90534	
5/8	0.090	2 1/8	4 5/8	5/8	4				90634	
5/8	0.125	2 1/8	4 5/8	5/8	4				90034	
5/8	0.015	3	6	5/8	4					90148
5/8	0.020	3	6	5/8	4					90248
5/8	0.030	3	6	5/8	4					90348
5/8	0.045	3	6	5/8	4					90448
5/8	0.060	3	6	5/8	4					90548
5/8	0.090	3	6	5/8	4					90648
5/8	0.125	3	6	5/8	4					90048
3/4	0.020	1 1/2	4	3/4	4		91620			
3/4	0.030	1 1/2	4	3/4	4		91720			
3/4	0.045	1 1/2	4	3/4	4		91820			
3/4	0.060	1 1/2	4	3/4	4		91920			
3/4	0.090	1 1/2	4	3/4	4		92020			
3/4	0.125	1 1/2	4	3/4	4		91520			
3/4	0.020	2	6	3/4	4			90927		
3/4	0.030	2	6	3/4	4			91027		
3/4	0.045	2	6	3/4	4			91127		
3/4	0.060	2	6	3/4	4			91227		
3/4	0.090	2	6	3/4	4			91327		
3/4	0.125	2	6	3/4	4			90827		
3/4	0.020	2 1/4	5	3/4	4				91630	
3/4	0.030	2 1/4	5	3/4	4				91730	
P						●	●	●	●	●
M						●	●	●	●	●
K						●	●	●	●	●
N						●	●	●	●	●
S						●	●	●	●	●
H										
O										

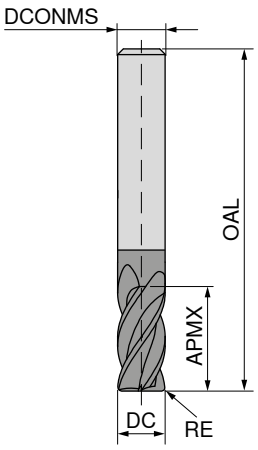
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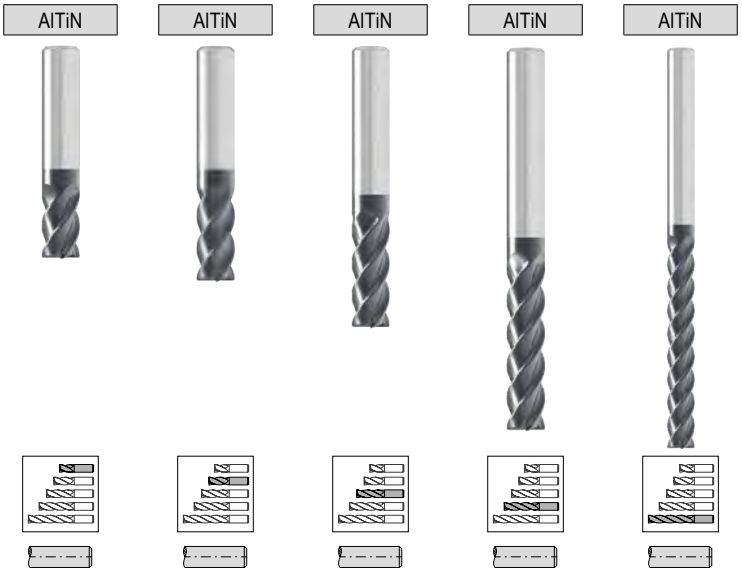
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CoreLine – End mills with corner radius – UN

S644 | UN | λ_s=38° γ_s=8°





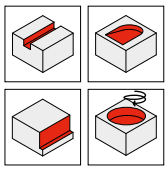


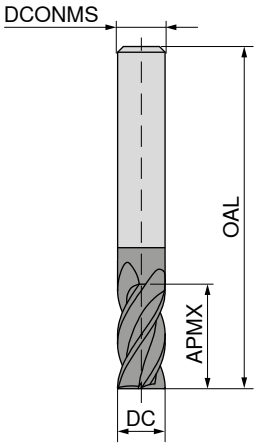
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...	*PA* 59 073 ...
3/4	0.045	2 1/4	5	3/4	4				91830	
3/4	0.060	2 1/4	5	3/4	4				91930	
3/4	0.090	2 1/4	5	3/4	4				92030	
3/4	0.125	2 1/4	5	3/4	4				91530	
3/4	0.020	3	6	3/4	4					91340
3/4	0.030	3	6	3/4	4					91440
3/4	0.045	3	6	3/4	4					91540
3/4	0.060	3	6	3/4	4					91640
3/4	0.090	3	6	3/4	4					91740
3/4	0.125	3	6	3/4	4					91240
1	0.030	1 3/4	4	1	4		90118			
1	0.045	1 3/4	4	1	4		90218			
1	0.060	1 3/4	4	1	4		90318			
1	0.090	1 3/4	4	1	4		90418			
1	0.125	1 3/4	4	1	4		90018			
1	0.030	2	6	1	4			93320		
1	0.045	2	6	1	4			93420		
1	0.060	2	6	1	4			93520		
1	0.090	2	6	1	4			93620		
1	0.125	2	6	1	4			93220		
1	0.030	2 1/4	5	1	4				90923	
1	0.045	2 1/4	5	1	4				91023	
1	0.060	2 1/4	5	1	4				91123	
1	0.090	2 1/4	5	1	4				91223	
1	0.125	2 1/4	5	1	4				90823	
1	0.030	3	6	1	4					92230
1	0.045	3	6	1	4					92330
1	0.060	3	6	1	4					92430
1	0.090	3	6	1	4					92530
1	0.125	3	6	1	4					92130
P						●	●	●	●	●
M						●	●	●	●	●
K						●	●	●	●	●
N						●	●	●	●	●
S						●	●	●	●	●
H										
O										

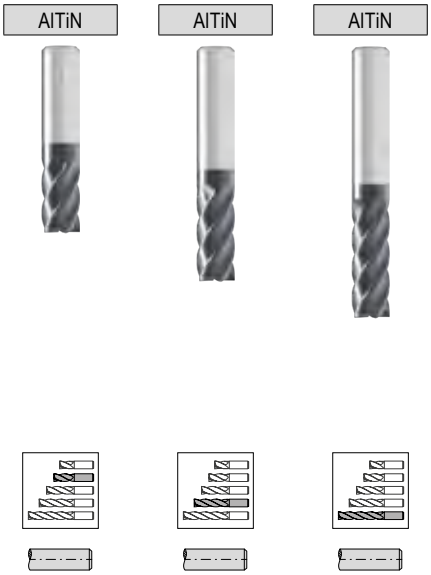
→ Find the cutting data standard values here.

CoreLine – End mill – UN

S645 | UN | λ_s=43° γ_s=8°





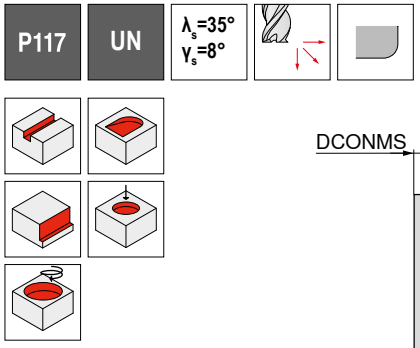


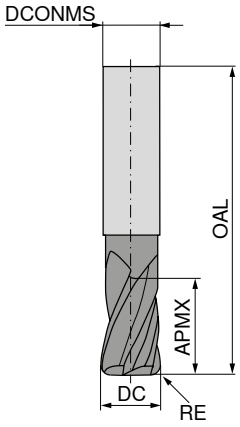
DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 075 ...	SM 59 075 ...	SM 59 075 ...
1/8	1/4	1 1/2	1/8	5	12520		
1/8	1/2	1 1/2	1/8	5		12540	
5/32	5/16	2	3/16	5	15620		
5/32	9/16	2	3/16	5		15636	
3/16	5/16	2	3/16	5	18817		
3/16	9/16	2	3/16	5		18830	
7/32	3/8	2	1/4	5	21917		
7/32	3/4	2 1/2	1/4	5		21934	
1/4	3/8	2	1/4	5	25015		
1/4	3/4	2 1/2	1/4	5		25030	
1/4	1 1/4	4	1/4	5			25050
5/16	7/16	2	5/16	5	31314		
5/16	13/16	2 1/2	5/16	5		31326	
3/8	1/2	2	3/8	5	37513		
3/8	1	2 1/2	3/8	5		37527	
3/8	1 1/2	4	3/8	5			37540
1/2	5/8	2 1/2	1/2	5	50013		
1/2	1 1/4	3	1/2	5		50025	
1/2	2	4	1/2	5			50040
5/8	3/4	3	5/8	5	62512		
5/8	1 5/8	3 1/2	5/8	5		62526	
5/8	2 1/2	5	5/8	5			62540
3/4	1	3	3/4	5	75013		
3/4	1 5/8	4	3/4	5		75022	
3/4	3 1/4	6	3/4	5			75043
1	1 1/4	3	1	5	99913		
1	2	4	1	5		99920	
1	3 1/4	6	1	5			99933
P					●	●	●
M					●	●	●
K					●	●	●
N							
S							
H							
O							

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ With chip breaker







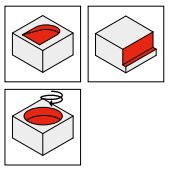
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 028 ...	SM 59 028 ...
1/8	0.010	1/2	1 1/2	1/8	3	**12540**	
3/16	0.010	5/16	2	3/16	3	**18817**	
3/16	0.010	5/8	2	3/16	3		**18833**
1/4	0.020	3/8	2	1/4	3	**25015**	
1/4	0.020	3/4	2 1/2	1/4	3		**25030**
5/16	0.020	13/16	2 1/2	5/16	3	**31326**	
3/8	0.020	1	2 1/2	3/8	3	**37527**	
7/16	0.020	5/8	2 3/4	7/16	3	**43814**	
7/16	0.020	1	2 3/4	7/16	3		**43823**
1/2	0.020	5/8	2 1/2	1/2	3	**50013**	
1/2	0.020	1 1/4	3	1/2	3		**50025**
5/8	0.030	1 1/4	3 1/2	5/8	3		**62520**
3/4	0.030	1 5/8	4	3/4	3		**75022**
P						●	●
M						●	●
K						●	●
N						○	○
S						●	●
H							
O							

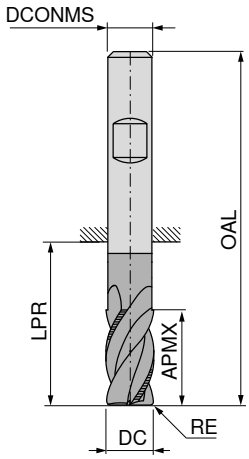
→ Find the cutting data standard values here.

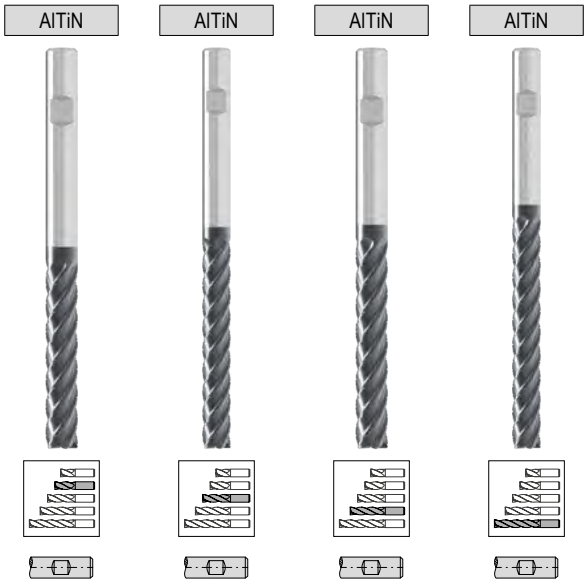
CoreLine – End mills with corner radius – UN

▲ With chip breaker

P121 UN λ_s=40° γ_s=10°







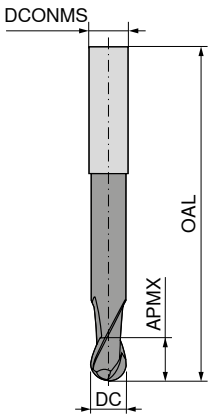
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 035 ...	SM 59 035 ...	SM 59 035 ...	SM 59 035 ...
3/4	0.030	2 1/2	2.9	5	3/4	5	**75033**			
3/4	0.030	3 1/4	3.9	6	3/4	5		**75043**		
1	0.030	2 3/4	2.7	5	1	5			**99928**	
1	0.030	3 3/8	3.7	6	1	5				**99934**
P							●	●	●	●
M							●	●	●	●
K							●	●	●	●
N										
S							●	●	●	●
H										
O										

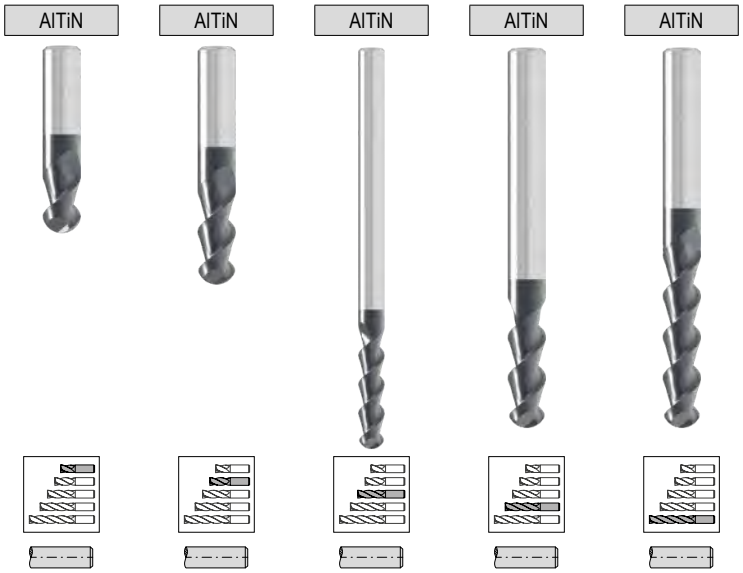
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 /- 0.002
Radius accuracy: +/- 0.001

S662 | UN | λ_s=38° γ_s=8°





DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...
1/16	1/8	1 1/2	1/8	2		06320			
1/16	3/16	1 1/2	1/8	2				06330	
1/8	1/4	1 1/2	1/8	2	12520				
1/8	1/2	1 1/2	1/8	2		12540			
1/8	3/4	2 1/2	1/8	2				12560	
1/8	3/4	3	1/8	2			12660		
1/8	1	3	1/8	2					12580
3/16	3/8	2	3/16	2	18820				
3/16	5/8	2	3/16	2		18833			
3/16	3/4	2 1/2	3/16	2				18840	
3/16	1	4	3/16	2			18853		
3/16	1 1/8	3	3/16	2					18860
1/4	3/8	2	1/4	2	25015				
1/4	3/4	2 1/2	1/4	2		25030			
1/4	1	4	1/4	2				25040	
1/4	1 1/8	3	1/4	2			25045		
1/4	1 1/2	4	1/4	2					25060
1/4	1 1/2	6	1/4	2					25160
5/16	1/2	2	5/16	2	31316				
5/16	3/4	2 1/2	5/16	2		31324			
5/16	1	4	5/16	2				31332	
5/16	1 1/8	3	5/16	2			31336		
5/16	1 1/2	6	5/16	2					31348
5/16	1 5/8	4	5/16	2					31352
3/8	5/8	2	3/8	2	37517				
3/8	7/8	2 1/2	3/8	2		37523			
3/8	1	4	3/8	2				37527	
3/8	1 1/8	3	3/8	2				37530	
3/8	1 1/2	6	3/8	2			37540		

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S	●	●	●	●	●
H					
O					

→ Find the cutting data standard values here.

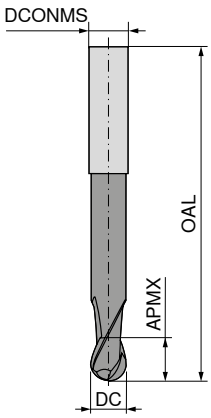
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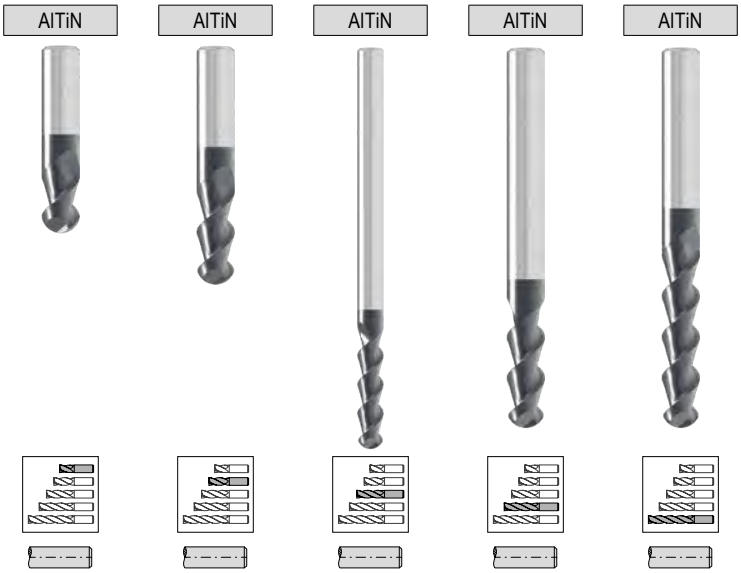
CoreLine – Ball-nosed end mills – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 /- 0.002
Radius accuracy: +/- 0.001

S662 | UN | λ_s=38° γ_s=8°







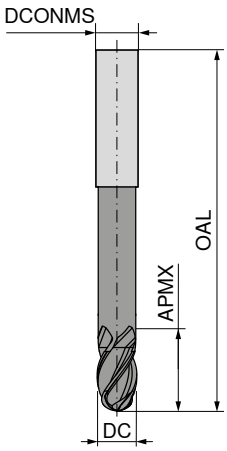
DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...	*PA* 59 077 ...
3/8	1 3/4	4	3/8	2					37547
3/8	3	6	3/8	2					37580
1/2	5/8	2 1/2	1/2	2	50013				
1/2	1	3	1/2	2		50020			
1/2	1	4	1/2	2				50120	
1/2	1 1/2	6	1/2	2			50030		
1/2	2	4	1/2	2					50040
1/2	3	6	1/2	2					50060
5/8	7/8	3	5/8	2	62514				
5/8	1 1/4	3 1/2	5/8	2		62520			
5/8	2	6	5/8	2				62532	
5/8	2 1/8	4 5/8	5/8	2			62534		
5/8	3	6	5/8	2					62548
3/4	1	3	3/4	2	75013				
3/4	1 1/2	4	3/4	2		75020			
3/4	2	6	3/4	2				75027	
3/4	2 1/4	5	3/4	2			75030		
3/4	3	6	3/4	2					75040
1	1 3/4	4	1	2				99918	
1	2	6	1	2			99920		
1	2 1/4	5	1	2		99923			
1	3	6	1	2					99930
P					●	●	●	●	●
M					●	●	●	●	●
K					●	●	●	●	●
N					●	●	●	●	●
S					●	●	●	●	●
H									
O									

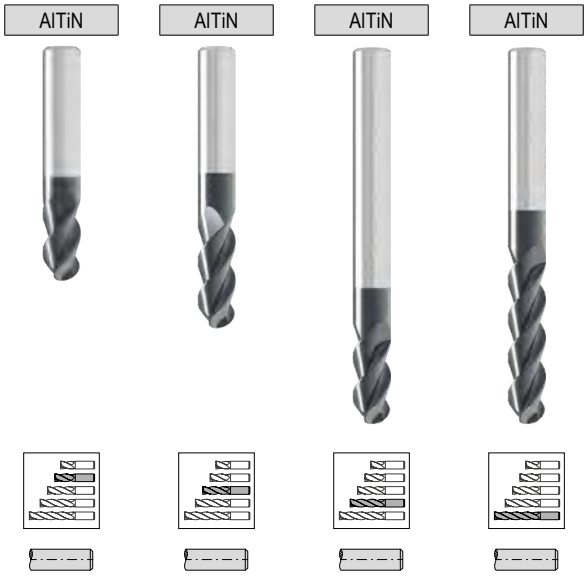
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001

S663 | UN | λ_s=38° γ_s=8°





DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 079 ...	*PA* 59 079 ...	*PA* 59 079 ...	*PA* 59 079 ...
1/8	1/2	1 1/2	1/8	3	12540			
1/8	1/4	1 1/2	1/8	3				
1/8	3/4	2 1/2	1/8	3			12560	
1/8	3/4	3	1/8	3		12660		
1/8	1	3	1/8	3				12580
3/16	3/8	2	3/16	3				
3/16	5/8	2	3/16	3	18833			
3/16	1	2 1/2	3/16	3		18853		
3/16	3/4	2 1/2	3/16	3			18840	
3/16	1 1/8	3	3/16	3				18860
3/16	1	4	3/16	3				18953
1/4	3/8	2	1/4	3				
1/4	3/4	2 1/2	1/4	3	25030			
1/4	1 1/8	3	1/4	3			25045	
1/4	1	4	1/4	3		25040		
1/4	1 1/2	4	1/4	3				25060
1/4	1 1/2	6	1/4	3				25160
5/16	3/4	2 1/2	5/16	3	31324			
5/16	1	4	5/16	3			31332	
5/16	1 1/2	6	5/16	3				31348
3/8	5/8	2	3/8	3				
3/8	7/8	2 1/2	3/8	3	37523			
3/8	1 1/8	3	3/8	3		37530		
3/8	1	4	3/8	3			37527	
3/8	1 3/4	4	3/8	3				37547
3/8	1 1/2	6	3/8	3		37540		
3/8	3	6	3/8	3				37580
1/2	5/8	2 1/2	1/2	3				
1/2	1	3	1/2	3	50020			
1/2	1	4	1/2	3			50120	
1/2	2	4	1/2	3				50040
1/2	1 1/2	6	1/2	3		50030		
1/2	3	6	1/2	3				50060

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	●	●	●
H				
O				

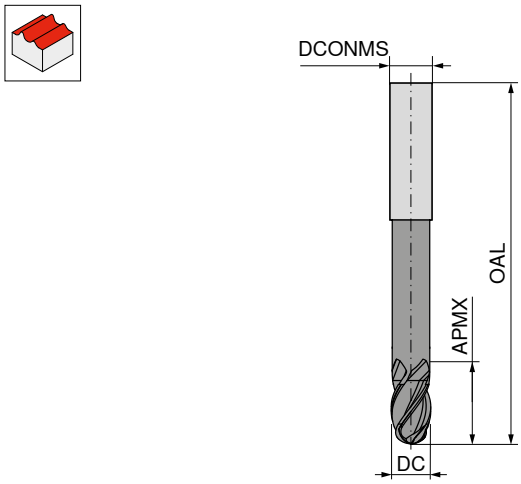
→ Find the cutting data standard values here.

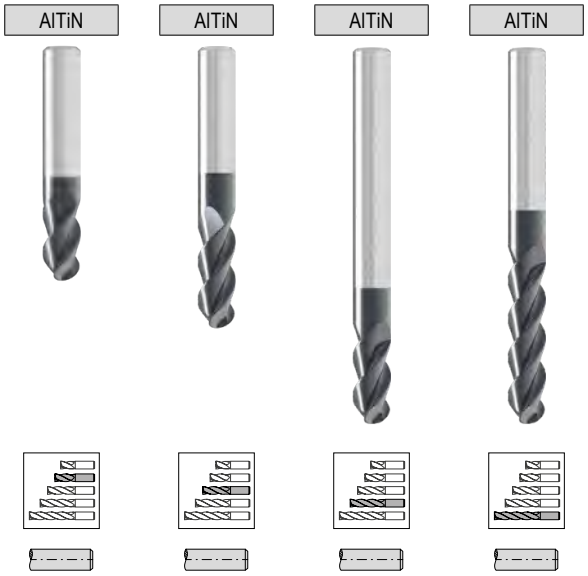
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CoreLine – Ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001

S663 | UN | λ_s=38° γ_s=8°





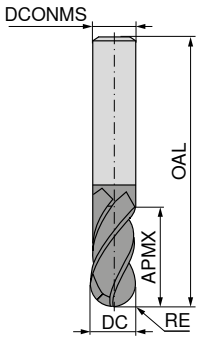
DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 079 ...	*PA* 59 079 ...	*PA* 59 079 ...	*PA* 59 079 ...
5/8	1 1/4	3 1/2	5/8	3	**62520**			
5/8	2 1/8	4 5/8	5/8	3		**62534**		
5/8	2	6	5/8	3			**62532**	
5/8	3	6	5/8	3				**62548**
3/4	1 1/2	4	3/4	3	**75020**			
3/4	2 1/4	5	3/4	3		**75030**		
3/4	2	6	3/4	3			**75027**	
3/4	3	6	3/4	3				**75040**
1	1 3/4	4	1	3	**99918**			
1	2 1/4	5	1	3		**99923**		
1	2	6	1	3			**99920**	
1	3	6	1	3				**99930**
P					●	●	●	●
M					●	●	●	●
K					●	●	●	●
N					●	●	●	●
S					●	●	●	●
H								
O								

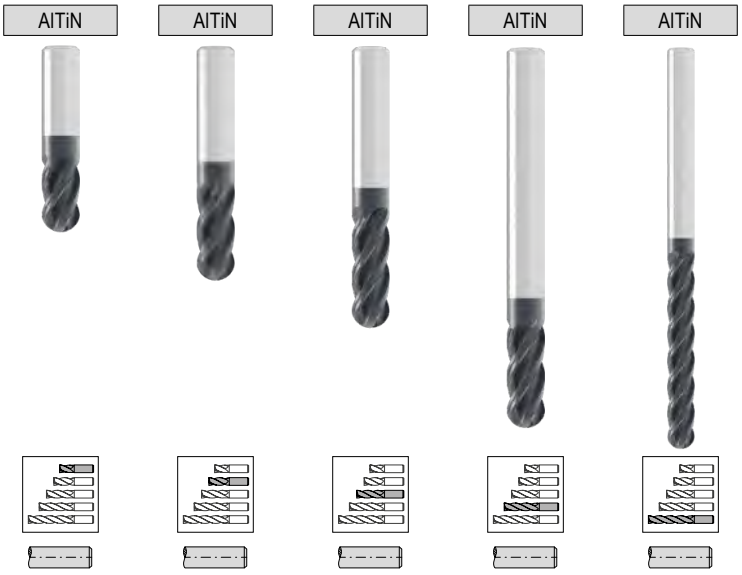
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 /- 0.002
Radius accuracy: +/- 0.001

S664 | UN | λ_s=38° γ_s=8°





DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...
1/32	3/32	1 1/2	1/8	4		03130			
3/64	9/64	1 1/2	1/8	4		04730			
1/16	1/8	1 1/2	1/8	4		06320			
1/16	3/16	1 1/2	1/8	4				06330	
3/32	3/16	1 1/2	1/8	4		09420			
3/32	9/32	1 1/2	1/8	4				09430	
1/8	1/4	1 1/2	1/8	4	12520				
1/8	1/2	1 1/2	1/8	4		12540			
1/8	3/4	2 1/2	1/8	4				12560	
1/8	3/4	3	1/8	4			12660		
1/8	1	3	1/8	4					12580
5/32	3/8	2	3/16	4		15624			
5/32	1/2	2	3/16	4				15632	
3/16	3/8	2	3/16	4	18820				
3/16	5/8	2	3/16	4		18833			
3/16	3/4	2 1/2	3/16	4				18840	
3/16	1	4	3/16	4			18853		
3/16	1 1/8	3	3/16	4					18860
1/4	3/8	2	1/4	4	25015				
1/4	3/4	2 1/2	1/4	4		25030			
1/4	1	4	1/4	4				25040	
1/4	1 1/8	3	1/4	4			25045		
1/4	1 1/2	4	1/4	4					25060
1/4	1 1/2	6	1/4	4					25160
5/16	1/2	2	5/16	4	31316				
5/16	3/4	2 1/2	5/16	4		31324			
5/16	1	4	5/16	4				31332	
5/16	1 1/8	3	5/16	4			31336		
5/16	1 1/2	6	5/16	4					31348
5/16	1 5/8	4	5/16	4					31352
3/8	5/8	2	3/8	4	37517				
3/8	7/8	2 1/2	3/8	4		37523			
3/8	1	4	3/8	4				37527	
3/8	1 1/8	3	3/8	4			37530		

P	●	●	●	●	●
M	●	●	●	●	●
K	●	●	●	●	●
N	●	●	●	●	●
S					
H					
O					

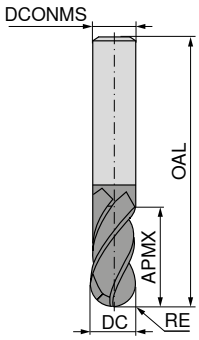
→ Find the cutting data standard values here.

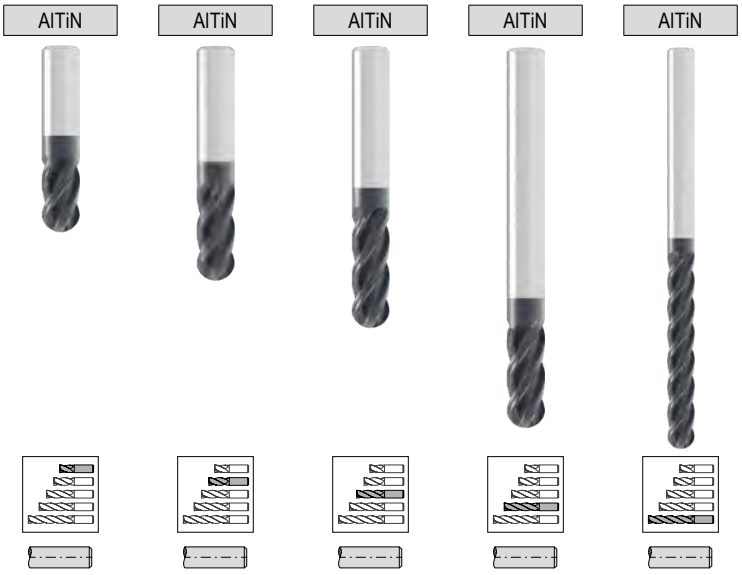
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CoreLine – Ball-nosed end mills – UN

▲ DC tolerance
up to Ø 7/64 inch: +/- 0.0005
≥ Ø 1/8 inch: 0 /- 0.002
Radius accuracy: +/- 0.001

S664 | UN | λ_s=38° γ_s=8°



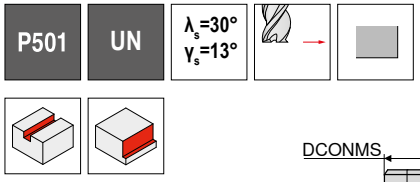


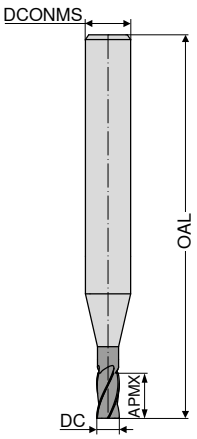
DC inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...	*PA* 59 081 ...
3/8	1 1/2	6	3/8	4			**37540**		
3/8	1 3/4	4	3/8	4					**37547**
3/8	3	6	3/8	4					**37580**
1/2	5/8	2 1/2	1/2	4	**50013**				
1/2	1	3	1/2	4		**50020**			
1/2	1	4	1/2	4				**50120**	
1/2	1 1/2	6	1/2	4			**50030**		
1/2	2	4	1/2	4					**50040**
1/2	3	6	1/2	4					**50060**
5/8	7/8	3	5/8	4	**62514**				
5/8	1 1/4	3 1/2	5/8	4		**62520**			
5/8	2	6	5/8	4				**62532**	
5/8	2 1/8	4 5/8	5/8	4			**62534**		
5/8	3	6	5/8	4					**62548**
3/4	1	3	3/4	4	**75013**				
3/4	1 1/2	4	3/4	4		**75020**			
3/4	2	6	3/4	4				**75027**	
3/4	2 1/4	5	3/4	4			**75030**		
3/4	3	6	3/4	4					**75040**
1	1 3/4	4	1	4		**99918**			
1	2	6	1	4				**99920**	
1	2 1/4	5	1	4			**99923**		
1	3	6	1	4					**99930**
P					●	●	●	●	●
M					●	●	●	●	●
K					●	●	●	●	●
N					●	●	●	●	●
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O									

→ Find the cutting data standard values here.

CoreLine – Micro end mills – UN

P501 UN λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 007 ...
0.005	0.015	1 1/2	1/8	4	**00530**
0.006	0.018	1 1/2	1/8	4	**00630**
0.007	0.021	1 1/2	1/8	4	**00730**
0.008	0.024	1 1/2	1/8	4	**00830**
0.009	0.027	1 1/2	1/8	4	**00930**
0.010	0.030	1 1/2	1/8	4	**01030**
0.011	0.033	1 1/2	1/8	4	**01130**
0.012	0.036	1 1/2	1/8	4	**01230**
0.013	0.039	1 1/2	1/8	4	**01330**
0.014	0.042	1 1/2	1/8	4	**01430**
0.015	0.045	1 1/2	1/8	4	**01530**
0.016	0.048	1 1/2	1/8	4	**01630**
0.017	0.051	1 1/2	1/8	4	**01730**
0.018	0.054	1 1/2	1/8	4	**01830**
0.019	0.057	1 1/2	1/8	4	**01930**
0.020	0.060	1 1/2	1/8	4	**02030**
0.021	0.063	1 1/2	1/8	4	**02130**
0.022	0.066	1 1/2	1/8	4	**02230**
0.023	0.069	1 1/2	1/8	4	**02330**
0.024	0.072	1 1/2	1/8	4	**02430**
0.025	0.075	1 1/2	1/8	4	**02530**
0.026	0.078	1 1/2	1/8	4	**02630**
0.027	0.081	1 1/2	1/8	4	**02730**
0.028	0.084	1 1/2	1/8	4	**02830**
0.029	0.087	1 1/2	1/8	4	**02930**
0.030	0.090	1 1/2	1/8	4	**03030**
0.031	0.093	1 1/2	1/8	4	**03130**
0.032	0.096	1 1/2	1/8	4	**03230**
0.033	0.099	1 1/2	1/8	4	**03330**
0.034	0.102	1 1/2	1/8	4	**03430**
0.035	0.105	1 1/2	1/8	4	**03530**
0.036	0.108	1 1/2	1/8	4	**03630**
0.037	0.111	1 1/2	1/8	4	**03730**
0.038	0.114	1 1/2	1/8	4	**03830**

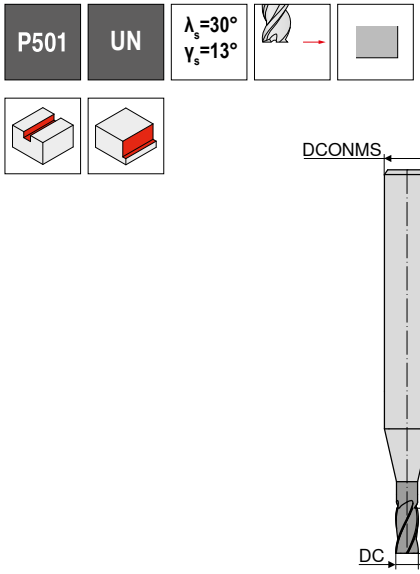
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→ Find the cutting data standard values here.

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CoreLine – Micro end mills – UN

P501 UN λ_s=30° γ_s=13°



AlTiN



SM

DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	59 007 ...
0.039	0.117	1 1/2	1/8	4	**03930**
0.040	0.120	1 1/2	1/8	4	**04030**
0.041	0.123	1 1/2	1/8	4	**04130**
0.042	0.126	1 1/2	1/8	4	**04230**
0.043	0.129	1 1/2	1/8	4	**04330**
0.044	0.132	1 1/2	1/8	4	**04430**
0.045	0.135	1 1/2	1/8	4	**04530**
0.046	0.138	1 1/2	1/8	4	**04630**
0.047	0.141	1 1/2	1/8	4	**04730**
0.048	0.144	1 1/2	1/8	4	**04830**
0.049	0.147	1 1/2	1/8	4	**04930**
0.050	0.150	1 1/2	1/8	4	**05030**
0.051	0.153	1 1/2	1/8	4	**05130**
0.052	0.156	1 1/2	1/8	4	**05230**
0.053	0.159	1 1/2	1/8	4	**05330**
0.054	0.162	1 1/2	1/8	4	**05430**
0.055	0.165	1 1/2	1/8	4	**05530**
0.056	0.168	1 1/2	1/8	4	**05630**
0.057	0.171	1 1/2	1/8	4	**05730**
0.058	0.174	1 1/2	1/8	4	**05830**
0.059	0.177	1 1/2	1/8	4	**05930**
0.060	0.180	1 1/2	1/8	4	**06030**
0.061	0.183	1 1/2	1/8	4	**06130**
0.062	0.186	1 1/2	1/8	4	**06230**
0.063	0.189	1 1/2	1/8	4	**06330**
0.064	0.192	1 1/2	1/8	4	**06430**
0.065	0.195	1 1/2	1/8	4	**06530**
0.066	0.198	1 1/2	1/8	4	**06630**
0.067	0.201	1 1/2	1/8	4	**06730**
0.068	0.204	1 1/2	1/8	4	**06830**
0.069	0.207	1 1/2	1/8	4	**06930**
0.070	0.210	1 1/2	1/8	4	**07030**
0.071	0.213	1 1/2	1/8	4	**07130**
0.072	0.216	1 1/2	1/8	4	**07230**

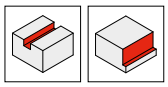
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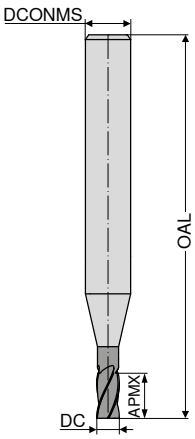
→ Find the cutting data standard values here.

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CoreLine – Micro end mills – UN

P501 UN λ_s=30° γ_s=13°





AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 007 ...
0.073	0.219	1 1/2	1/8	4	**07330**
0.074	0.222	1 1/2	1/8	4	**07430**
0.075	0.225	1 1/2	1/8	4	**07530**
0.076	0.228	1 1/2	1/8	4	**07630**
0.077	0.231	1 1/2	1/8	4	**07730**
0.078	0.234	1 1/2	1/8	4	**07830**
0.079	0.237	1 1/2	1/8	4	**07930**
0.080	0.240	1 1/2	1/8	4	**08030**
0.081	0.243	1 1/2	1/8	4	**08130**
0.082	0.246	1 1/2	1/8	4	**08230**
0.083	0.249	1 1/2	1/8	4	**08330**
0.084	0.252	1 1/2	1/8	4	**08430**
0.085	0.255	1 1/2	1/8	4	**08530**
0.086	0.258	1 1/2	1/8	4	**08630**
0.087	0.261	1 1/2	1/8	4	**08730**
0.088	0.264	1 1/2	1/8	4	**08830**
0.089	0.267	1 1/2	1/8	4	**08930**
0.090	0.270	1 1/2	1/8	4	**09030**
0.091	0.273	1 1/2	1/8	4	**09130**
0.092	0.276	1 1/2	1/8	4	**09230**
0.093	0.279	1 1/2	1/8	4	**09330**
0.094	0.282	1 1/2	1/8	4	**09430**
0.095	0.285	1 1/2	1/8	4	**09530**
0.096	0.288	1 1/2	1/8	4	**09630**
0.097	0.291	1 1/2	1/8	4	**09730**
0.098	0.294	1 1/2	1/8	4	**09830**
0.099	0.297	1 1/2	1/8	4	**09930**
0.100	0.300	1 1/2	1/8	4	**10030**
0.101	0.303	1 1/2	1/8	4	**10130**
0.102	0.306	1 1/2	1/8	4	**10230**
0.103	0.309	1 1/2	1/8	4	**10330**
0.104	0.312	1 1/2	1/8	4	**10430**
0.105	0.315	1 1/2	1/8	4	**10530**
0.106	0.318	1 1/2	1/8	4	**10630**

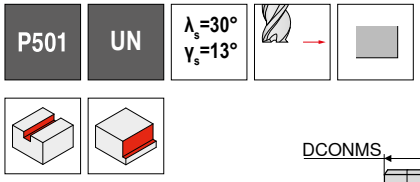
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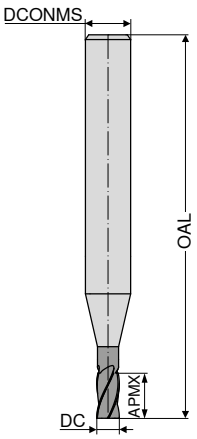
→ Find the cutting data standard values here.

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CoreLine – Micro end mills – UN

P501 UN λ_s=30° γ_s=13°





AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 007 ...
0.107	0.321	1 1/2	1/8	4	**10730**
0.108	0.324	1 1/2	1/8	4	**10830**
0.109	0.327	1 1/2	1/8	4	**10930**
0.110	0.330	1 1/2	1/8	4	**11030**
0.111	0.333	1 1/2	1/8	4	**11130**
0.112	0.336	1 1/2	1/8	4	**11230**
0.113	0.339	1 1/2	1/8	4	**11330**
0.114	0.341	1 1/2	1/8	4	**11430**
0.115	0.345	1 1/2	1/8	4	**11530**
0.116	0.348	1 1/2	1/8	4	**11630**
0.117	0.351	1 1/2	1/8	4	**11730**
0.118	0.354	1 1/2	1/8	4	**11830**
0.119	0.357	1 1/2	1/8	4	**11930**
0.120	0.360	1 1/2	1/8	4	**12030**

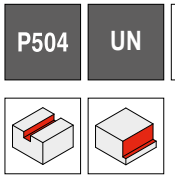
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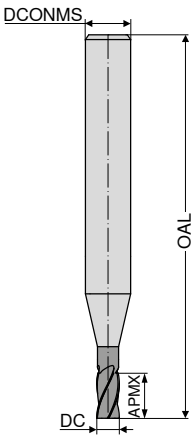


→ Find the cutting data standard values here.

CoreLine – Micro end mills – UN

P504 UN λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 009 ...
0.005	0.008	1 1/2	1/8	4	**00516**
0.006	0.009	1 1/2	1/8	4	**00615**
0.007	0.011	1 1/2	1/8	4	**00716**
0.008	0.012	1 1/2	1/8	4	**00815**
0.009	0.014	1 1/2	1/8	4	**00916**
0.010	0.015	1 1/2	1/8	4	**01015**
0.011	0.017	1 1/2	1/8	4	**01115**
0.012	0.018	1 1/2	1/8	4	**01215**
0.013	0.020	1 1/2	1/8	4	**01315**
0.014	0.021	1 1/2	1/8	4	**01415**
0.015	0.023	1 1/2	1/8	4	**01515**
0.016	0.024	1 1/2	1/8	4	**01615**
0.017	0.026	1 1/2	1/8	4	**01715**
0.018	0.027	1 1/2	1/8	4	**01815**
0.019	0.029	1 1/2	1/8	4	**01915**
0.020	0.030	1 1/2	1/8	4	**02015**
0.021	0.032	1 1/2	1/8	4	**02115**
0.022	0.033	1 1/2	1/8	4	**02215**
0.023	0.035	1 1/2	1/8	4	**02315**
0.024	0.036	1 1/2	1/8	4	**02415**
0.025	0.038	1 1/2	1/8	4	**02515**
0.026	0.039	1 1/2	1/8	4	**02615**
0.027	0.041	1 1/2	1/8	4	**02715**
0.028	0.042	1 1/2	1/8	4	**02815**
0.029	0.044	1 1/2	1/8	4	**02915**
0.030	0.045	1 1/2	1/8	4	**03015**
0.031	0.047	1 1/2	1/8	4	**03115**
0.032	0.048	1 1/2	1/8	4	**03215**
0.033	0.050	1 1/2	1/8	4	**03315**
0.034	0.051	1 1/2	1/8	4	**03415**
0.035	0.053	1 1/2	1/8	4	**03515**
0.036	0.054	1 1/2	1/8	4	**03615**
0.037	0.056	1 1/2	1/8	4	**03715**
0.038	0.057	1 1/2	1/8	4	**03815**

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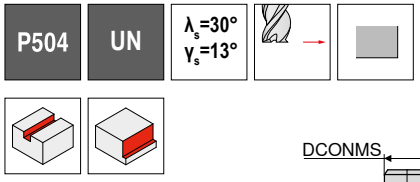


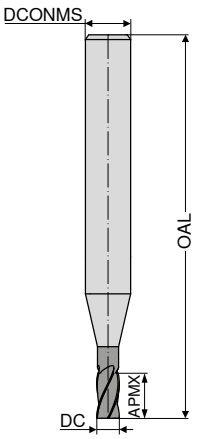
→ Find the cutting data standard values here.

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CoreLine – Micro end mills – UN

P504 UN λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 009 ...
0.039	0.059	1 1/2	1/8	4	**03915**
0.040	0.060	1 1/2	1/8	4	**04015**
0.041	0.062	1 1/2	1/8	4	**04115**
0.042	0.063	1 1/2	1/8	4	**04215**
0.043	0.065	1 1/2	1/8	4	**04315**
0.044	0.066	1 1/2	1/8	4	**04415**
0.045	0.068	1 1/2	1/8	4	**04515**
0.046	0.069	1 1/2	1/8	4	**04615**
0.047	0.071	1 1/2	1/8	4	**04715**
0.048	0.072	1 1/2	1/8	4	**04815**
0.049	0.074	1 1/2	1/8	4	**04915**
0.050	0.075	1 1/2	1/8	4	**05015**
0.051	0.077	1 1/2	1/8	4	**05115**
0.052	0.078	1 1/2	1/8	4	**05215**
0.053	0.080	1 1/2	1/8	4	**05315**
0.054	0.081	1 1/2	1/8	4	**05415**
0.055	0.083	1 1/2	1/8	4	**05515**
0.056	0.084	1 1/2	1/8	4	**05615**
0.057	0.086	1 1/2	1/8	4	**05715**
0.058	0.087	1 1/2	1/8	4	**05815**
0.059	0.089	1 1/2	1/8	4	**05915**
0.060	0.090	1 1/2	1/8	4	**06015**
0.061	0.092	1 1/2	1/8	4	**06115**
0.062	0.093	1 1/2	1/8	4	**06215**
0.063	0.095	1 1/2	1/8	4	**06315**
0.064	0.096	1 1/2	1/8	4	**06415**
0.065	0.098	1 1/2	1/8	4	**06515**
0.066	0.099	1 1/2	1/8	4	**06615**
0.067	0.101	1 1/2	1/8	4	**06715**
0.068	0.102	1 1/2	1/8	4	**06815**
0.069	0.104	1 1/2	1/8	4	**06915**
0.070	0.105	1 1/2	1/8	4	**07015**
0.071	0.107	1 1/2	1/8	4	**07115**
0.072	0.108	1 1/2	1/8	4	**07215**

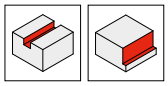
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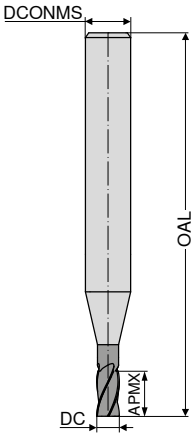
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CoreLine – Micro end mills – UN

P504 UN λ_s=30° γ_s=13°





AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 009 ...
0.073	0.110	1 1/2	1/8	4	**07315**
0.074	0.111	1 1/2	1/8	4	**07415**
0.075	0.113	1 1/2	1/8	4	**07515**
0.076	0.114	1 1/2	1/8	4	**07615**
0.077	0.116	1 1/2	1/8	4	**07715**
0.078	0.117	1 1/2	1/8	4	**07815**
0.079	0.119	1 1/2	1/8	4	**07915**
0.080	0.120	1 1/2	1/8	4	**08015**
0.081	0.122	1 1/2	1/8	4	**08115**
0.082	0.123	1 1/2	1/8	4	**08215**
0.083	0.125	1 1/2	1/8	4	**08315**
0.084	0.126	1 1/2	1/8	4	**08415**
0.085	0.128	1 1/2	1/8	4	**08515**
0.086	0.129	1 1/2	1/8	4	**08615**
0.087	0.131	1 1/2	1/8	4	**08715**
0.088	0.132	1 1/2	1/8	4	**08815**
0.089	0.134	1 1/2	1/8	4	**08915**
0.090	0.135	1 1/2	1/8	4	**09015**
0.091	0.137	1 1/2	1/8	4	**09115**
0.092	0.138	1 1/2	1/8	4	**09215**
0.093	0.140	1 1/2	1/8	4	**09315**
0.094	0.141	1 1/2	1/8	4	**09415**
0.095	0.143	1 1/2	1/8	4	**09515**
0.096	0.144	1 1/2	1/8	4	**09615**
0.097	0.146	1 1/2	1/8	4	**09715**
0.098	0.147	1 1/2	1/8	4	**09815**
0.099	0.149	1 1/2	1/8	4	**09915**
0.100	0.150	1 1/2	1/8	4	**10015**
0.101	0.152	1 1/2	1/8	4	**10115**
0.102	0.153	1 1/2	1/8	4	**10215**
0.103	0.155	1 1/2	1/8	4	**10315**
0.104	0.156	1 1/2	1/8	4	**10415**
0.105	0.158	1 1/2	1/8	4	**10515**
0.106	0.159	1 1/2	1/8	4	**10615**

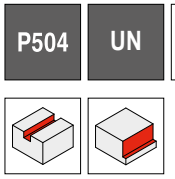
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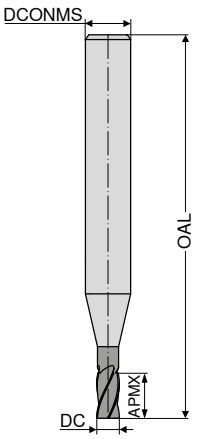
→ Find the cutting data standard values here.

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CoreLine – Micro end mills – UN

P504 UN λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 009 ...
0.107	0.161	1 1/2	1/8	4	**10715**
0.108	0.162	1 1/2	1/8	4	**10815**
0.109	0.164	1 1/2	1/8	4	**10915**
0.110	0.165	1 1/2	1/8	4	**11015**
0.111	0.167	1 1/2	1/8	4	**11115**
0.112	0.168	1 1/2	1/8	4	**11215**
0.113	0.170	1 1/2	1/8	4	**11315**
0.114	0.171	1 1/2	1/8	4	**11415**
0.115	0.173	1 1/2	1/8	4	**11515**
0.116	0.174	1 1/2	1/8	4	**11615**
0.117	0.176	1 1/2	1/8	4	**11715**
0.118	0.177	1 1/2	1/8	4	**11815**
0.119	0.179	1 1/2	1/8	4	**11915**
0.120	0.180	1 1/2	1/8	4	**12015**

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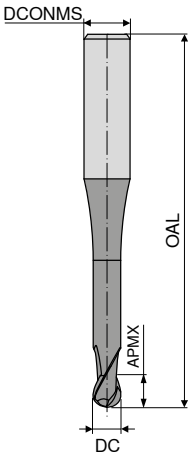
→ Find the cutting data standard values here.

CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P503 | UN | λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 008 ...
0.005	0.015	1 1/2	1/8	4	**00530**
0.006	0.018	1 1/2	1/8	4	**00630**
0.007	0.021	1 1/2	1/8	4	**00730**
0.008	0.024	1 1/2	1/8	4	**00830**
0.009	0.027	1 1/2	1/8	4	**00930**
0.010	0.030	1 1/2	1/8	4	**01030**
0.011	0.033	1 1/2	1/8	4	**01130**
0.012	0.036	1 1/2	1/8	4	**01230**
0.013	0.039	1 1/2	1/8	4	**01330**
0.014	0.042	1 1/2	1/8	4	**01430**
0.015	0.045	1 1/2	1/8	4	**01530**
0.016	0.048	1 1/2	1/8	4	**01630**
0.017	0.051	1 1/2	1/8	4	**01730**
0.018	0.054	1 1/2	1/8	4	**01830**
0.019	0.057	1 1/2	1/8	4	**01930**
0.020	0.060	1 1/2	1/8	4	**02030**
0.021	0.063	1 1/2	1/8	4	**02130**
0.022	0.066	1 1/2	1/8	4	**02230**
0.023	0.069	1 1/2	1/8	4	**02330**
0.024	0.072	1 1/2	1/8	4	**02430**
0.025	0.075	1 1/2	1/8	4	**02530**
0.026	0.078	1 1/2	1/8	4	**02630**
0.027	0.081	1 1/2	1/8	4	**02730**
0.028	0.084	1 1/2	1/8	4	**02830**
0.029	0.087	1 1/2	1/8	4	**02930**
0.030	0.090	1 1/2	1/8	4	**03030**
0.031	0.093	1 1/2	1/8	4	**03130**
0.032	0.096	1 1/2	1/8	4	**03230**
0.033	0.099	1 1/2	1/8	4	**03330**
0.034	0.102	1 1/2	1/8	4	**03430**
0.035	0.105	1 1/2	1/8	4	**03530**
0.036	0.108	1 1/2	1/8	4	**03630**
0.037	0.111	1 1/2	1/8	4	**03730**
0.038	0.114	1 1/2	1/8	4	**03830**
0.039	0.117	1 1/2	1/8	4	**03930**
0.040	0.120	1 1/2	1/8	4	**04030**
0.041	0.123	1 1/2	1/8	4	**04130**
0.042	0.126	1 1/2	1/8	4	**04230**
0.043	0.129	1 1/2	1/8	4	**04330**

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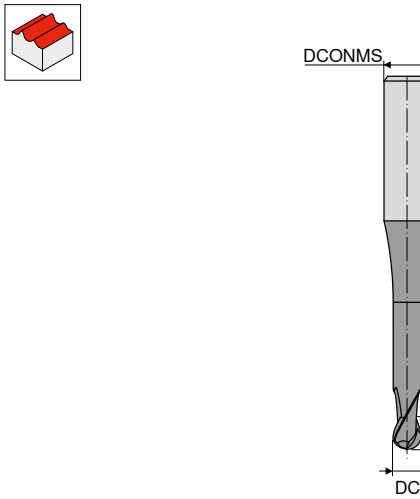
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CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P503 | UN | λ_s=30° γ_s=13°



AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 008 ...
0.044	0.132	1 1/2	1/8	4	**04430**
0.045	0.135	1 1/2	1/8	4	**04530**
0.046	0.138	1 1/2	1/8	4	**04630**
0.047	0.141	1 1/2	1/8	4	**04730**
0.048	0.144	1 1/2	1/8	4	**04830**
0.049	0.147	1 1/2	1/8	4	**04930**
0.050	0.150	1 1/2	1/8	4	**05030**
0.051	0.153	1 1/2	1/8	4	**05130**
0.052	0.156	1 1/2	1/8	4	**05230**
0.053	0.159	1 1/2	1/8	4	**05330**
0.054	0.162	1 1/2	1/8	4	**05430**
0.055	0.165	1 1/2	1/8	4	**05530**
0.056	0.168	1 1/2	1/8	4	**05630**
0.057	0.171	1 1/2	1/8	4	**05730**
0.058	0.174	1 1/2	1/8	4	**05830**
0.059	0.177	1 1/2	1/8	4	**05930**
0.060	0.180	1 1/2	1/8	4	**06030**
0.061	0.183	1 1/2	1/8	4	**06130**
0.062	0.186	1 1/2	1/8	4	**06230**
0.063	0.189	1 1/2	1/8	4	**06330**
0.064	0.192	1 1/2	1/8	4	**06430**
0.065	0.195	1 1/2	1/8	4	**06530**
0.066	0.198	1 1/2	1/8	4	**06630**
0.067	0.201	1 1/2	1/8	4	**06730**
0.068	0.204	1 1/2	1/8	4	**06830**
0.069	0.207	1 1/2	1/8	4	**06930**
0.070	0.210	1 1/2	1/8	4	**07030**
0.071	0.213	1 1/2	1/8	4	**07130**
0.072	0.216	1 1/2	1/8	4	**07230**
0.073	0.219	1 1/2	1/8	4	**07330**
0.074	0.222	1 1/2	1/8	4	**07430**
0.075	0.225	1 1/2	1/8	4	**07530**
0.076	0.228	1 1/2	1/8	4	**07630**
0.077	0.231	1 1/2	1/8	4	**07730**
0.078	0.234	1 1/2	1/8	4	**07830**
0.079	0.237	1 1/2	1/8	4	**07930**
0.080	0.240	1 1/2	1/8	4	**08030**
0.081	0.243	1 1/2	1/8	4	**08130**
0.082	0.246	1 1/2	1/8	4	**08230**

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→ Find the cutting data standard values here.

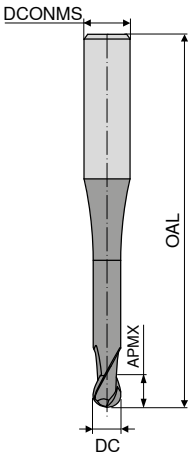
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CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P503 | UN | λ_s=30° γ_s=13°





AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 008 ...
0.083	0.249	1 1/2	1/8	4	**08330**
0.084	0.252	1 1/2	1/8	4	**08430**
0.085	0.255	1 1/2	1/8	4	**08530**
0.086	0.258	1 1/2	1/8	4	**08630**
0.087	0.261	1 1/2	1/8	4	**08730**
0.088	0.264	1 1/2	1/8	4	**08830**
0.089	0.267	1 1/2	1/8	4	**08930**
0.090	0.270	1 1/2	1/8	4	**09030**
0.091	0.273	1 1/2	1/8	4	**09130**
0.092	0.276	1 1/2	1/8	4	**09230**
0.093	0.279	1 1/2	1/8	4	**09330**
0.094	0.282	1 1/2	1/8	4	**09430**
0.095	0.285	1 1/2	1/8	4	**09530**
0.096	0.288	1 1/2	1/8	4	**09630**
0.097	0.291	1 1/2	1/8	4	**09730**
0.098	0.294	1 1/2	1/8	4	**09830**
0.099	0.297	1 1/2	1/8	4	**09930**
0.100	0.300	1 1/2	1/8	4	**10030**
0.101	0.303	1 1/2	1/8	4	**10130**
0.102	0.306	1 1/2	1/8	4	**10230**
0.103	0.309	1 1/2	1/8	4	**10330**
0.104	0.312	1 1/2	1/8	4	**10430**
0.105	0.315	1 1/2	1/8	4	**10530**
0.106	0.318	1 1/2	1/8	4	**10630**
0.107	0.321	1 1/2	1/8	4	**10730**
0.108	0.324	1 1/2	1/8	4	**10830**
0.109	0.327	1 1/2	1/8	4	**10930**
0.110	0.330	1 1/2	1/8	4	**11030**
0.111	0.333	1 1/2	1/8	4	**11130**
0.112	0.336	1 1/2	1/8	4	**11230**
0.113	0.339	1 1/2	1/8	4	**11330**
0.114	0.341	1 1/2	1/8	4	**11430**
0.115	0.345	1 1/2	1/8	4	**11530**
0.116	0.348	1 1/2	1/8	4	**11630**
0.117	0.351	1 1/2	1/8	4	**11730**
0.118	0.354	1 1/2	1/8	4	**11830**
0.119	0.357	1 1/2	1/8	4	**11930**
0.120	0.360	1 1/2	1/8	4	**12030**

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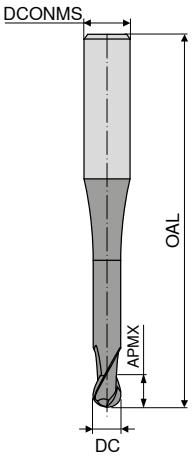
→ Find the cutting data standard values here.

CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P506 | UN | λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 010 ...
0.005	0.008	1 1/2	1/8	4	**00516**
0.006	0.009	1 1/2	1/8	4	**00615**
0.007	0.011	1 1/2	1/8	4	**00716**
0.008	0.012	1 1/2	1/8	4	**00815**
0.009	0.014	1 1/2	1/8	4	**00916**
0.010	0.015	1 1/2	1/8	4	**01015**
0.011	0.017	1 1/2	1/8	4	**01115**
0.012	0.018	1 1/2	1/8	4	**01215**
0.013	0.020	1 1/2	1/8	4	**01315**
0.014	0.021	1 1/2	1/8	4	**01415**
0.015	0.023	1 1/2	1/8	4	**01515**
0.016	0.024	1 1/2	1/8	4	**01615**
0.017	0.026	1 1/2	1/8	4	**01715**
0.018	0.027	1 1/2	1/8	4	**01815**
0.019	0.029	1 1/2	1/8	4	**01915**
0.020	0.030	1 1/2	1/8	4	**02015**
0.021	0.032	1 1/2	1/8	4	**02115**
0.022	0.033	1 1/2	1/8	4	**02215**
0.023	0.035	1 1/2	1/8	4	**02315**
0.024	0.036	1 1/2	1/8	4	**02415**
0.025	0.038	1 1/2	1/8	4	**02515**
0.026	0.039	1 1/2	1/8	4	**02615**
0.027	0.041	1 1/2	1/8	4	**02715**
0.028	0.042	1 1/2	1/8	4	**02815**
0.029	0.044	1 1/2	1/8	4	**02915**
0.030	0.045	1 1/2	1/8	4	**03015**
0.031	0.047	1 1/2	1/8	4	**03115**
0.032	0.048	1 1/2	1/8	4	**03215**
0.033	0.050	1 1/2	1/8	4	**03315**
0.034	0.051	1 1/2	1/8	4	**03415**
0.035	0.053	1 1/2	1/8	4	**03515**
0.036	0.054	1 1/2	1/8	4	**03615**
0.037	0.056	1 1/2	1/8	4	**03715**
0.038	0.057	1 1/2	1/8	4	**03815**
0.039	0.059	1 1/2	1/8	4	**03915**
0.040	0.060	1 1/2	1/8	4	**04015**
0.041	0.062	1 1/2	1/8	4	**04115**
0.042	0.063	1 1/2	1/8	4	**04215**
0.043	0.065	1 1/2	1/8	4	**04315**

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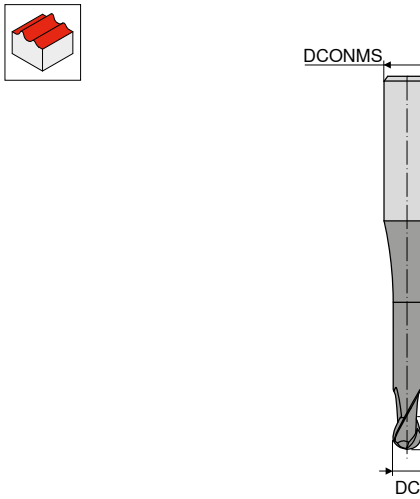
→ Find the cutting data standard values here.

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CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P506 | UN | λ_s=30° γ_s=13°



AlTiN



DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 010 ...
0.044	0.066	1 1/2	1/8	4	**04415**
0.045	0.068	1 1/2	1/8	4	**04515**
0.046	0.069	1 1/2	1/8	4	**04615**
0.047	0.071	1 1/2	1/8	4	**04715**
0.048	0.072	1 1/2	1/8	4	**04815**
0.049	0.074	1 1/2	1/8	4	**04915**
0.050	0.075	1 1/2	1/8	4	**05015**
0.051	0.077	1 1/2	1/8	4	**05115**
0.052	0.078	1 1/2	1/8	4	**05215**
0.053	0.080	1 1/2	1/8	4	**05315**
0.054	0.081	1 1/2	1/8	4	**05415**
0.055	0.083	1 1/2	1/8	4	**05515**
0.056	0.084	1 1/2	1/8	4	**05615**
0.057	0.086	1 1/2	1/8	4	**05715**
0.058	0.087	1 1/2	1/8	4	**05815**
0.059	0.089	1 1/2	1/8	4	**05915**
0.060	0.090	1 1/2	1/8	4	**06015**
0.061	0.092	1 1/2	1/8	4	**06115**
0.062	0.093	1 1/2	1/8	4	**06215**
0.063	0.095	1 1/2	1/8	4	**06315**
0.064	0.096	1 1/2	1/8	4	**06415**
0.065	0.098	1 1/2	1/8	4	**06515**
0.066	0.099	1 1/2	1/8	4	**06615**
0.067	0.101	1 1/2	1/8	4	**06715**
0.068	0.102	1 1/2	1/8	4	**06815**
0.069	0.104	1 1/2	1/8	4	**06915**
0.070	0.105	1 1/2	1/8	4	**07015**
0.071	0.107	1 1/2	1/8	4	**07115**
0.072	0.108	1 1/2	1/8	4	**07215**
0.073	0.110	1 1/2	1/8	4	**07315**
0.074	0.111	1 1/2	1/8	4	**07415**
0.075	0.113	1 1/2	1/8	4	**07515**
0.076	0.114	1 1/2	1/8	4	**07615**
0.077	0.116	1 1/2	1/8	4	**07715**
0.078	0.117	1 1/2	1/8	4	**07815**
0.079	0.119	1 1/2	1/8	4	**07915**
0.080	0.120	1 1/2	1/8	4	**08015**
0.081	0.122	1 1/2	1/8	4	**08115**
0.082	0.123	1 1/2	1/8	4	**08215**

P	●
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O	

→ Find the cutting data standard values here.

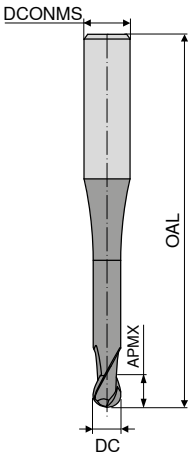
Continued on next page

CoreLine – Micro ball-nosed end mills – UN

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P506 | UN | λ_s=30° γ_s=13°





AlTiN







DC +/-0.0005 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 010 ...
0.083	0.125	1 1/2	1/8	4	**08315**
0.084	0.126	1 1/2	1/8	4	**08415**
0.085	0.128	1 1/2	1/8	4	**08515**
0.086	0.129	1 1/2	1/8	4	**08615**
0.087	0.131	1 1/2	1/8	4	**08715**
0.088	0.132	1 1/2	1/8	4	**08815**
0.089	0.134	1 1/2	1/8	4	**08915**
0.090	0.135	1 1/2	1/8	4	**09015**
0.091	0.137	1 1/2	1/8	4	**09115**
0.092	0.138	1 1/2	1/8	4	**09215**
0.093	0.140	1 1/2	1/8	4	**09315**
0.094	0.141	1 1/2	1/8	4	**09415**
0.095	0.143	1 1/2	1/8	4	**09515**
0.096	0.144	1 1/2	1/8	4	**09615**
0.097	0.146	1 1/2	1/8	4	**09715**
0.098	0.147	1 1/2	1/8	4	**09815**
0.099	0.149	1 1/2	1/8	4	**09915**
0.100	0.150	1 1/2	1/8	4	**10015**
0.101	0.152	1 1/2	1/8	4	**10115**
0.102	0.153	1 1/2	1/8	4	**10215**
0.103	0.155	1 1/2	1/8	4	**10315**
0.104	0.156	1 1/2	1/8	4	**10415**
0.105	0.158	1 1/2	1/8	4	**10515**
0.106	0.159	1 1/2	1/8	4	**10615**
0.107	0.161	1 1/2	1/8	4	**10715**
0.108	0.162	1 1/2	1/8	4	**10815**
0.109	0.164	1 1/2	1/8	4	**10915**
0.110	0.165	1 1/2	1/8	4	**11015**
0.111	0.167	1 1/2	1/8	4	**11115**
0.112	0.168	1 1/2	1/8	4	**11215**
0.113	0.170	1 1/2	1/8	4	**11315**
0.114	0.171	1 1/2	1/8	4	**11415**
0.115	0.173	1 1/2	1/8	4	**11515**
0.116	0.174	1 1/2	1/8	4	**11615**
0.117	0.176	1 1/2	1/8	4	**11715**
0.118	0.177	1 1/2	1/8	4	**11815**
0.119	0.179	1 1/2	1/8	4	**11915**
0.120	0.180	1 1/2	1/8	4	**12015**

P	●
M	●
K	●
N	●
S	●
H	
O	

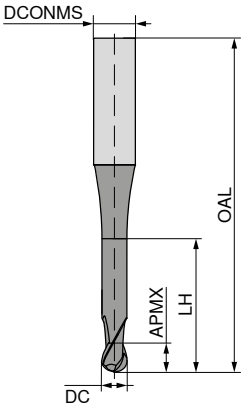
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ Radius accuracy: + 0.000 / - 0.0004

P251 | UN | λ_s=30° γ_s= 8°





AlTiN







DC +/-0.0005 inch	APMX inch	LH inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 064 ...
0.031	0.031	5/8	4	1/4	2	**03110**
0.060	0.060	1 1/4	4	1/4	2	**06010**
0.080	0.080	1 5/8	4	1/4	2	**08010**
0.094	0.094	1 7/8	4	1/4	2	**09410**
0.125	0.125	2 1/2	4	1/4	2	**12510**
0.188	0.188	2.265	4	1/4	2	**18810**

P	●
M	●
K	●
N	●
S	●
H	
O	



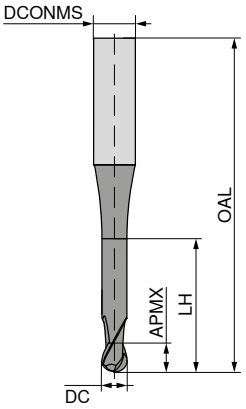
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ Radius accuracy: + 0.000 / - 0.0004

P252 UN λ_s=30° γ_s= 8°





AlTiN



DC +/-0.0005 inch	APMX inch	LH inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 065 ...
0.031	0.031	2.125	4	1/4	2	**03110**
0.060	0.060	1.875	4	1/4	2	**06010**
0.080	0.080	1.704	4	1/4	2	**08010**
0.094	0.094	1.584	4	1/4	2	**09410**
0.125	0.125	1.324	4	1/4	2	**12510**
0.188	0.188	0.785	4	1/4	2	**18810**

P	●
M	●
K	●
N	●
S	●
H	
O	

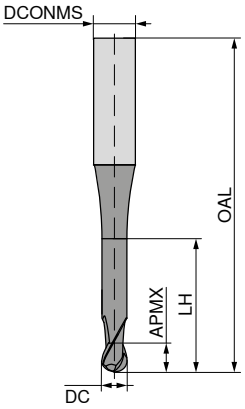
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – UN

▲ Radius accuracy: + 0.000 / - 0.0004

P253 UN λ_s=30° γ_s= 8°





AlTiN



DC +/-0.0005 inch	APMX inch	LH inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 066 ...
0.031	0.031	1.282	4	1/4	2	**03110**
0.060	0.060	1.175	4	1/4	2	**06010**
0.080	0.080	1.084	4	1/4	2	**08010**
0.094	0.094	1.018	4	1/4	2	**09410**
0.125	0.125	0.897	4	1/4	2	**12510**
0.188	0.188	0.687	4	1/4	2	**18810**

P	●
M	●
K	●
N	●
S	●
H	
O	

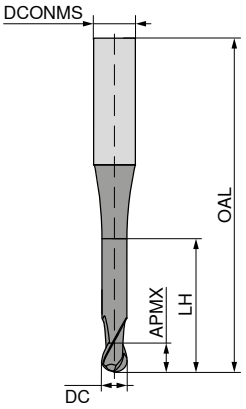
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mill 8° – UN

▲ Radius accuracy: + 0.000 / - 0.0004

P254 UN λ_s=30° γ_s= 8°





AlTiN



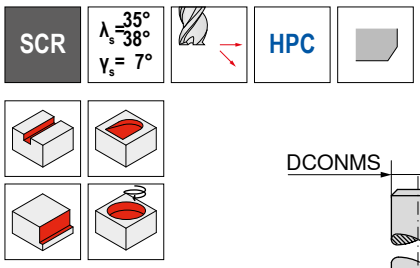
DC +/-0.0005 inch	APMX inch	LH inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 067 ...
0.031	0.031	0.773	4	1/4	2	**03110**
0.060	0.060	0.726	4	1/4	2	**06010**
0.080	0.080	0.690	4	1/4	2	**08010**
0.094	0.094	0.750	4	1/4	2	**09410**
0.125	0.125	0.636	4	1/4	2	**12510**
0.188	0.188	0.454	4	1/4	2	**18810**

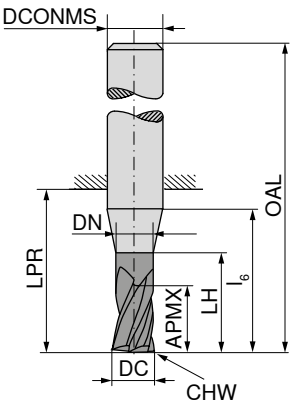
P	●
M	●
K	●
N	●
S	●
H	
O	

→ Find the cutting data standard values here.

CoreLine – End mill – SCR

The specialist for machining steel and cast iron









DIN 6527 | DIN 6527 | DIN 6527 | DIN 6527



SM | SM | SM | SM

DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	52 600 ...	52 601 ...	52 602 ...	52 603 ...
3.0	5	2.9	9	14	14	50	6	0.07	4	030	030		
3.0	8	2.9	14	20	22	58	6	0.07	4			030	030
3.5	5	3.4	9	14	14	50	6	0.07	4	035	035		
3.5	8	3.4	14	20	22	58	6	0.07	4			035	035
4.0	8	3.8	12	18	18	54	6	0.07	4	040	040		
4.0	11	3.8	18	20	22	58	6	0.07	4			040	040
4.5	9	4.3	12	18	18	54	6	0.07	4	045	045		
4.5	13	4.3	18	20	22	58	6	0.07	4			045	045
5.0	9	4.8	16	18	18	54	6	0.07	4	050	050		
5.0	13	4.8	19	20	22	58	6	0.07	4			050	050
5.5	9	5.3	16	18	18	54	6	0.07	4	055	055		
5.5	13	5.3	19	20	22	58	6	0.07	4			055	055
6.0	10	5.8		16	18	54	6	0.07	4	060	060		
6.0	13	5.8		20	22	58	6	0.07	4			060	060
6.5	12	6.3	18	20	23	59	8	0.07	4	065	065		
6.5	19	6.3	23	25	28	64	8	0.07	4			065	065
7.0	12	6.8	18	20	23	59	8	0.07	4	070	070		
7.0	19	6.8	23	25	28	64	8	0.07	4			070	070
7.5	12	7.3	18	20	23	59	8	0.12	4	075	075		
7.5	19	7.3	23	25	28	64	8	0.12	4			075	075
8.0	12	7.7		20	23	59	8	0.12	4	080	080		
8.0	19	7.7		25	28	64	8	0.12	4			080	080
8.5	15	8.2	22	24	27	67	10	0.20	4	085	085		
8.5	22	8.2	28	30	33	73	10	0.20	4				085
9.0	15	8.7	22	24	27	67	10	0.20	4	090	090		
9.0	22	8.7	28	30	33	73	10	0.20	4			090	090
9.5	15	9.2	22	24	27	67	10	0.20	4	095	095		
9.5	22	9.2	28	30	33	73	10	0.20	4			095	
10.0	15	9.5		24	27	67	10	0.20	4	100	100		
10.0	22	9.5		30	33	73	10	0.20	4			100	100

P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

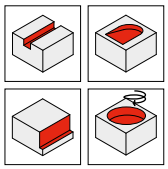
→ Find the cutting data standard values here.

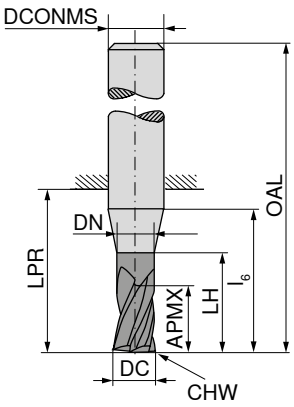
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CoreLine – End mill – SCR

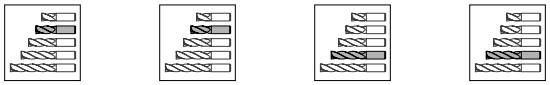
The specialist for machining steel and cast iron

SCR | λ_s = 35° | λ_s = 38° | γ_s = 7° | HPC









DIN 6527 | DIN 6527 | DIN 6527 | DIN 6527



SM | SM | SM | SM

DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	52 600 ...	52 601 ...	52 602 ...	52 603 ...
11.0	18	10.5	24	26	28	73	12	0.20	4	**110**	**110**		
11.0	26	10.5	32	35	39	84	12	0.20	4			**110**	**110**
12.0	18	11.5		26	28	73	12	0.20	4	**120**	**120**		
12.0	26	11.5		35	39	84	12	0.20	4			**120**	**120**
14.0	21	13.5		28	30	75	14	0.20	4	**140**	**140**		
14.0	26	13.5		35	39	84	14	0.20	4				**140**
15.0	24	14.5	30	32	35	83	16	0.20	4	**150**	**150**		
16.0	24	15.5		32	35	83	16	0.20	4	**160**	**160**		
16.0	32	15.5		40	45	93	16	0.20	5				**161** [1]
16.0	32	15.5		40	45	93	16	0.20	4			**160**	**160**
18.0	27	17.5		34	37	85	18	0.20	4	**180**	**180**		
18.0	32	17.5		50	52	100	18	0.20	4				**180**
20.0	30	19.5		40	43	93	20	0.30	4	**200**	**200**		
20.0	38	19.5		50	54	104	20	0.30	5				**201** [1]
20.0	38	19.5		50	54	104	20	0.30	4			**200**	**200**

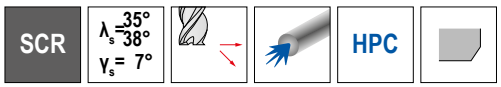
P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

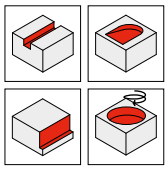
1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

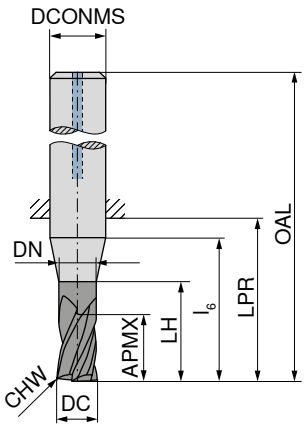
→ Find the cutting data standard values here.

CoreLine – End mill – SCR

The specialist for machining steel and cast iron







Ti1200





DIN 6527



SM

DC f8 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	52 606 ...
3	8	2.9	14	20	22	58	6	0.07	4	**030**
4	11	3.8	18	20	22	58	6	0.07	4	**040**
5	13	4.8	19	20	22	58	6	0.07	4	**050**
6	13	5.8		20	22	58	6	0.07	4	**060**
8	19	7.7		25	28	64	8	0.12	4	**080**
10	22	9.5		30	33	73	10	0.20	4	**100**
12	26	11.5		35	39	84	12	0.20	4	**120**
16	32	15.5		40	45	93	16	0.20	4	**160**
20	38	19.5		50	54	104	20	0.30	4	**200**

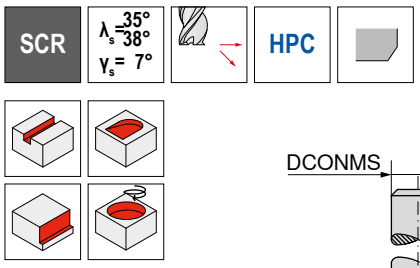
P	●
M	○
K	●
N	○
S	○
H	○
O	○

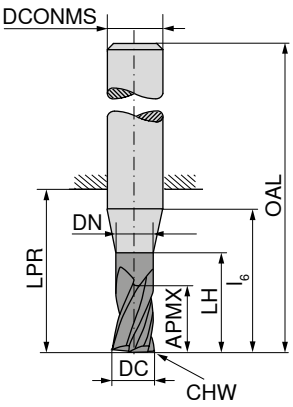


→ Find the cutting data standard values here.

CoreLine – End mill – SCR

The specialist for machining steel and cast iron











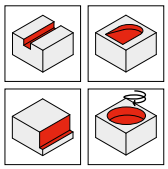
										Factory standard	Factory standard
											
										SM	SM
DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	**52 604 ...**	**52 605 ...**
3	5	2.9	14	20	22	58	6	0.07	4	**030**	
3	5	2.9	19	23	26	62	6	0.07	4		**030**
4	8	3.8	18	20	22	58	6	0.07	4	**040**	
4	8	3.8	23	25	26	62	6	0.07	4		**040**
5	9	4.8	19	20	22	58	6	0.07	4	**050**	
5	9	4.8	24	25	26	62	6	0.07	4		**050**
6	10	5.8		20	22	58	6	0.07	4	**060**	
6	10	5.8		25	26	62	6	0.07	4		**060**
8	12	7.7		25	28	64	8	0.12	4	**080**	
8	12	7.7		30	32	68	8	0.12	4		**080**
10	15	9.5		30	33	73	10	0.20	4	**100**	
10	15	9.5		35	40	80	10	0.20	4		**100**
12	18	11.5		35	39	84	12	0.20	4	**120**	
12	18	11.5		45	48	93	12	0.20	4		**120**
14	21	13.5		50	54	99	14	0.20	4		**140**
16	24	15.5		55	60	108	16	0.20	4		**160**
20	30	19.5		70	76	126	20	0.30	4		**200**
P										●	●
M										○	○
K										●	●
N										○	○
S										○	○
H										○	○
O										○	○

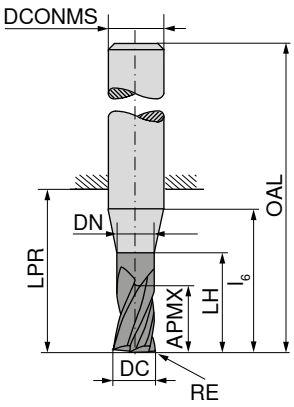
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – SCR

The specialist for machining steel and cast iron

SCR | λ_s =35° 38° γ_s = 7° | HPC





Ti1200





Factory standard



SM

DC f8 mm	RE ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	52 607 ...
3	0.10	8	2.9	14	20	22	58	6	4	030
3	0.30	8	2.9	14	20	22	58	6	4	031
3	0.50	8	2.9	14	20	22	58	6	4	032
4	0.10	11	3.8	18	20	22	58	6	4	040
4	0.40	11	3.8	18	20	22	58	6	4	041
4	0.50	11	3.8	18	20	22	58	6	4	042
5	0.10	13	4.8	19	20	22	58	6	4	050
5	0.50	13	4.8	19	20	22	58	6	4	051
5	1.00	13	4.8	19	20	22	58	6	4	052
6	0.10	13	5.8		20	22	58	6	4	060
6	0.50	13	5.8		20	22	58	6	4	061
6	1.00	13	5.8		20	22	58	6	4	062
8	0.15	19	7.7		25	28	64	8	4	080
8	0.50	19	7.7		25	28	64	8	4	081
8	1.00	19	7.7		25	28	64	8	4	082
8	2.00	19	7.7		25	28	64	8	4	083
10	0.15	22	9.5		30	33	73	10	4	100
10	0.50	22	9.5		30	33	73	10	4	101
10	1.00	22	9.5		30	33	73	10	4	102
10	1.50	22	9.5		30	33	73	10	4	103
10	2.00	22	9.5		30	33	73	10	4	104
12	0.20	26	11.5		35	39	84	12	4	120
12	0.50	26	11.5		35	39	84	12	4	121
12	1.00	26	11.5		35	39	84	12	4	122
12	1.50	26	11.5		35	39	84	12	4	123
12	2.00	26	11.5		35	39	84	12	4	124
14	1.00	26	13.5		35	39	84	14	4	140
16	0.30	32	15.5		40	45	93	16	4	160
16	0.50	32	15.5		40	45	93	16	4	161
16	1.00	32	15.5		40	45	93	16	4	162
16	2.00	32	15.5		40	45	93	16	4	163
16	4.00	32	15.5		40	45	93	16	4	164
20	0.30	38	19.5		50	54	104	20	4	200
20	0.50	38	19.5		50	54	104	20	4	201
20	1.00	38	19.5		50	54	104	20	4	202
20	2.00	38	19.5		50	54	104	20	4	203

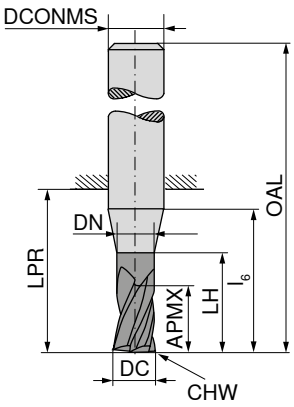
P	●
M	○
K	●
N	○
S	○
H	○
O	○

→ Find the cutting data standard values here.

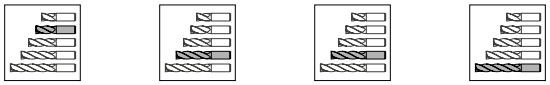
CoreLine – End mill – SCR

The specialist for machining steel and cast iron

SCR | λ_s =35° λ_s =38° γ_s = 7° | HPC







DIN 6527 | DIN 6527 | DIN 6527 | Factory standard



SM | SM | SM | SM

DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	CHW mm	ZEFP	52 608 ...	52 608 ...	52 608 ...	52 608 ...
5	9	4.8	16	18	18	54	6	0.12	6	050			
5	13	4.8	19	20	22	58	6	0.12	6		051		
6	10	5.8		16	18	54	6	0.12	6	060			
6	13	5.8		20	22	58	6	0.12	6		061		
8	12	7.7		20	23	59	8	0.12	6	080			
8	19	7.7		25	28	64	8	0.12	6		081		
8	19	7.7		30	32	68	8	0.12	6				082
10	15	9.5		24	27	67	10	0.20	6	100			
10	22	9.5		30	33	73	10	0.20	6		101	103	
10	22	9.5		35	40	80	10	0.20	6				102
12	18	11.5		26	28	73	12	0.20	6	120			
12	26	11.5		35	39	84	12	0.20	6		121	123	
12	26	11.5		45	48	93	12	0.20	6				122
16	24	15.5		32	35	83	16	0.20	6	160			
16	32	15.5		40	45	93	16	0.20	6		161	163	
16	32	15.5		55	60	108	16	0.20	6				162
20	30	19.5		40	43	93	20	0.30	6	200			
20	38	19.5		50	54	104	20	0.30	6		201	203	
20	38	19.5		70	76	126	20	0.30	6				202

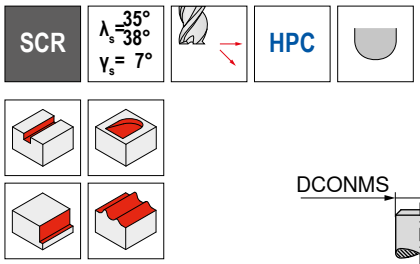
P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

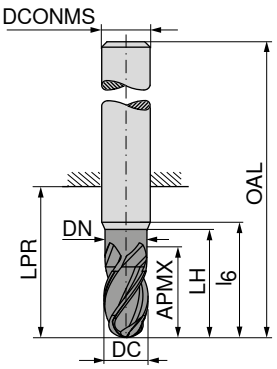
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – SCR

The specialist for machining steel and cast iron

▲ Radius accuracy: - 0.015 mm for Ø ≤ 6.0 mm / - 0.02 mm for Ø > 6.0 mm







DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	DIN 6527 SM 52 611 ...	DIN 6527 SM 52 611 ...	DIN 6527 SM 52 612 ...	DIN 6527 SM 52 612 ...
3	5	2.9	9	14	14	50	6	3	**030**			
3	8	2.9	14	20	22	58	6	3			**030**	
4	8	3.8	12	18	18	54	6	3	**040**			
4	11	3.8	18	20	22	58	6	3			**040**	
5	9	4.8	16	18	18	54	6	3	**050**			
5	13	4.8	19	20	22	58	6	3			**050**	
6	10	5.8		16	18	54	6	4	**060**	**061**		
6	13	5.8		20	22	58	6	4			**060**	**061**
8	12	7.7		20	23	59	8	4	**080**	**081**		
8	19	7.7		25	28	64	8	4			**080**	**081**
10	15	9.5		24	27	67	10	4	**100**	**101**		
10	22	9.5		30	33	73	10	4			**100**	**101**
12	18	11.5		26	28	73	12	4	**120**	**121**		
12	26	11.5		35	39	84	12	4			**120**	**121**
16	24	15.5		32	35	83	16	4	**160**	**161**		
16	32	15.5		40	45	93	16	4			**160**	**161**

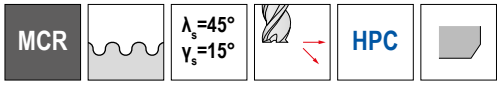
P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

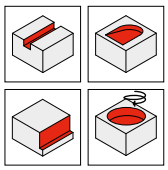
→ Find the cutting data standard values here.

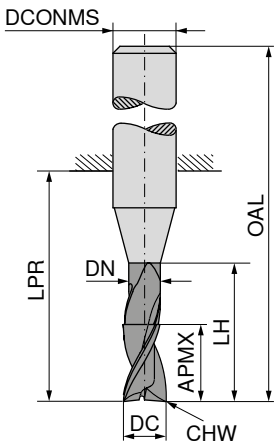
CoreLine – Roughing milling cutters – MCR

The specialist for rough machining steel and cast iron

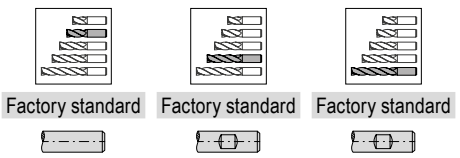
- ▲ Cutting edges with irregular pitch
- ▲ With round cord profile











DC h11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 752 ...	SM 52 752 ...	SM 52 752 ...
1	1.5	0.9	3	10	38	3	0.09	3	**010** [1]		
2	3.0	1.9	8	21	57	6	0.17	3	**020**		
3	5.0	2.9	14	21	57	6	0.17	3	**030**		
3	8.0	2.9	14	21	57	6	0.17	3		**031**	
3	5.0	2.9	19	26	62	6	0.17	3			**032**
4	8.0	3.8	18	21	57	6	0.17	3	**040**		
4	11.0	3.8	18	21	57	6	0.17	3		**041**	
4	8.0	3.8	23	26	62	6	0.17	3			**042**
5	9.0	4.8	19	21	57	6	0.17	3	**050**		
5	13.0	4.8	19	21	57	6	0.17	3		**051**	
5	9.0	4.8	24	26	62	6	0.17	3			**052**
6	10.0	5.8	20	21	57	6	0.17	4	**060**		
6	13.0	5.8	20	21	57	6	0.17	4		**061**	
6	10.0	5.8	25	26	62	6	0.17	4			**062**
8	12.0	7.7	25	27	63	8	0.28	4	**080**		
8	19.0	7.7	25	27	63	8	0.28	4		**081**	
8	12.0	7.7	30	32	68	8	0.28	4			**082**
10	15.0	9.5	30	32	72	10	0.28	4	**100**		
10	22.0	9.5	30	32	72	10	0.28	4		**101**	
10	15.0	9.5	35	40	80	10	0.28	4			**102**
12	18.0	11.5	35	38	83	12	0.28	4	**120**		
12	26.0	11.5	35	38	83	12	0.28	4		**121**	
12	18.0	11.5	45	48	93	12	0.28	4			**122**
16	24.0	15.5	40	44	92	16	0.43	4	**160**		
16	32.0	15.5	40	44	92	16	0.43	4		**161**	
16	24.0	15.5	55	60	108	16	0.43	4			**162**
P									●	●	●
M									○	○	○
K									●	●	●
N									○	○	○
S									○	○	○
H									○	○	○
O											

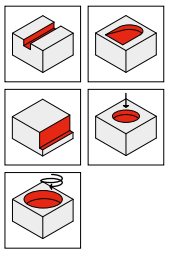
1) Shank type DIN 6535 HA

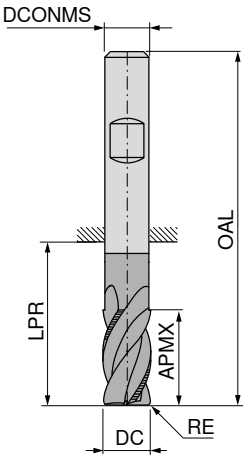
→ Find the cutting data standard values here.

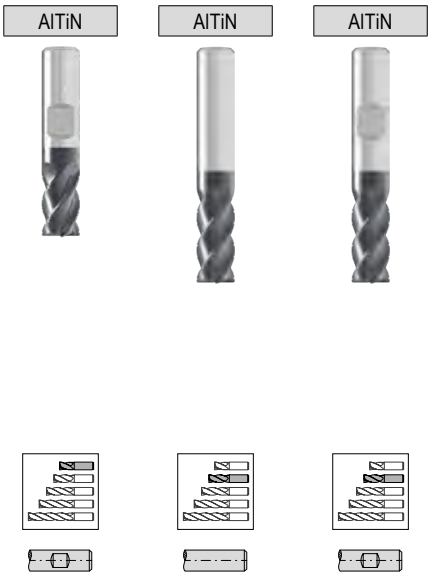
CoreLine – End mills with corner radius – UN

▲ With chip breaker

P120 | UN | λ_s=40° γ_s=10°





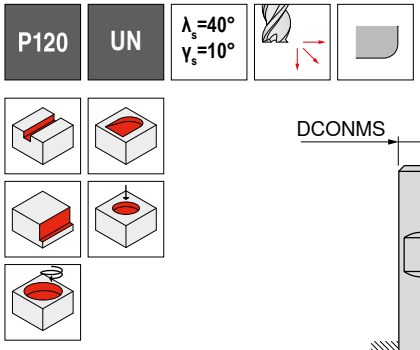


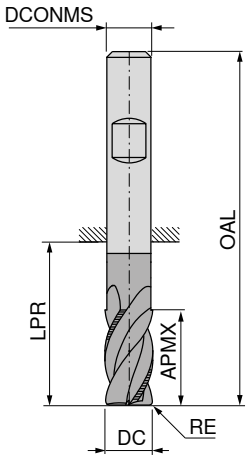
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 032 ...	SM 59 031 ...	SM 59 032 ...
1/8	0.010	1/4	0.520	1 1/2	1/8	4		**12520**	
5/32	0.010	3/8	0.898	2	3/16	4		**15624**	
3/16	0.010	3/8	0.898	2	3/16	4		**18820**	
7/32	0.020	3/8	1.083	2	1/4	4		**21917**	
1/4	0.020	3/8	0.583	2	1/4	4		**25015**	
9/32	0.020	1/2	1.083	2 1/2	5/16	4		**28118**	
5/16	0.020	1/2	1.083	2 1/2	5/16	4		**31316**	
11/32	0.020	5/8	0.825	2	3/8	4			**34418**
3/8	0.020	5/8	0.825	2	3/8	4	**37517**		
3/8	0.020	7/8	0.960	2 1/2	3/8	4			**37523**
7/16	0.020	1	1.165	2 3/4	7/16	4			**43823**
1/2	0.020	5/8	0.735	2 1/2	1/2	4	**50013**		
1/2	0.020	1 1/4	1.425	3	1/2	4			**50025**
5/8	0.030	7/8	1.113	3	5/8	4			**62514**
3/4	0.030	1	1.228	3	3/4	4			**75013**
P							●	●	●
M									
K							●	●	●
N									
S									
H									
O									

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ With chip breaker





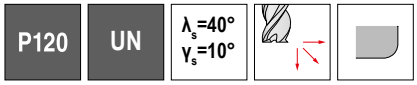


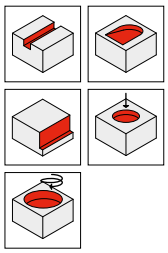
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 031 ...	SM 59 032 ...
1/4	0.020	3/4	1.083	2 1/2	1/4	4	**25030**	
3/8	0.020	1 1/2	1.925	3 1/2	3/8	4		**37540**
1/2	0.020	1 1/2	1.735	3 1/2	1/2	4		**50030**
5/8	0.030	1 1/4	1.613	3 1/2	5/8	4		**62520**
P							●	●
M								
K							●	●
N								
S								
H								
O								

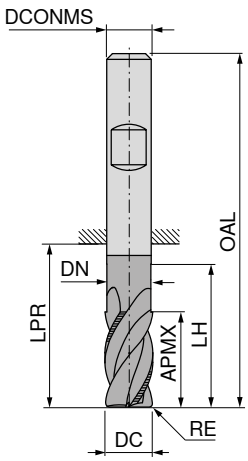
→ Find the cutting data standard values here.

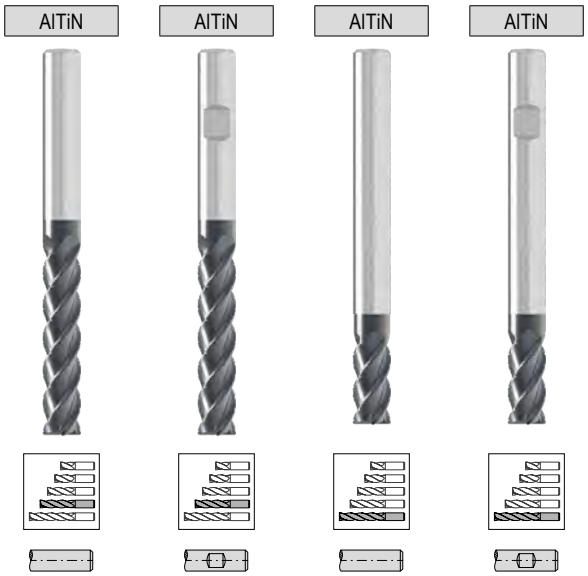
CoreLine – End mills with corner radius – UN

▲ With chip breaker









DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	DN inch	LH inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 031 ...	SM 59 032 ...	SM 59 031 ...	SM 59 032 ...
1/8	0.010	1/2			0.520	1 1/2	1/8	4	**12540**			
5/32	0.010	1/2			0.898	2	3/16	4	**15632**			
3/16	0.010	5/8			0.898	2	3/16	4	**18833**			
7/32	0.020	3/4			0.583	2 1/2	1/4	4	**21934**			
1/4	0.020	3/4	0.240	2.125	2.583	4	1/4	4			**25130**	
1/4	0.020	1 1/4			1.583	3	1/4	4	**25050**			
1/4	0.020	1 1/2			2.083	3 1/2	1/4	4			**25060**	
9/32	0.020	3/4			1.083	2 1/2	5/16	4	**28127**			
5/16	0.020	3/4			1.083	2 1/2	5/16	4	**31324**			
11/32	0.020	7/8			0.960	2 1/2	3/8	4		**34425**		
3/8	0.020	7/8	0.360	2.125	2.425	4	3/8	4			**37523**	
3/8	0.020	7/8	0.360	3.375	4.425	6	3/8	4			**37623**	
3/8	0.020	2			2.460	4	3/8	4		**37553**		
1/2	0.020	1	0.480	3.375	4.228	6	1/2	4			**50120**	
1/2	0.020	1	0.480	2.375	4.228	6	1/2	4			**50020**	
1/2	0.020	2			2.235	4	1/2	4		**50040**		
9/16	0.030	1 1/4			1.675	3 1/2	9/16	4		**56322**		
5/8	0.030	1 3/4			2.113	4	5/8	4		**62528**		
5/8	0.030	2 1/2			3.113	5	5/8	4				**62540**
3/4	0.030	1 5/8			1.978	4	3/4	4		**75022**		
3/4	0.030	1 5/8	0.720	2.500	3.661	6	3/4	4			**75022**	
1	0.030	1 3/4			1.795	4	1	4				**99918**

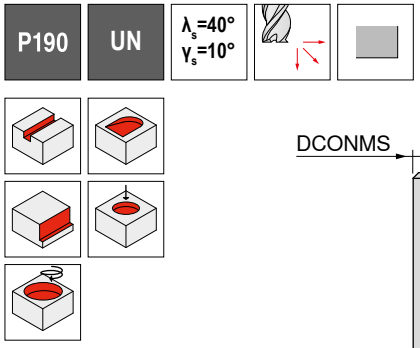
P	●	●	●	●
M				
K	●	●	●	●
N				
S				
H				
O				

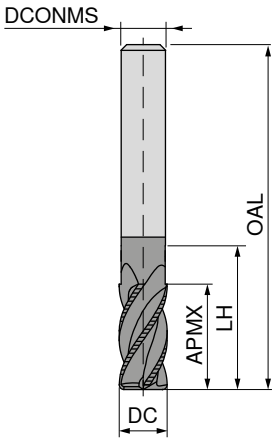


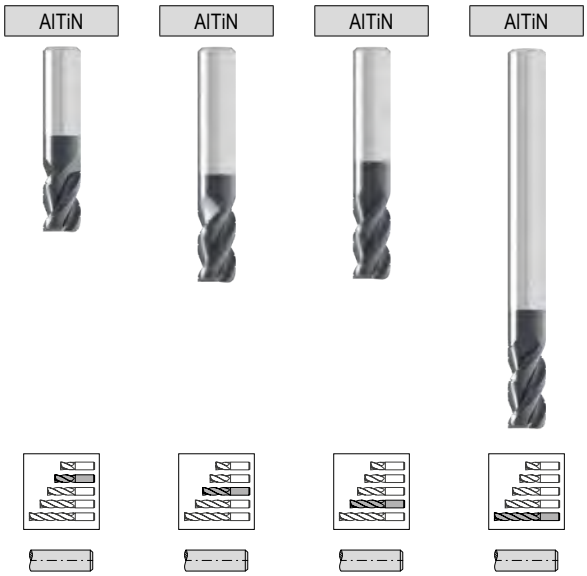
→ Find the cutting data standard values here.

CoreLine – End mill – UN

▲ With chip breaker







DC +0.000/-0.002 inch	APMX inch	LH inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 059 ...	SM 59 059 ...	SM 59 059 ...	SM 59 059 ...
3/16	5/8		2	3/16	4	**18833**			
1/4	3/8		2	1/4	4	**25015**			
1/4	3/4		2 1/2	1/4	4			**25030**	
5/16	3/4		2 1/2	5/16	4	**31324**			
3/8	5/8		2	3/8	4	**37517**			
3/8	7/8		2 1/2	3/8	4			**37523**	
3/8	7/8	2.125	4	3/8	4				**37623**
1/2	5/8		2 1/2	1/2	4	**50013**			
1/2	1	2.375	6	1/2	4				**50020**
1/2	1 1/4		3	1/2	4			**50025**	
1/2	2		4	1/2	4		**50040**		
5/8	7/8		3	5/8	4	**62514**			
5/8	1 1/4		3 1/2	5/8	4			**62520**	
3/4	1		3	3/4	4	**75013**			
3/4	1 5/8		4	3/4	4			**75022**	
1	1 3/4		4	1	4			**99918**	

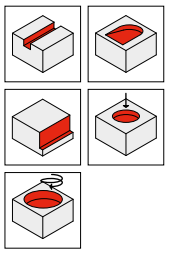
P	●	●	●	●
M				
K	●	●	●	●
N				
S				
H				
O				

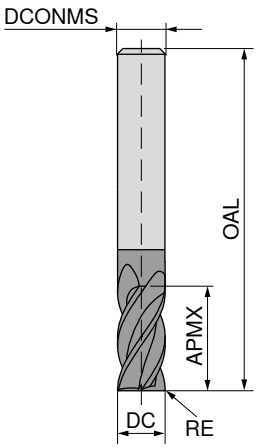
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ With chip breaker

P191 | UN | λ_s=40° γ_s=10°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 061 ...	SM 59 061 ...	SM 59 061 ...
3/16	0.010	5/8	2	3/16	4	**18833**		
1/4	0.020	3/4	2 1/2	1/4	4	**25030**		
5/16	0.020	3/4	2 1/2	5/16	4	**31324**		
3/8	0.020	7/8	2 1/2	3/8	4	**37523**		
3/8	0.030	7/8	2 1/2	3/8	4	**90023**		
1/2	0.030	5/8	2 1/2	1/2	4	**90013**		
1/2	0.020	5/8	2 1/2	1/2	4	**50013**		
1/2	0.030	1 1/4	3	1/2	4		**90025**	
1/2	0.020	1 1/4	3	1/2	4		**50025**	
1/2	0.030	2	4	1/2	4			**90040**
1/2	0.020	2	4	1/2	4			**50040**
5/8	0.030	1 1/4	3 1/2	5/8	4		**62520**	
3/4	0.030	1 5/8	4	3/4	4		**75022**	
1	0.030	1 3/4	4	1	4		**99918**	

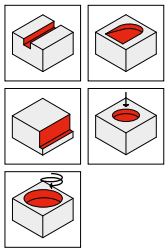
P	●	●	●
M			
K	●	●	●
N			
S			
H			
O			

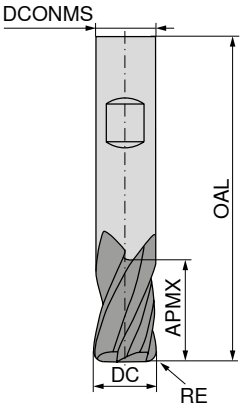
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ with coarse pitch profile

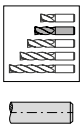
P100 UN λ_s=30° γ_s= 5°

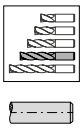












DC +0.000/-0.002 inch	RE +/-0.001/+/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 011 ...	SM 59 011 ...
3/16	0.030	3/8	2	3/16	3	**18820**	
3/16	0.030	5/8	2	3/16	3		**18833**

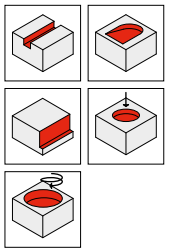
P	●	●
M		
K	●	●
N		
S		
H		
O		

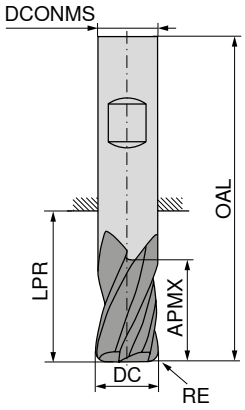
→ Find the cutting data standard values here.

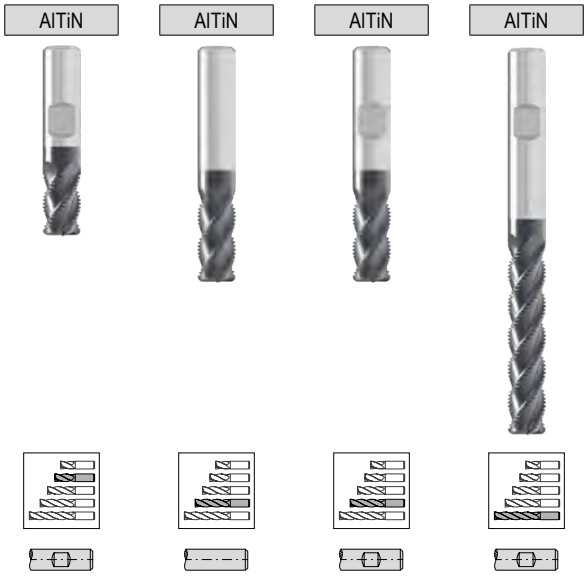
CoreLine – End mills with corner radius – UN

▲ with coarse pitch profile

P100 | UN | λ_s=30° γ_s= 5°







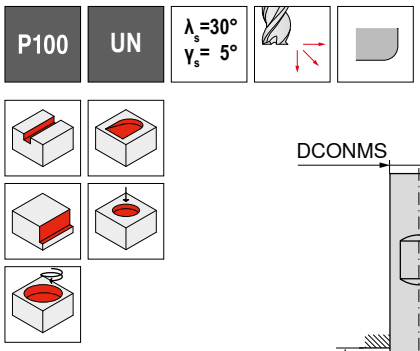
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 013 ...	SM 59 012 ...	SM 59 013 ...	SM 59 013 ...
1/4	0.045	3/8	0.5	2	1/4	4				
1/4	0.045	3/4	1.0	2 1/2	1/4	4		25030		
5/16	0.045	1/2	1.0	2 1/2	5/16	4				
5/16	0.045	3/4	1.0	2 1/2	5/16	4		31324		
3/8	0.060	5/8	0.8	2	3/8	4	37517			
3/8	0.060	7/8	0.9	2 1/2	3/8	4			37523	
7/16	0.060	1	1.1	2 3/4	7/16	4	43823			
1/2	0.060	5/8	0.7	2 1/2	1/2	4	50013			
1/2	0.060	1 1/4	1.4	3	1/2	4			50025	
1/2	0.060	1 1/2	1.7	3 1/2	1/2	4				50030
9/16	0.060	1 1/4	1.6	3 1/2	9/16	4			56322	
5/8	0.060	7/8	1.1	3	5/8	4	62514			
5/8	0.060	1 1/4	1.6	3 1/2	5/8	4			62520	
5/8	0.060	2	2.1	4	5/8	4				62532
3/4	0.060	1	1.2	3	3/4	4	75013			
3/4	0.060	1 5/8	1.9	4	3/4	4			75022	
3/4	0.060	2 1/4	2.9	5	3/4	4				75030

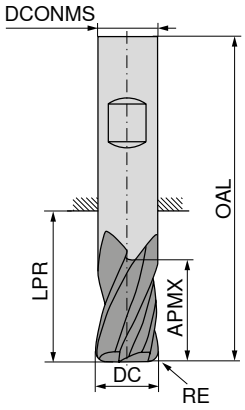
P	●	●	●	●
M				
K	●	●	●	●
N				
S				
H				
O				

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ with coarse pitch profile







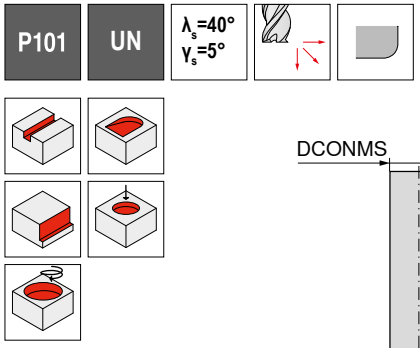
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 014 ...	SM 59 014 ...
1	0.060	1 3/4	1.795	4	1	5	99918	
1	0.060	2 5/8	2.795	5	1	5		99926

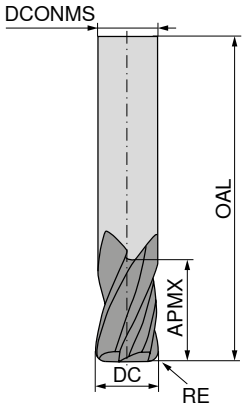
P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ With narrow pitch profile







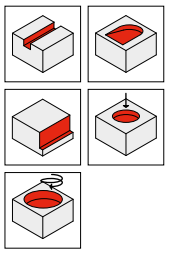
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 015 ...	SM 59 015 ...
3/16	0.030	3/8	2	3/16	3	**18820**	
3/16	0.030	5/8	2	3/16	3		**18833**
P						●	●
M							
K						●	●
N							
S							
H							
O							

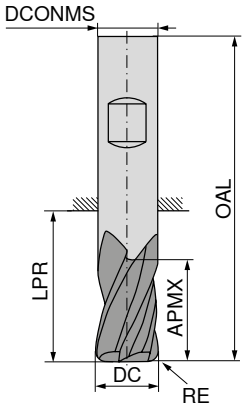
→ Find the cutting data standard values here.

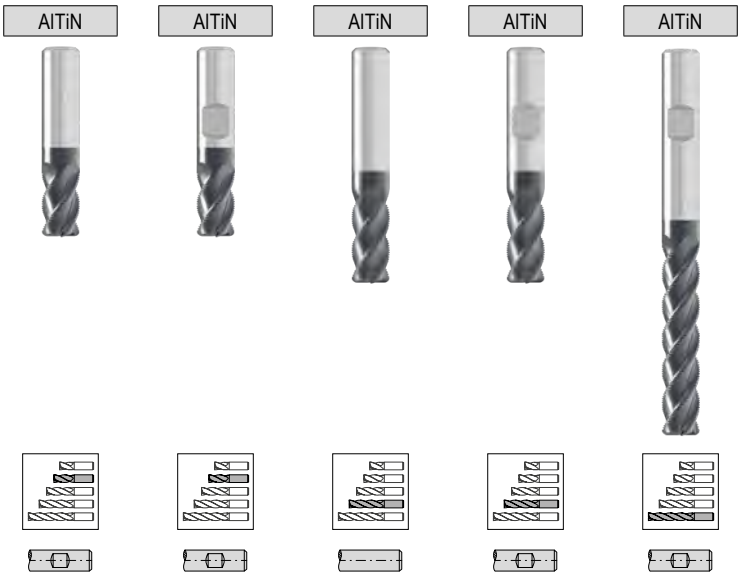
CoreLine – End mills with corner radius – UN

▲ With narrow pitch profile

P101 | UN | λ_s=40° γ_s=5°







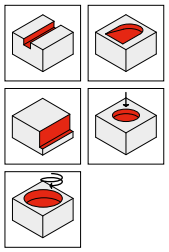
DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 016 ...	SM 59 017 ...	SM 59 016 ...	SM 59 017 ...	SM 59 017 ...
1/4	0.045	3/8	0.583	2	1/4	4	25015				
1/4	0.045	3/4	1.083	2 1/2	1/4	4			25030		
5/16	0.045	1/2	1.083	2 1/2	5/16	4	31316				
5/16	0.045	3/4	1.083	2 1/2	5/16	4			31324		
3/8	0.060	5/8	0.825	2	3/8	4		37517			
3/8	0.060	7/8	0.960	2 1/2	3/8	4				37523	
7/16	0.060	1	1.165	2 3/4	7/16	4		43823			
1/2	0.060	5/8	0.735	2 1/2	1/2	4		50013			
1/2	0.060	1 1/4	1.425	3	1/2	4				50025	
1/2	0.060	1 1/2	1.735	3 1/2	1/2	4					50030
9/16	0.060	1 1/4	1.675	3 1/2	9/16	4				56322	
5/8	0.060	7/8	1.113	3	5/8	4		62514			
5/8	0.060	1 1/4	1.613	3 1/2	5/8	4				62520	
5/8	0.060	2	2.113	4	5/8	4					62532
3/4	0.060	1	1.228	3	3/4	4		75013			
3/4	0.060	1 5/8	1.978	4	3/4	4				75022	
3/4	0.060	2 1/4	2.978	5	3/4	4					75030
P							●	●	●	●	●
M											
K							●	●	●	●	●
N											
S											
H											
O											

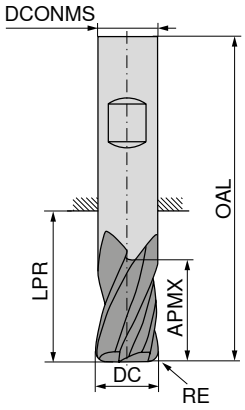
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – UN

▲ with fine pitch profile

P101 UN λ_s=40° γ_s=5°







DC +0.000/-0.002 inch	RE +/- 0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 022 ...	SM 59 022 ...
1	0.060	1 3/4	1.795	4	1	5	**99918**	
1	0.060	2 5/8	2.795	5	1	5		**99926**

P	●	●
M		
K	●	●
N		
S		
H		
O		

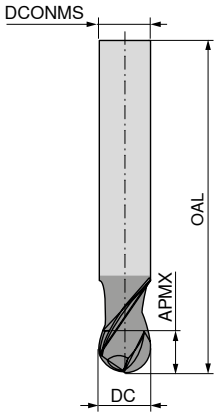
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – ST

▲ Radius accuracy: + 0.000 / - 0.0004

P250 ST λ_s=30° γ_s= 8°







DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 063 ...	SM 59 063 ...
1/8	1/8	3	1/8	2		**12510**
3/16	3/16	3	3/16	2		**18810**
1/4	1/4	4	1/4	2		**25010**
3/8	3/8	4	3/8	2	**37510**	
3/8	3/8	6	3/8	2		**37610**
1/2	1/2	4	1/2	2	**50010**	
1/2	1/2	6	1/2	2		**50110**

P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H		
O		

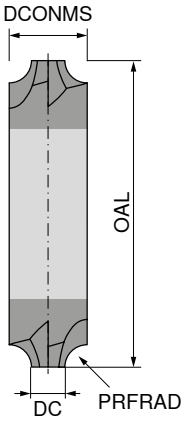


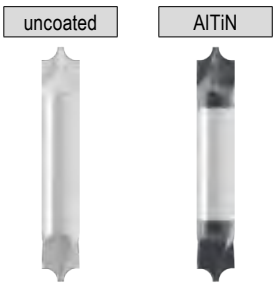
→ Find the cutting data standard values here.

CoreLine – Profile end mills – UN

▲ PRFRAD ≤ 1.397 [Inch] Tol. = ± 0.01
▲ PRFRAD > 1.397 [Inch] Tol. = ± 0.015

P137 | UN | λ_s = 0° γ_s=-5°





PRFRAD inch	DC +0.000/-0.002 inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 049 ...	SM 59 050 ...
0.010	0.105	1 1/2	1/8	2	**12510**	
0.010	0.105	1 1/2	1/8	2		**12510**
0.015	0.095	1 1/2	1/8	2	**12515**	
0.015	0.095	1 1/2	1/8	2		**12515**
0.020	0.085	1 1/2	1/8	2	**12520**	
0.020	0.085	1 1/2	1/8	2		**12520**
0.025	0.075	1 1/2	1/8	2	**12525**	
0.025	0.075	1 1/2	1/8	2		**12525**
0.031	0.063	1 1/2	1/8	2	**12531**	
0.031	0.063	1 1/2	1/8	2		**12531**
0.035	0.055	1 1/2	1/8	2	**12535**	
0.035	0.055	1 1/2	1/8	2		**12535**
0.040	0.045	1 1/2	1/8	2	**12540**	
0.040	0.045	1 1/2	1/8	2		**12540**
0.046	0.095	1 1/2	1/8	2	**12546**	
0.046	0.095	1 1/2	1/8	2		**12546**
0.050	0.087	2	3/16	2	**18850**	
0.050	0.087	2	3/16	2		**18850**
0.055	0.077	2	3/16	2	**18855**	
0.055	0.077	2	3/16	2		**18855**
0.062	0.058	2	3/16	2	**18862**	
0.062	0.058	2	3/16	2		**18862**
0.072	0.106	2 1/2	1/4	2	**25072**	
0.072	0.106	2 1/2	1/4	2		**25072**
0.078	0.094	2 1/2	1/4	2	**25078**	
0.078	0.094	2 1/2	1/4	2		**25078**
0.085	0.080	2 1/2	1/4	2	**25085**	
0.085	0.080	2 1/2	1/4	2		**25085**
0.094	0.062	2 1/2	1/4	2	**25094**	
0.094	0.062	2 1/2	1/4	2		**25094**
0.100	0.050	2 1/2	1/4	2	**25000**	
0.100	0.050	2 1/2	1/4	2		**25000**

P	●	●
M		
K	●	●
N		
S		
H		
O		

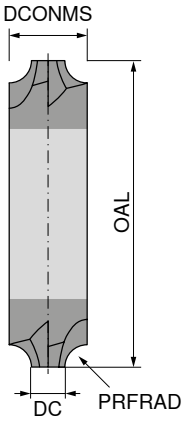
→ Find the cutting data standard values here.

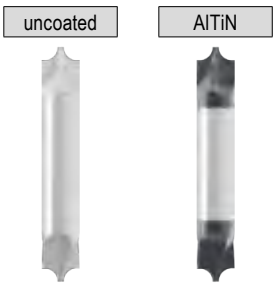
Continued on next page

CoreLine – Profile end mills – UN

▲ PRFRAD ≤ 1.397 [Inch] Tol. = ± 0.01
▲ PRFRAD > 1.397 [Inch] Tol. = ± 0.015

P137 | UN | $\lambda_s = 0°$ $\gamma_s = -5°$





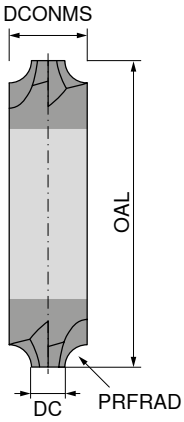
PRFRAD inch	DC +0.000/-0.002 inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 049 ...	SM 59 050 ...
0.109	0.094	2 1/2	1/4	2	**25009**	
0.109	0.094	2 1/2	1/4	2		**25009**
0.118	0.076	2 1/2	5/16	2	**31318**	
0.118	0.076	2 1/2	5/16	2		**31318**
0.125	0.063	2 1/2	5/16	2	**31325**	
0.125	0.063	2 1/2	5/16	2		**31325**
0.140	0.095	2 1/2	3/8	2	**37540**	
0.140	0.095	2 1/2	3/8	2		**37540**
0.156	0.063	2 1/2	3/8	2	**37556**	
0.156	0.063	2 1/2	3/8	2		**37556**
P					●	●
M						
K					●	●
N						
S						
H						
O						

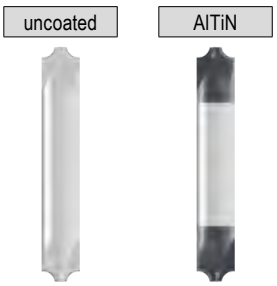
→ Find the cutting data standard values here.

CoreLine – Profile end mills – UN

▲ PRFRAD ≤ 1.397 [Inch] Tol. = ± 0.01
▲ PRFRAD > 1.397 [Inch] Tol. = ± 0.015

P139 | UN | λ_s=0° γ_s=3,5°





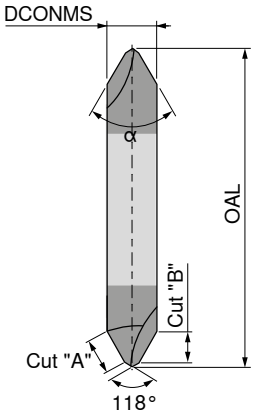
PRFRAD inch	DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 051 ...	SM 59 052 ...
0.010	0.162	3/16	2	3/16	4	**18810**	**18810**
0.015	0.152	3/16	2	3/16	4	**18910**	**18910**
0.020	0.142	3/16	2	3/16	4	**19010**	**19010**
0.025	0.132	3/16	2	3/16	4	**19110**	**19110**
0.031	0.120	3/16	2	3/16	4	**19210**	**19210**
0.035	0.112	3/16	2	3/16	4	**19310**	**19310**
0.040	0.165	1/4	2 1/2	1/4	4	**25010**	**25010**
0.046	0.153	1/4	2 1/2	1/4	4	**25110**	**25110**
0.050	0.145	1/4	2 1/2	1/4	4	**25210**	**25210**
0.055	0.135	1/4	2 1/2	1/4	4	**25410**	**25410**
0.062	0.121	1/4	2 1/2	1/4	4	**25310**	**25310**
0.078	0.214	3/8	2 1/2	3/8	4	**37510**	**37510**
0.094	0.182	3/8	2 1/2	3/8	4	**37610**	**37610**
0.100	0.170	3/8	2 1/2	3/8	4	**37710**	**37710**
0.118	0.134	3/8	2 1/2	3/8	4	**37810**	**37810**
0.125	0.120	3/8	2 1/2	3/8	4	**37910**	**37910**
0.156	0.183	1/2	3	1/2	4	**50010**	**50010**

P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 60° – UN

P132 UN λ_s=0° γ_s=0°



uncoated AlTiN




α = 60° α = 60°



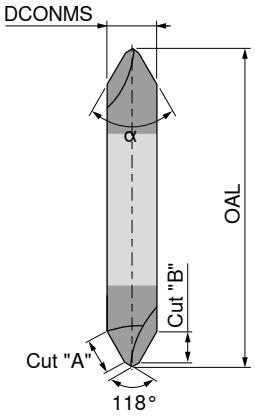

DC -0.0001"/-0.0004" inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001"/-0.0004" inch	ZEFP	SM 59 041 ...	SM 59 042 ...
1/8	0.098	0.085	1 1/2	1/8	2	**12506**	**12506**
3/16	0.147	0.127	2	3/16	2	**18806**	**18806**
1/4	0.200	0.173	2 1/2	1/4	2	**25006**	**25006**
3/8	0.313	0.271	2 1/2	3/8	2	**37506**	**37506**
1/2	0.430	0.372	3	1/2	2	**50006**	**50006**

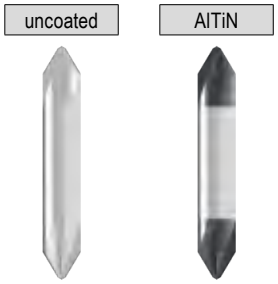
P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 60° – UN

P133 | UN | λ_s=0° γ_s=0°



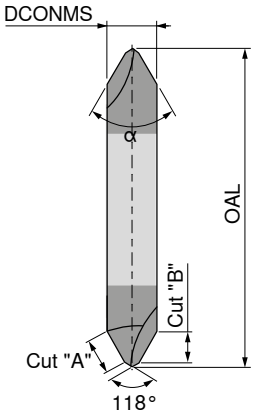


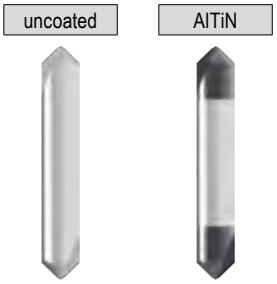
DC -0.0001"/-0.0004" inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001"/-0.0004" inch	ZEFP	α = 60° SM 59 043 ...	α = 60° SM 59 044 ...
1/4	0.200	0.173	2 1/2	1/4	4	**25006**	**25006**
3/8	0.313	0.271	2 1/2	3/8	4	**37506**	**37506**
1/2	0.430	0.372	3	1/2	4	**50006**	**50006**
P						●	●
M							
K						●	●
N							
S							
H							
O							

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 90° – UN

P134 | UN | λ_s=0° γ_s=0°





α = 90° α = 90°

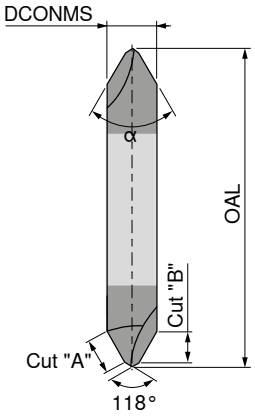
DC -0.0001"/-0.0004" inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001"/-0.0004" inch	ZEFP	SM 59 045 ...	SM 59 046 ...
1/8	0.071	0.050	1 1/2	1/8	2	**12509**	**12509**
3/16	0.107	0.076	2	3/16	2	**18809**	**18809**
1/4	0.141	0.100	2 1/2	1/4	2	**25009**	**25009**
3/8	0.221	0.157	2 1/2	3/8	2	**37509**	**37509**
1/2	0.304	0.215	3	1/2	2	**50009**	**50009**

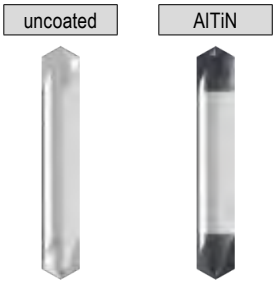
P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 90° – UN

P135 | UN | λ_s=0° γ_s=0°





α = 90° α = 90°

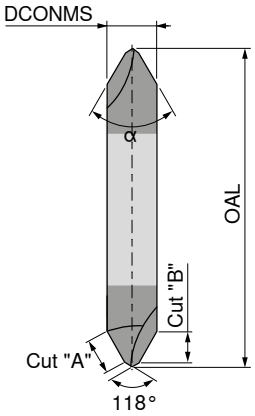
DC -0.0001"/-0.0004" inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001"/-0.0004" inch	ZEFP	SM 59 047 ...	SM 59 048 ...
1/4	0.141	0.100	2 1/2	1/4	4	**25009**	**25009**
3/8	0.221	0.157	2 1/2	3/8	4	**37509**	**37509**
1/2	0.304	0.215	3	1/2	4	**50009**	**50009**

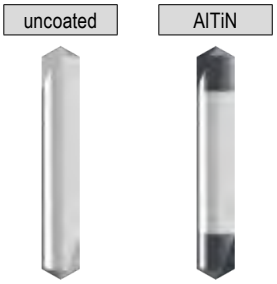
P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 120° – UN

P130 | UN | λ_s=0° γ_s=0°





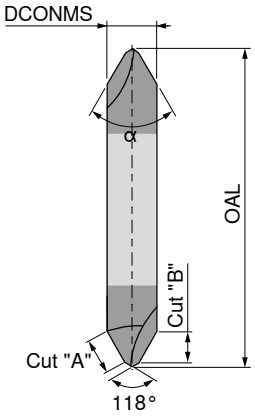
DC +0.000/-0.002 inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	α = 120° SM 59 037 ...	α = 120° SM 59 038 ...
1/4	0.124	0.062	2 1/2	1/4	2	**25012**	**25012**
3/8	0.199	0.100	2 1/2	3/8	2	**37512**	**37512**
1/2	0.266	0.133	3	1/2	2	**50012**	**50012**

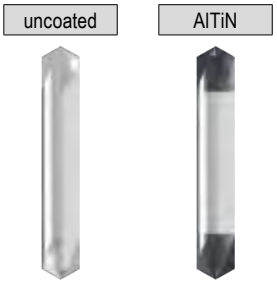
P	●	●
M		
K	●	●
N		
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC deburring cutter 120° – UN

P131 | UN | λ_s=0° γ_s=0°





α = 120° α = 120°

DC +0.000/-0.002 inch	Cut "A" inch	Cut "B" inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 039 ...	SM 59 040 ...
1/4	0.144	0.072	2 1/2	1/4	4	**25012**	**25012**
3/8	0.217	0.108	2 1/2	3/8	4	**37512**	**37512**
1/2	0.289	0.144	3	1/2	4	**50012**	**50012**

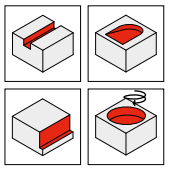
P	●	●
M		
K	●	●
N		
S		
H		
O		

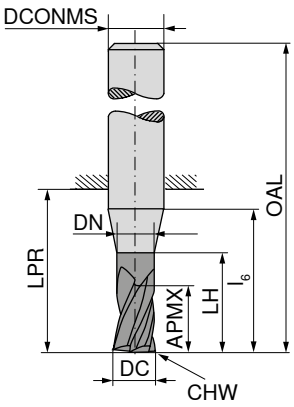
→ Find the cutting data standard values here.

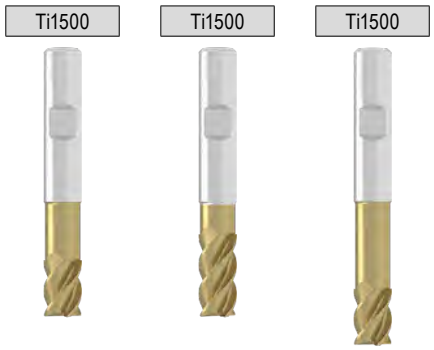
CoreLine – End mill – ICR

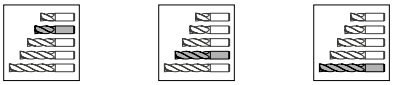
The specialist for machining stainless steels

ICR | λ_s=40° α_s=38° γ_s=10° | HPC









	DIN 6527	Factory standard	Factory standard
	SM	SM	SM
DC $_{e8}$ mm	52 784 ...	52 784 ...	52 784 ...
1.5	017		
2.0	022		
2.5	027		
3.0	032		
3.0		034	
3.0			036
4.0	042		
4.0		044	
4.0			046
5.0	052		
5.0		054	
5.0			056
6.0	062		
6.0		064	
6.0			066
8.0	082		
8.0		084	
8.0			086
10.0	102		
10.0		104	
10.0			106
12.0	122		
12.0		124	
12.0			126
14.0	142		
14.0		144	
14.0			146
16.0	161		
16.0	162 [1]		
16.0		163	

APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	CHW mm	ZEFP
2.3	1.4	6	14	21	57	6	0.04	3
3.0	1.9	8	15	21	57	6	0.04	3
3.8	2.4	10	16	21	57	6	0.07	3
5.0	2.9	14	18	21	57	6	0.07	3
8.0	2.9	14	18	21	57	6	0.07	3
5.0	2.9	19	23	26	62	6	0.07	3
8.0	3.8	18	20	21	57	6	0.07	3
11.0	3.8	18	20	21	57	6	0.07	3
8.0	3.8	23	25	26	62	6	0.07	3
9.0	4.8	19	20	21	57	6	0.12	3
13.0	4.8	19	20	21	57	6	0.12	3
9.0	4.8	24	25	26	62	6	0.12	3
10.0	5.8	20		21	57	6	0.12	4
13.0	5.8	20		21	57	6	0.12	4
10.0	5.8	25		26	62	6	0.12	4
12.0	7.7	25		27	63	8	0.12	4
19.0	7.7	25		27	63	8	0.12	4
12.0	7.7	30		32	68	8	0.12	4
15.0	9.5	30		32	72	10	0.20	4
22.0	9.5	30		32	72	10	0.20	4
15.0	9.5	35		40	80	10	0.20	4
18.0	11.5	35		38	83	12	0.20	4
26.0	11.5	35		38	83	12	0.20	4
18.0	11.5	45		48	93	12	0.20	4
21.0	13.5	35		38	83	14	0.20	4
26.0	13.5	35		38	83	14	0.20	4
21.0	13.5	50		54	99	14	0.20	4
24.0	15.5	40		44	92	16	0.20	4
24.0	15.5	40		44	92	16	0.20	5
32.0	15.5	40		44	92	16	0.20	4

P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○
O	○	○	○

1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

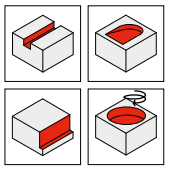
→ Find the cutting data standard values here.

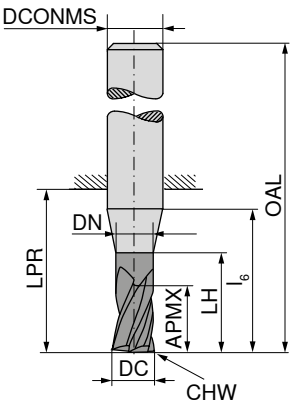
Continued on next page

CoreLine – End mill – ICR

The specialist for machining stainless steels

ICR | λ_s=40° α_s=38° γ_s=10° | HPC







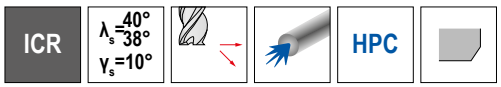
DC e8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	DIN 6527 SM 52 784 ...	Factory standard SM 52 784 ...	Factory standard SM 52 784 ...
16.0	32.0	15.5	40		44	92	16	0.20	5		**164** [1]	
16.0	24.0	15.5	55		60	108	16	0.20	4			**165**
16.0	24.0	15.5	55		60	108	16	0.20	5			**166** [1]
20.0	38.0	19.5	50		54	104	20	0.30	4		**203**	
20.0	38.0	19.5	50		54	104	20	0.30	5		**204** [1]	
20.0	30.0	19.5	70		76	126	20	0.30	4			**205**
20.0	30.0	19.5	70		76	126	20	0.30	5			**206** [1]
P										○	○	○
M										●	●	●
K										○	○	○
N										○	○	○
S										●	●	●
H										○	○	○
O										○	○	○

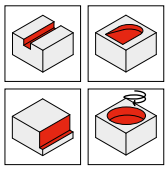
1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

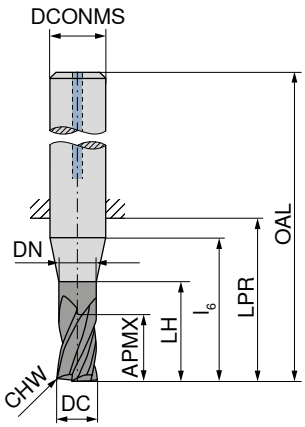
→ Find the cutting data standard values here.

CoreLine – End mill – ICR

The specialist for machining stainless steels







Ti1500





DIN 6527



SM

DC e8 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 786 ...
3	8	2.9	14	18	21	57	6	0.07	3	**034**
4	11	3.8	18	20	21	57	6	0.07	3	**044**
5	13	4.8	19	20	21	57	6	0.12	3	**054**
6	13	5.8	20		21	57	6	0.12	4	**064**
8	19	7.7	25		27	63	8	0.12	4	**084**
10	22	9.5	30		32	72	10	0.20	4	**104**
12	26	11.5	35		38	83	12	0.20	4	**124**
14	26	13.5	35		38	83	14	0.20	4	**144**
16	32	15.5	40		44	92	16	0.20	4	**163**
16	32	15.5	40		44	92	16	0.20	5	**164** [1]

P	○
M	●
K	○
N	○
S	●
H	○
O	○

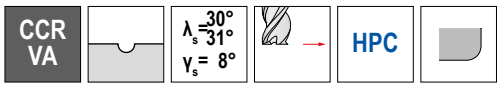
1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

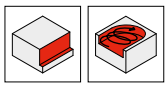
→ Find the cutting data standard values here.

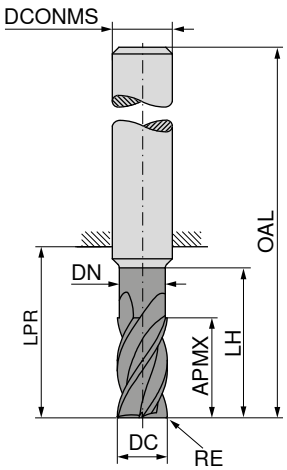
CoreLine – End mills with corner radius – CCR-VA

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 3 x DC







DPX22S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 643 ...
6	0.2	19	5.8	25	27	63	6	6	06202
6	1.0	19	5.8	25	27	63	6	6	06210
6	1.5	19	5.8	25	27	63	6	6	06215
8	0.2	25	7.7	33	35	71	8	6	08202
8	1.0	25	7.7	33	35	71	8	6	08210
8	1.5	25	7.7	33	35	71	8	6	08215
8	2.0	25	7.7	33	35	71	8	6	08220
10	0.2	31	9.7	41	43	83	10	6	10202
10	1.0	31	9.7	41	43	83	10	6	10210
10	1.5	31	9.7	41	43	83	10	6	10215
10	2.0	31	9.7	41	43	83	10	6	10220
12	0.2	37	11.6	47	49	94	12	6	12202
12	1.0	37	11.6	47	49	94	12	6	12210
12	1.5	37	11.6	47	49	94	12	6	12215
12	2.0	37	11.6	47	49	94	12	6	12220
12	3.0	37	11.6	47	49	94	12	6	12230
14	0.2	43	13.6	55	59	104	14	6	14202
14	1.0	43	13.6	55	59	104	14	6	14210
14	1.5	43	13.6	55	59	104	14	6	14215
16	0.2	49	15.5	61	63	111	16	6	16202
16	1.0	49	15.5	61	63	111	16	6	16210
16	1.5	49	15.5	61	63	111	16	6	16215
16	2.0	49	15.5	61	63	111	16	6	16220
16	3.0	49	15.5	61	63	111	16	6	16230
16	4.0	49	15.5	61	63	111	16	6	16240
20	0.2	61	19.5	75	77	127	20	6	20202
20	1.0	61	19.5	75	77	127	20	6	20210
20	1.5	61	19.5	75	77	127	20	6	20215
20	2.0	61	19.5	75	77	127	20	6	20220
20	3.0	61	19.5	75	77	127	20	6	20230
20	4.0	61	19.5	75	77	127	20	6	20040

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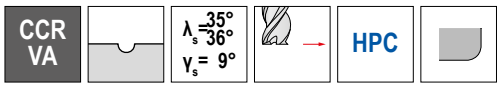


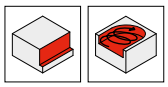
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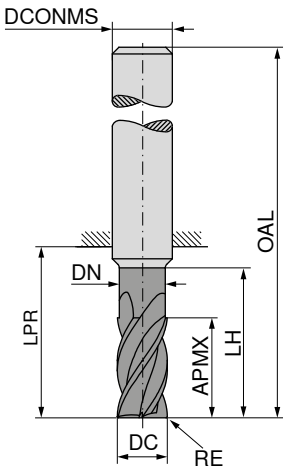
CoreLine – End mills with corner radius – CCR-VA

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 4 x DC







DPX22S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 644 ...
6	0.2	25	5.8	29	31	67	6	5	06002
6	1.0	25	5.8	29	31	67	6	5	06010
6	1.5	25	5.8	29	31	67	6	5	06015
8	0.2	33	7.7	38	40	76	8	5	08002
8	1.0	33	7.7	38	40	76	8	5	08010
8	1.5	33	7.7	38	40	76	8	5	08015
8	2.0	33	7.7	38	40	76	8	5	08020
10	0.2	41	9.7	47	49	89	10	5	10002
10	1.0	41	9.7	47	49	89	10	5	10010
10	1.5	41	9.7	47	49	89	10	5	10015
10	2.0	41	9.7	47	49	89	10	5	10020
12	0.2	49	11.6	55	57	102	12	5	12002
12	1.0	49	11.6	55	57	102	12	5	12010
12	1.5	49	11.6	55	57	102	12	5	12015
12	2.0	49	11.6	55	57	102	12	5	12020
12	3.0	49	11.6	55	57	102	12	5	12030
14	0.2	57	13.6	64	68	113	14	5	14002
14	1.0	57	13.6	64	68	113	14	5	14010
14	1.5	57	13.6	64	68	113	14	5	14015
16	0.2	65	15.5	73	75	123	16	5	16002
16	1.0	65	15.5	73	75	123	16	5	16010
16	1.5	65	15.5	73	75	123	16	5	16015
16	2.0	65	15.5	73	75	123	16	5	16020
16	3.0	65	15.5	73	75	123	16	5	16030
16	4.0	65	15.5	73	75	123	16	5	16040
18	0.2	73	17.5	82	86	134	18	5	18002
20	0.2	82	19.5	91	93	143	20	5	20002
20	1.0	82	19.5	91	93	143	20	5	20010
20	1.5	82	19.5	91	93	143	20	5	20015
20	2.0	82	19.5	91	93	143	20	5	20020
20	3.0	82	19.5	91	93	143	20	5	20030
20	4.0	82	19.5	91	93	143	20	5	20040

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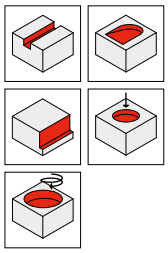
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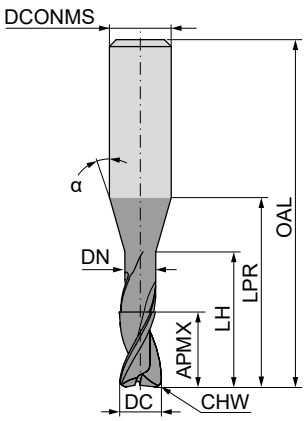
AluLine – Micro end mills – W

The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut













Factory standard | Factory standard | Factory standard







DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS $_{h5}$ mm	T_x	CHW mm	ZEFP	SA 53 900 ...	SA 53 900 ...	SA 53 900 ...
0.2	0.2	0.18	0.6	45	17	15	4	3 x DC	0.02	2	**02101**		
0.2	0.2	0.18	1.0	45	17	15	4	5 x DC	0.02	2	**02201**		
0.2	0.2	0.18	1.6	45	17	15	4	8 x DC	0.02	2		**02301**	
0.2	0.2	0.18	2.0	50	22	15	4	10 x DC	0.02	2		**02401**	
0.3	0.3	0.28	0.9	45	17	15	4	3 x DC	0.03	2	**03101**		
0.3	0.3	0.28	1.5	45	17	15	4	5 x DC	0.03	2	**03201**		
0.3	0.3	0.28	2.4	50	22	15	4	8 x DC	0.03	2		**03301**	
0.3	0.3	0.28	3.0	50	22	15	4	10 x DC	0.03	2		**03401**	
0.4	0.4	0.37	1.2	45	17	15	4	3 x DC	0.04	2	**04101**		
0.4	0.4	0.37	2.0	45	17	15	4	5 x DC	0.04	2	**04201**		
0.4	0.4	0.37	3.2	50	22	15	4	8 x DC	0.04	2		**04301**	
0.4	0.4	0.37	4.0	50	22	15	4	10 x DC	0.04	2		**04401**	
0.5	0.5	0.45	1.5	45	17	15	4	3 x DC	0.05	2	**05101**		
0.5	0.5	0.45	1.5	45	17	15	3	3 x DC	0.05	2	**05100**		
0.5	0.5	0.45	2.5	45	17	15	4	5 x DC	0.05	2	**05201**		
0.5	0.5	0.45	2.5	45	17	15	3	5 x DC	0.05	2	**05200**		
0.5	0.5	0.45	4.0	45	17	15	3	8 x DC	0.05	2		**05300**	
0.5	0.5	0.45	4.0	50	22	15	4	8 x DC	0.05	2		**05301**	
0.5	0.5	0.45	5.0	50	22	15	3	10 x DC	0.05	2		**05400**	
0.5	0.5	0.45	5.0	50	22	15	4	10 x DC	0.05	2		**05401**	
0.6	0.6	0.58	2.0	45	17	15	4	3,3 x DC	0.06	2	**06101**		
0.6	0.6	0.58	3.0	50	22	15	4	5 x DC	0.06	2	**06201**		
0.6	0.6	0.58	5.0	50	22	15	4	8,3 x DC	0.06	2		**06301**	
0.6	0.6	0.58	6.0	50	22	15	4	10 x DC	0.06	2		**06401**	
0.8	0.8	0.77	2.5	45	17	15	4	3,1 x DC	0.08	2	**08101**		
0.8	0.8	0.77	4.0	50	22	15	4	5 x DC	0.08	2	**08201**		
0.8	0.8	0.77	6.5	50	22	15	4	8,1 x DC	0.08	2		**08301**	
0.8	0.8	0.77	8.0	50	22	15	4	10 x DC	0.08	2		**08401**	
1.0	1.0	0.95	3.0	45	17	15	4	3 x DC	0.10	2	**10101**		

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→ Find the cutting data standard values here.

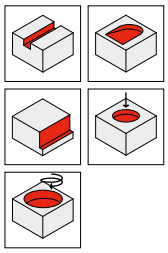
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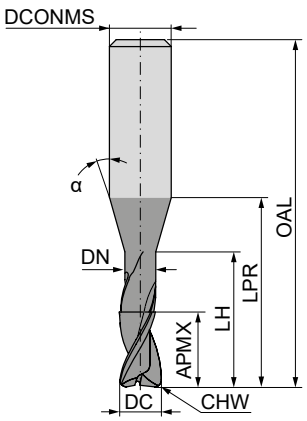
AluLine – Micro end mills – W

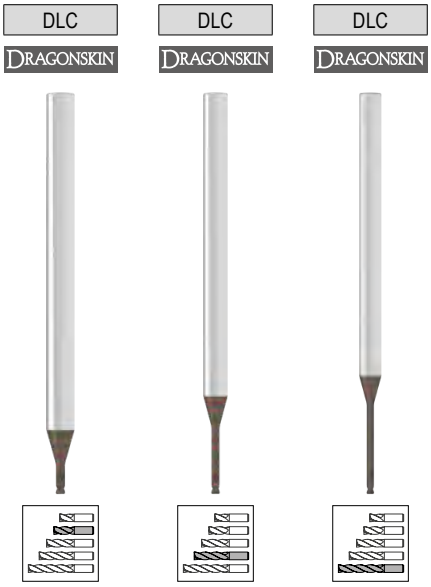
The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut









Factory standard | Factory standard | Factory standard

SA | SA | SA

DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	CHW mm	ZEFP	53 900 ...	53 900 ...	53 900 ...
1.0	1.0	0.95	3.0	45	17	15	3	3 x DC	0.10	2	**10100**		
1.0	1.0	0.95	5.0	45	17	15	3	5 x DC	0.10	2	**10200**		
1.0	1.0	0.95	5.0	50	22	15	4	5 x DC	0.10	2	**10201**		
1.0	1.0	0.95	8.0	50	22	15	3	8 x DC	0.10	2		**10300**	
1.0	1.0	0.95	8.0	50	22	15	4	8 x DC	0.10	2		**10301**	
1.0	1.0	0.95	10.0	50	22	15	3	10 x DC	0.10	2		**10400**	
1.0	1.0	0.95	10.0	55	27	15	4	10 x DC	0.10	2		**10401**	
1.0	1.0	0.95	12.0	55	27	15	3	12 x DC	0.10	2			**10500**
1.0	1.0	0.95	12.0	55	27	15	4	12 x DC	0.10	2			**10501**
1.2	1.2	1.15	3.0	45	17	15	4	2,5 x DC	0.10	2	**12101**		
1.2	1.2	1.15	6.0	50	22	15	4	5 x DC	0.10	2	**12201**		
1.2	1.2	1.15	10.0	55	27	15	4	8,3 x DC	0.10	2		**12301**	
1.2	1.2	1.15	12.0	55	27	15	4	10 x DC	0.10	2		**12401**	
1.3	1.3	1.25	4.0	45	17	15	4	3,1 x DC	0.10	2	**13101**		
1.3	1.3	1.25	7.0	50	22	15	4	5,4 x DC	0.10	2		**13201**	
1.3	1.3	1.25	11.0	55	27	15	4	8,5 x DC	0.10	2		**13301**	
1.3	1.3	1.25	13.0	55	27	15	4	10 x DC	0.10	2		**13401**	
1.5	1.5	1.44	5.0	50	22	15	4	3,3 x DC	0.10	2	**15101**		
1.5	1.5	1.44	5.0	45	17	15	3	3,3 x DC	0.10	2	**15100**		
1.5	1.5	1.44	7.5	50	22	15	3	5 x DC	0.10	2	**15200**		
1.5	1.5	1.44	7.5	50	22	15	4	5 x DC	0.10	2	**15201**		
1.5	1.5	1.44	12.0	55	27	15	3	8 x DC	0.10	2		**15300**	
1.5	1.5	1.44	12.0	55	27	15	4	8 x DC	0.10	2		**15301**	
1.5	1.5	1.44	15.0	55	27	15	3	10 x DC	0.10	2		**15400**	
1.5	1.5	1.44	15.0	60	32	15	4	10 x DC	0.10	2		**15401**	
1.6	1.6	1.52	5.0	50	22	15	4	3,1 x DC	0.10	2	**16101**		
1.6	1.6	1.52	8.0	50	22	15	4	5 x DC	0.10	2	**16201**		
1.6	1.6	1.52	13.0	55	27	15	4	8,1 x DC	0.10	2		**16301**	
1.6	1.6	1.52	16.0	60	32	15	4	10 x DC	0.10	2		**16401**	

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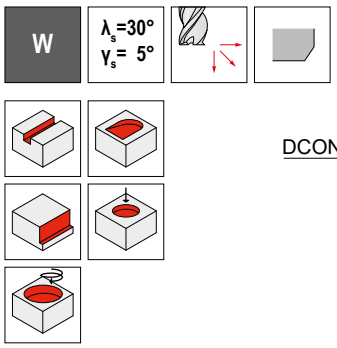
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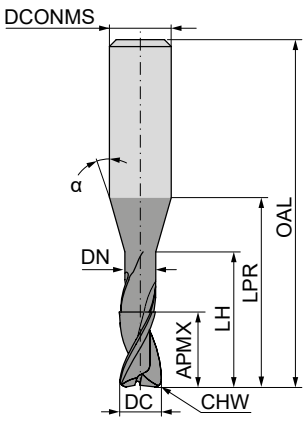
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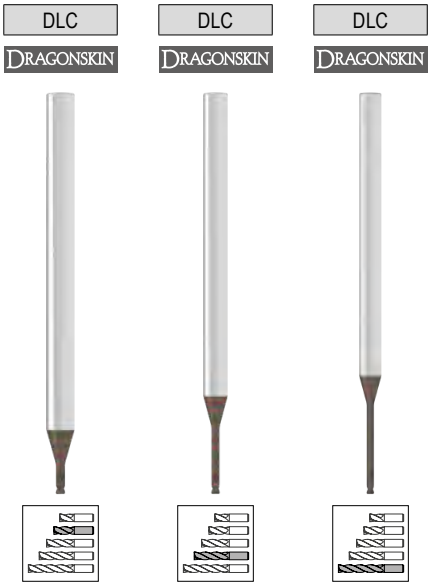
AluLine – Micro end mills – W

The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut







Factory standard | Factory standard | Factory standard



DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	CHW mm	ZEFP	SA 53 900 ...	SA 53 900 ...	SA 53 900 ...
1.8	1.8	1.72	5.5	50	22	15	4	3,1 x DC	0.10	2	**18101**		
1.8	1.8	1.72	9.0	50	22	15	4	5 x DC	0.10	2	**18201**		
1.8	1.8	1.72	14.5	55	27	15	4	8,1 x DC	0.10	2		**18301**	
1.8	1.8	1.72	18.0	60	32	15	4	10 x DC	0.10	2		**18401**	
2.0	2.0	1.92	6.0	50	22	15	4	3 x DC	0.10	2	**20101**		
2.0	2.0	1.92	6.0	45	17	15	3	3 x DC	0.10	2	**20100**		
2.0	2.0	1.92	10.0	50	22	15	4	5 x DC	0.10	2	**20201**		
2.0	2.0	1.92	10.0	50	22	15	3	5 x DC	0.10	2	**20200**		
2.0	2.0	1.92	14.0	55	27	15	3	7 x DC	0.10	2		**20300**	
2.0	2.0	1.92	14.0	55	27	15	4	7 x DC	0.10	2		**20301**	
2.0	2.0	1.92	16.0	55	27	15	3	8 x DC	0.10	2		**20400**	
2.0	2.0	1.92	16.0	60	32	15	4	8 x DC	0.10	2		**20401**	
2.0	2.0	1.92	20.0	60	32	15	3	10 x DC	0.10	2		**20500**	
2.0	2.0	1.92	20.0	60	32	15	4	10 x DC	0.10	2		**20501**	
2.3	2.3	2.22	7.0	50	22	15	4	3 x DC	0.10	2	**23101**		
2.3	2.3	2.22	11.5	55	27	15	4	5 x DC	0.10	2	**23201**		
2.3	2.3	2.22	18.5	60	32	15	4	8 x DC	0.10	2		**23301**	
2.3	2.3	2.22	20.0	60	32	15	4	8,7 x DC	0.10	2		**23401**	
2.3	2.3	2.22	23.0	65	37	15	4	10 x DC	0.10	2		**23501**	
3.0	3.0	2.90	9.0	50	22	15	4	3 x DC	0.10	2	**30101**		
3.0	3.0	2.90	15.0	55	27	15	4	5 x DC	0.10	2	**30201**		
3.0	3.0	2.90	24.0	65	37	15	4	8 x DC	0.10	2		**30301**	
3.0	3.0	2.90	30.0	70	42	15	4	10 x DC	0.10	2		**30401**	

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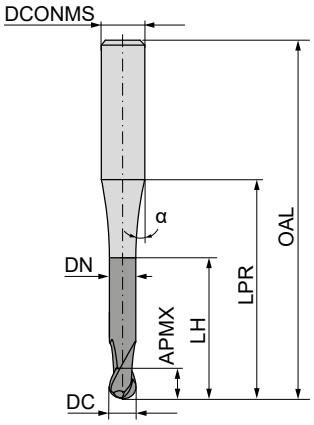
AluLine – Micro radius cutters – W

The specialist for machining non-ferrous metals

- ▲ Radius accuracy: ± 0.01 mm
- ▲ T_x = maximum depth of cut



















DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_X	ZEFP	Factory standard SA 53 903 ...	Factory standard SA 53 903 ...	Factory standard SA 53 903 ...
0.2	0.2	0.18	0.6	45	17	15	4	3 x DC	2	**02101**		
0.2	0.2	0.18	1.0	45	17	15	4	5 x DC	2	**02201**		
0.2	0.2	0.18	1.6	45	17	15	4	8 x DC	2		**02301**	
0.2	0.2	0.18	2.0	50	22	15	4	10 x DC	2		**02401**	
0.3	0.3	0.28	0.9	45	17	15	4	3 x DC	2	**03101**		
0.3	0.3	0.28	1.5	45	17	15	4	5 x DC	2	**03201**		
0.3	0.3	0.28	2.4	50	22	15	4	8 x DC	2		**03301**	
0.3	0.3	0.28	3.0	50	22	15	4	10 x DC	2		**03401**	
0.4	0.4	0.37	1.2	45	17	15	4	3 x DC	2	**04101**		
0.4	0.4	0.37	2.0	45	17	15	4	5 x DC	2	**04201**		
0.4	0.4	0.37	3.2	50	22	15	4	8 x DC	2		**04301**	
0.4	0.4	0.37	4.0	50	22	15	4	10 x DC	2		**04401**	
0.5	0.5	0.45	1.5	45	17	15	4	3 x DC	2	**05101**		
0.5	0.5	0.45	1.5	45	17	15	3	3 x DC	2	**05100**		
0.5	0.5	0.45	2.5	45	17	15	4	5 x DC	2	**05201**		
0.5	0.5	0.45	2.5	45	17	15	3	5 x DC	2	**05200**		
0.5	0.5	0.45	4.0	45	17	15	3	8 x DC	2		**05300**	
0.5	0.5	0.45	4.0	50	22	15	4	8 x DC	2		**05301**	
0.5	0.5	0.45	5.0	50	22	15	3	10 x DC	2		**05400**	
0.5	0.5	0.45	5.0	50	22	15	4	10 x DC	2		**05401**	
0.6	0.6	0.58	2.0	45	17	15	4	3,3 x DC	2	**06101**		
0.6	0.6	0.58	3.0	50	22	15	4	5 x DC	2	**06201**		
0.6	0.6	0.58	5.0	50	22	15	4	8,3 x DC	2		**06301**	
0.6	0.6	0.58	6.0	50	22	15	4	10 x DC	2		**06401**	
0.8	0.8	0.77	2.5	45	17	15	4	3,1 x DC	2	**08101**		
0.8	0.8	0.77	4.0	50	22	15	4	5 x DC	2	**08201**		
0.8	0.8	0.77	6.5	50	22	15	4	8,1 x DC	2		**08301**	
0.8	0.8	0.77	8.0	50	22	15	4	10 x DC	2		**08401**	

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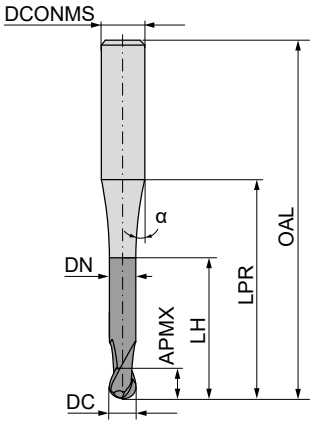
AluLine – Micro radius cutters – W

The specialist for machining non-ferrous metals

- ▲ Radius accuracy: ± 0.01 mm
- ▲ T_x = maximum depth of cut



















										Factory standard	Factory standard	Factory standard
												
										SA	SA	SA
DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_X	ZEFP	53 903 ...	53 903 ...	53 903 ...
1.0	1.0	0.95	3.0	45	17	15	4	3 x DC	2	10101		
1.0	1.0	0.95	3.0	45	17	15	3	3 x DC	2	10100		
1.0	1.0	0.95	5.0	45	17	15	3	5 x DC	2	10200		
1.0	1.0	0.95	5.0	50	22	15	4	5 x DC	2	10201		
1.0	1.0	0.95	8.0	50	22	15	3	8 x DC	2		10300	
1.0	1.0	0.95	8.0	50	22	15	4	8 x DC	2		10301	
1.0	1.0	0.95	10.0	50	22	15	3	10 x DC	2		10400	
1.0	1.0	0.95	10.0	55	27	15	4	10 x DC	2		10401	
1.0	1.0	0.95	12.0	55	27	15	3	12 x DC	2			10500
1.0	1.0	0.95	12.0	55	27	15	4	12 x DC	2			10501
1.2	1.2	1.15	3.0	45	17	15	4	2,5 x DC	2	12101		
1.2	1.2	1.15	6.0	50	22	15	4	5 x DC	2	12201		
1.2	1.2	1.15	10.0	55	27	15	4	8,3 x DC	2		12301	
1.2	1.2	1.15	12.0	55	27	15	4	10 x DC	2		12401	
1.3	1.3	1.25	4.0	45	17	15	4	3,1 x DC	2	13101		
1.3	1.3	1.25	7.0	50	22	15	4	5,4 x DC	2		13201	
1.3	1.3	1.25	11.0	55	27	15	4	8,5 x DC	2		13301	
1.3	1.3	1.25	13.0	55	27	15	4	10 x DC	2		13401	
1.5	1.5	1.44	5.0	50	22	15	4	3,3 x DC	2	15101		
1.5	1.5	1.44	5.0	45	17	15	3	3,3 x DC	2	15100		
1.5	1.5	1.44	7.5	50	22	15	3	5 x DC	2	15200		
1.5	1.5	1.44	7.5	50	22	15	4	5 x DC	2	15201		
1.5	1.5	1.44	12.0	55	27	15	3	8 x DC	2		15400	
1.5	1.5	1.44	12.0	55	27	15	4	8 x DC	2		15401	
1.5	1.5	1.44	15.0	55	27	15	3	10 x DC	2		15300	
1.5	1.5	1.44	15.0	60	32	15	4	10 x DC	2		15301	
1.6	1.6	1.52	5.0	50	22	15	4	3,1 x DC	2	16101		
1.6	1.6	1.52	8.0	50	22	15	4	5 x DC	2	16201		

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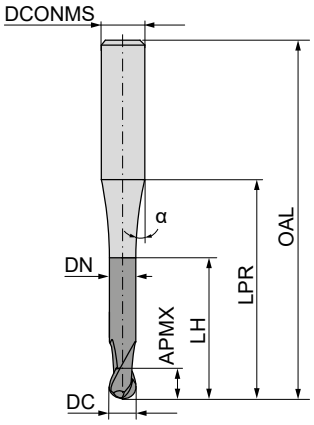
AluLine – Micro radius cutters – W

The specialist for machining non-ferrous metals

- Radius accuracy: ± 0.01 mm
- T_x = maximum depth of cut



















DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	ZEFP	Factory standard SA 53 903 ...	Factory standard SA 53 903 ...	Factory standard SA 53 903 ...
1.6	1.6	1.52	13.0	55	27	15	4	8,1 x DC	2		**16301**	
1.6	1.6	1.52	16.0	60	32	15	4	10 x DC	2		**16401**	
1.8	1.8	1.72	5.5	50	22	15	4	3,1 x DC	2	**18101**		
1.8	1.8	1.72	9.0	50	22	15	4	5 x DC	2	**18201**		
1.8	1.8	1.72	14.5	55	27	15	4	8,1 x DC	2		**18301**	
1.8	1.8	1.72	18.0	60	32	15	4	10 x DC	2		**18401**	
2.0	2.0	1.92	6.0	50	22	15	4	3 x DC	2	**20101**		
2.0	2.0	1.92	6.0	45	17	15	3	3 x DC	2	**20100**		
2.0	2.0	1.92	10.0	50	22	15	4	5 x DC	2	**20201**		
2.0	2.0	1.92	10.0	50	22	15	3	5 x DC	2	**20200**		
2.0	2.0	1.92	14.0	55	27	15	3	7 x DC	2		**20300**	
2.0	2.0	1.92	14.0	55	27	15	4	7 x DC	2		**20301**	
2.0	2.0	1.92	16.0	55	27	15	3	8 x DC	2		**20400**	
2.0	2.0	1.92	16.0	60	32	15	4	8 x DC	2		**20401**	
2.0	2.0	1.92	20.0	60	32	15	3	10 x DC	2		**20500**	
2.0	2.0	1.92	20.0	60	32	15	4	10 x DC	2		**20501**	
2.3	2.3	2.22	7.0	50	22	15	4	3 x DC	2	**23101**		
2.3	2.3	2.22	11.5	55	27	15	4	5 x DC	2	**23201**		
2.3	2.3	2.22	18.5	60	32	15	4	8 x DC	2		**23301**	
2.3	2.3	2.22	20.0	60	32	15	4	8,7 x DC	2		**23401**	
2.3	2.3	2.22	23.0	65	37	15	4	10 x DC	2		**23501**	
3.0	3.0	2.90	9.0	50	22	15	4	3 x DC	2	**30101**		
3.0	3.0	2.90	15.0	55	27	15	4	5 x DC	2	**30201**		
3.0	3.0	2.90	24.0	65	37	15	4	8 x DC	2		**30301**	
3.0	3.0	2.90	30.0	70	42	15	4	10 x DC	2		**30401**	

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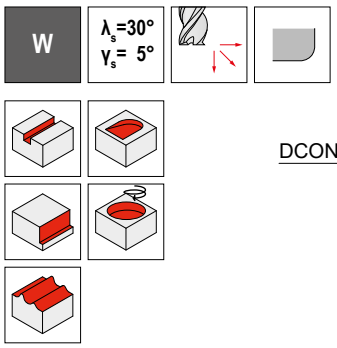


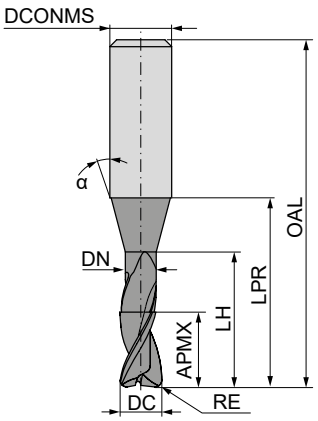
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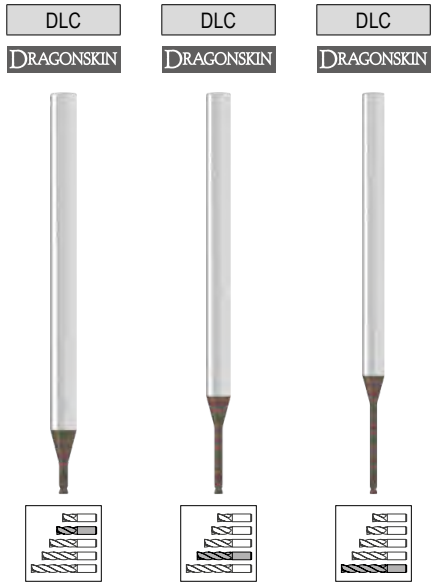
AluLine – Micro torus cutters – W

The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut







Factory standard | Factory standard | Factory standard

SA | SA | SA

DC -0,01 mm	RE ±0.01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	ZEFP	53 901 ...	53 901 ...	53 901 ...
0.2	0.02	0.2	0.18	0.6	45	17	15	4	3 x DC	2	**02101**		
0.2	0.02	0.2	0.18	1.0	45	17	15	4	5 x DC	2	**02201**		
0.2	0.02	0.2	0.18	1.6	45	17	15	4	8 x DC	2		**02301**	
0.2	0.02	0.2	0.18	2.0	50	22	15	4	10 x DC	2		**02401**	
0.3	0.03	0.3	0.28	0.9	45	17	15	4	3 x DC	2	**03101**		
0.3	0.03	0.3	0.28	1.5	45	17	15	4	5 x DC	2	**03201**		
0.3	0.03	0.3	0.28	2.4	50	22	15	4	8 x DC	2		**03301**	
0.3	0.03	0.3	0.28	3.0	50	22	15	4	10 x DC	2		**03401**	
0.4	0.04	0.4	0.37	1.2	45	17	15	4	3 x DC	2	**04101**		
0.4	0.04	0.4	0.37	2.0	45	17	15	4	5 x DC	2	**04201**		
0.4	0.04	0.4	0.37	3.2	50	22	15	4	8 x DC	2		**04301**	
0.4	0.04	0.4	0.37	4.0	50	22	15	4	10 x DC	2		**04401**	
0.5	0.05	0.5	0.45	1.5	45	17	15	4	3 x DC	2	**05101**		
0.5	0.05	0.5	0.45	1.5	45	17	15	3	3 x DC	2	**05100**		
0.5	0.05	0.5	0.45	2.5	45	17	15	4	5 x DC	2	**05201**		
0.5	0.05	0.5	0.45	2.5	45	17	15	3	5 x DC	2	**05200**		
0.5	0.05	0.5	0.45	4.0	45	17	15	3	8 x DC	2		**05300**	
0.5	0.05	0.5	0.45	4.0	50	22	15	4	8 x DC	2		**05301**	
0.5	0.05	0.5	0.45	5.0	50	22	15	3	10 x DC	2		**05400**	
0.5	0.05	0.5	0.45	5.0	50	22	15	4	10 x DC	2		**05401**	
0.6	0.06	0.6	0.58	2.0	45	17	15	4	3,3 x DC	2	**06101**		
0.6	0.06	0.6	0.58	3.0	50	22	15	4	5 x DC	2	**06201**		
0.6	0.06	0.6	0.58	4.2	50	22	15	4	7 x DC	2		**06301**	
0.6	0.06	0.6	0.58	5.0	50	22	15	4	8,3 x DC	2		**06401**	
0.6	0.06	0.6	0.58	6.0	50	22	15	4	10 x DC	2		**06501**	
0.8	0.08	0.8	0.77	2.5	45	17	15	4	3,1 x DC	2	**08101**		
0.8	0.08	0.8	0.77	4.0	50	22	15	4	5 x DC	2	**08201**		
0.8	0.08	0.8	0.77	6.5	50	22	15	4	8,1 x DC	2		**08301**	
0.8	0.08	0.8	0.77	8.0	50	22	15	4	10 x DC	2		**08401**	

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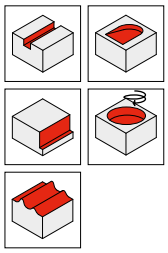
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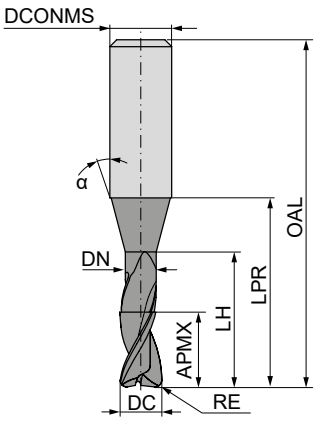
AluLine – Micro torus cutters – W

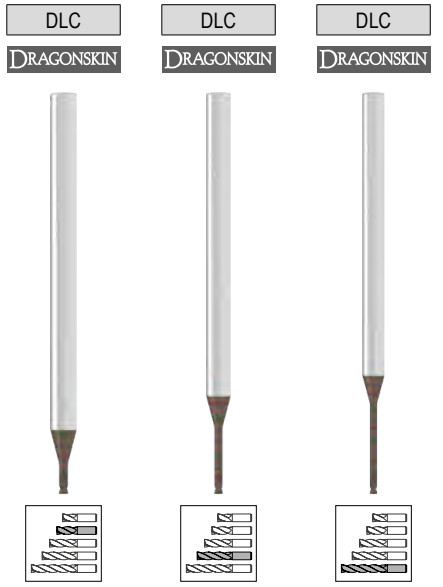
The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut









Factory standard | Factory standard | Factory standard

SA | SA | SA

DC -0,01 mm	RE ±0.01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	ZEFP	53 901 ...	53 901 ...	53 901 ...
1.0	0.10	1.0	0.95	3.0	45	17	15	4	3 x DC	2	**10101**		
1.0	0.10	1.0	0.95	3.0	45	17	15	3	3 x DC	2	**10100**		
1.0	0.10	1.0	0.95	5.0	45	17	15	3	5 x DC	2	**10200**		
1.0	0.10	1.0	0.95	5.0	50	22	15	4	5 x DC	2	**10201**		
1.0	0.10	1.0	0.95	8.0	50	22	15	3	8 x DC	2		**10300**	
1.0	0.10	1.0	0.95	8.0	50	22	15	4	8 x DC	2		**10301**	
1.0	0.10	1.0	0.95	10.0	50	22	15	3	10 x DC	2		**10400**	
1.0	0.10	1.0	0.95	10.0	55	27	15	4	10 x DC	2		**10401**	
1.0	0.10	1.0	0.95	12.0	55	27	15	3	12 x DC	2			**10500**
1.0	0.10	1.0	0.95	12.0	55	27	15	4	12 x DC	2			**10501**
1.2	0.12	1.2	1.15	3.0	45	17	15	4	2,5 x DC	2	**12101**		
1.2	0.12	1.2	1.15	6.0	50	22	15	4	5 x DC	2	**12201**		
1.2	0.12	1.2	1.15	10.0	55	27	15	4	8,3 x DC	2		**12301**	
1.2	0.12	1.2	1.15	12.0	55	27	15	4	10 x DC	2		**12401**	
1.3	0.13	1.3	1.25	4.0	45	17	15	4	3,1 x DC	2	**13101**		
1.3	0.13	1.3	1.25	7.0	50	22	15	4	5,4 x DC	2		**13201**	
1.3	0.13	1.3	1.25	11.0	55	27	15	4	8,5 x DC	2		**13301**	
1.3	0.13	1.3	1.25	13.0	55	27	15	4	10 x DC	2		**13401**	
1.5	0.15	1.5	1.44	5.0	50	22	15	4	3,3 x DC	2	**15101**		
1.5	0.15	1.5	1.44	5.0	45	17	15	3	3,3 x DC	2	**15100**		
1.5	0.15	1.5	1.44	7.5	50	22	15	3	5 x DC	2	**15200**		
1.5	0.15	1.5	1.44	7.5	50	22	15	4	5 x DC	2	**15201**		
1.5	0.15	1.5	1.44	12.0	55	27	15	3	8 x DC	2		**15300**	
1.5	0.15	1.5	1.44	12.0	55	27	15	4	8 x DC	2		**15301**	
1.5	0.15	1.5	1.44	15.0	55	27	15	3	10 x DC	2		**15400**	
1.5	0.15	1.5	1.44	15.0	60	32	15	4	10 x DC	2		**15401**	
1.6	0.16	1.6	1.52	5.0	50	22	15	4	3,1 x DC	2	**16101**		
1.6	0.16	1.6	1.52	8.0	50	22	15	4	5 x DC	2	**16201**		
1.6	0.16	1.6	1.52	13.0	55	27	15	4	8,1 x DC	2		**16301**	

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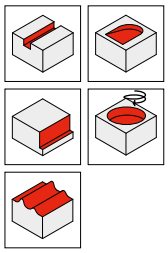
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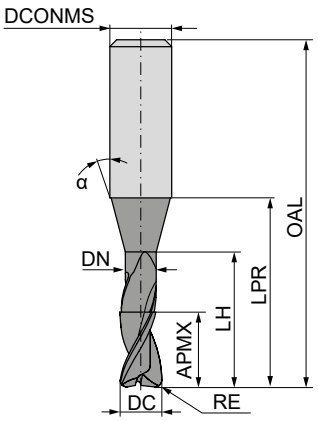
AluLine – Micro torus cutters – W

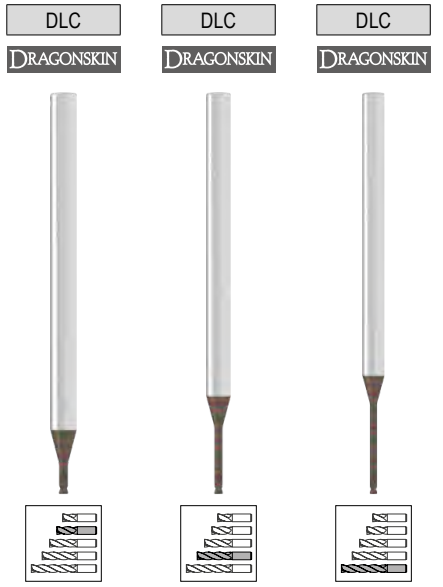
The specialist for machining non-ferrous metals

▲ T_x = maximum depth of cut









DC -0,01 mm	RE ±0.01 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	α°	DCONMS h5 mm	T_x	ZEFP	Factory standard SA 53 901 ...	Factory standard SA 53 901 ...	Factory standard SA 53 901 ...
1.6	0.16	1.6	1.52	16.0	60	32	15	4	10 x DC	2		**16401**	
1.8	0.18	1.8	1.72	5.5	50	22	15	4	3,1 x DC	2	**18101**		
1.8	0.18	1.8	1.72	9.0	50	22	15	4	5 x DC	2	**18201**		
1.8	0.18	1.8	1.72	14.5	55	27	15	4	8,1 x DC	2		**18301**	
1.8	0.18	1.8	1.72	18.0	60	32	15	4	10 x DC	2		**18401**	
2.0	0.20	2.0	1.92	6.0	50	22	15	4	3 x DC	2	**20101**		
2.0	0.20	2.0	1.92	6.0	45	17	15	3	3 x DC	2	**20100**		
2.0	0.20	2.0	1.92	10.0	50	22	15	4	5 x DC	2	**20201**		
2.0	0.20	2.0	1.92	10.0	50	22	15	3	5 x DC	2	**20200**		
2.0	0.20	2.0	1.92	14.0	55	27	15	3	7 x DC	2		**20300**	
2.0	0.20	2.0	1.92	14.0	55	27	15	4	7 x DC	2		**20301**	
2.0	0.20	2.0	1.92	16.0	55	27	15	3	8 x DC	2		**20400**	
2.0	0.20	2.0	1.92	16.0	60	32	15	4	8 x DC	2		**20401**	
2.0	0.20	2.0	1.92	20.0	60	32	15	3	10 x DC	2		**20500**	
2.0	0.20	2.0	1.92	20.0	60	32	15	4	10 x DC	2		**20501**	
2.3	0.23	2.3	2.22	7.0	50	22	15	4	3 x DC	2	**23101**		
2.3	0.23	2.3	2.22	11.5	55	27	15	4	5 x DC	2	**23201**		
2.3	0.23	2.3	2.22	14.0	55	27	15	4	6,1 x DC	2		**23301**	
2.3	0.23	2.3	2.22	18.5	60	32	15	4	8 x DC	2		**23401**	
2.3	0.23	2.3	2.22	20.0	60	32	15	4	8,7 x DC	2		**23501**	
2.3	0.23	2.3	2.22	23.0	65	37	15	4	10 x DC	2		**23601**	
3.0	0.30	3.0	2.90	9.0	50	22	15	4	3 x DC	2	**30101**		
3.0	0.30	3.0	2.90	15.0	55	27	15	4	5 x DC	2	**30201**		
3.0	0.30	3.0	2.90	24.0	65	37	15	4	8 x DC	2		**30301**	
3.0	0.30	3.0	2.90	30.0	70	42	15	4	10 x DC	2		**30401**	

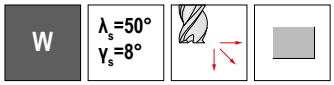
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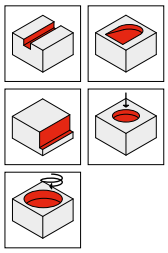
→ Find the cutting data standard values here.

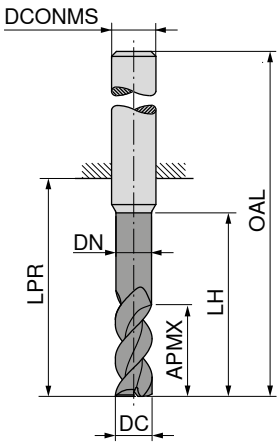
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces







uncoated

DLC

DRAGONSKIN









Factory standard

Factory standard





DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 623 ...	SA 53 625 ...
5.0	10.5	4.8	15	22	58	6	2	**05100**	**05100**
5.5	13.0	5.3	18	22	58	6	2	**05600**	**05600**
6.0	13.0	5.8	18	22	58	6	2	**06100**	**06100**
8.0	17.0	7.7	24	28	64	8	2	**08100**	**08100**
10.0	21.0	9.7	30	34	74	10	2	**10100**	**10100**
12.0	25.0	11.6	36	40	85	12	2	**12100**	**12100**

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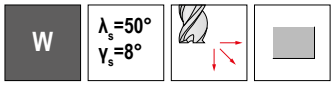


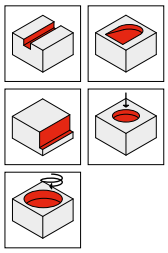
→ Find the cutting data standard values here.

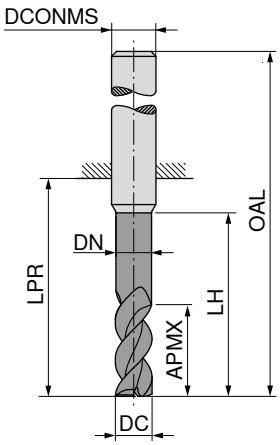
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces















Factory standard | Factory standard





DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 633 ...	SA 53 635 ...
2.0	5.5	1.8	10.0	19	55	6	2	**02300**	**02300**
2.5	6.5	2.3	12.5	22	58	6	2	**02800**	**02800**
3.0	8.0	2.8	15.0	22	58	6	2	**03300**	**03300**
3.5	10.5	3.3	20.0	26	62	6	2	**03800**	**03800**
4.0	10.5	3.8	20.0	26	62	6	2	**04300**	**04300**
4.5	13.0	4.3	25.0	34	70	6	2	**04800**	**04800**
5.0	13.0	4.8	25.0	34	70	6	2	**05300**	**05300**
5.5	16.0	5.3	30.0	34	70	6	2	**05800**	**05800**
6.0	16.0	5.8	30.0	34	70	6	2	**06300**	**06300**
8.0	21.0	7.7	40.0	44	80	8	2	**08300**	**08300**
10.0	26.0	9.7	50.0	54	94	10	2	**10300**	**10300**
12.0	31.0	11.6	60.0	64	109	12	2	**12300**	**12300**

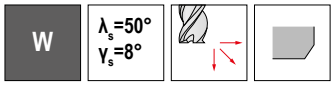
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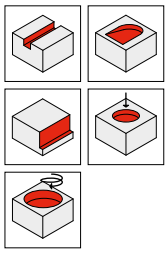
→ Find the cutting data standard values here.

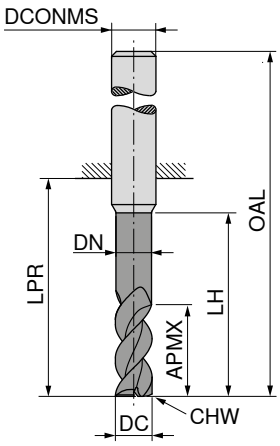
AluLine – End mill – W

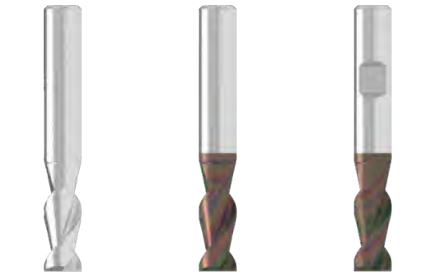
The specialist for machining non-ferrous metals

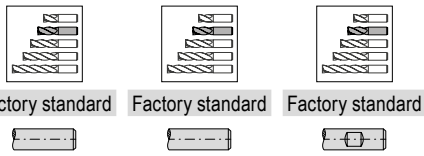
▲ With polished chip spaces











Factory standard | Factory standard | Factory standard

SA | SA | SA

DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 619 ...	53 621 ...	53 622 ...
5.0	10.5	4.8	15	22	58	6	0.1	2	**05100**	**05100**	**05100**
5.5	13.0	5.3	18	22	58	6	0.1	2	**05600**	**05600**	**05600**
6.0	13.0	5.8	18	22	58	6	0.1	2	**06100**	**06100**	**06100**
8.0	17.0	7.7	24	28	64	8	0.1	2	**08100**	**08100**	**08100**
10.0	21.0	9.7	30	34	74	10	0.1	2	**10100**	**10100**	**10100**
12.0	25.0	11.6	36	40	85	12	0.1	2	**12100**	**12100**	**12100**
16.0	33.0	15.5	48	52	100	16	0.1	2			**16100**
20.0	42.0	19.5	60	64	114	20	0.1	2			**20100**

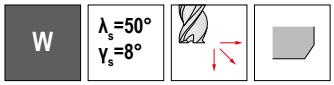
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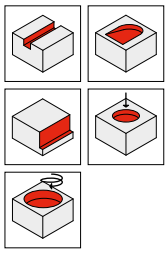
→ Find the cutting data standard values here.

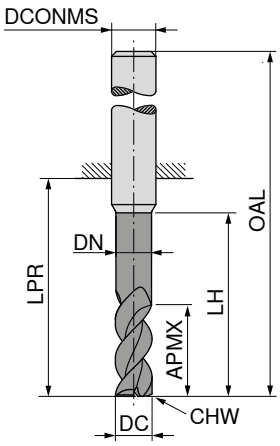
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces







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Factory standard

Factory standard





SA

SA

DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 629 ...	53 631 ...
2.0	5.5	1.8	10.0	19	55	6	0.05	2	**02300**	**02300**
2.5	6.5	2.3	12.5	22	58	6	0.05	2	**02800**	**02800**
3.0	8.0	2.8	15.0	22	58	6	0.10	2	**03300**	**03300**
3.5	10.5	3.3	20.0	26	62	6	0.10	2	**03800**	**03800**
4.0	10.5	3.8	20.0	26	62	6	0.10	2	**04300**	**04300**
4.5	13.0	4.3	25.0	34	70	6	0.10	2	**04800**	**04800**
5.0	13.0	4.8	25.0	34	70	6	0.10	2	**05300**	**05300**
5.5	16.0	5.3	30.0	34	70	6	0.10	2	**05800**	**05800**
6.0	16.0	5.8	30.0	34	70	6	0.10	2	**06300**	**06300**
8.0	21.0	7.7	40.0	44	80	8	0.10	2	**08300**	**08300**
10.0	26.0	9.7	50.0	54	94	10	0.10	2	**10300**	**10300**
12.0	31.0	11.6	60.0	64	109	12	0.10	2	**12300**	**12300**

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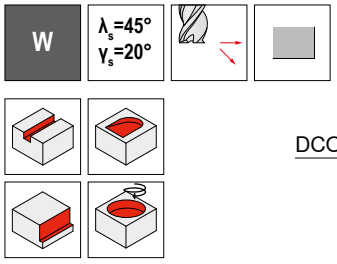


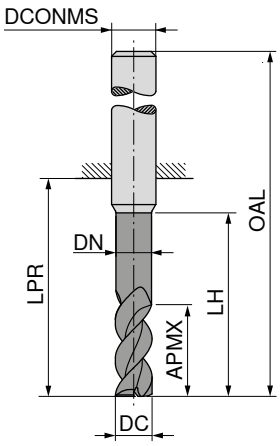
→ Find the cutting data standard values here.

AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ Suitable for finishing thin-walled components





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DRAGONSKIN





Factory standard



DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 637 ...
2.0	5.5	1.8	10.0	19	55	6	2	**02300**
2.5	6.5	2.3	12.5	22	58	6	2	**02800**
3.0	8.0	2.8	15.0	22	58	6	2	**03300**
3.5	10.5	3.3	20.0	26	62	6	2	**03800**
4.0	10.5	3.8	20.0	26	62	6	2	**04300**
4.5	13.0	4.3	25.0	34	70	6	2	**04800**
5.0	13.0	4.8	25.0	34	70	6	2	**05300**
5.5	16.0	5.3	30.0	34	70	6	2	**05800**
6.0	16.0	5.8	30.0	34	70	6	2	**06300**
8.0	21.0	7.7	40.0	44	80	8	2	**08300**
10.0	26.0	9.7	50.0	54	94	10	2	**10300**
12.0	31.0	11.6	60.0	64	109	12	2	**12300**

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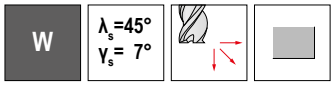


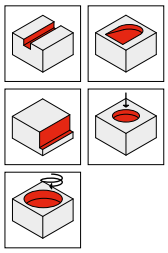
→ Find the cutting data standard values here.

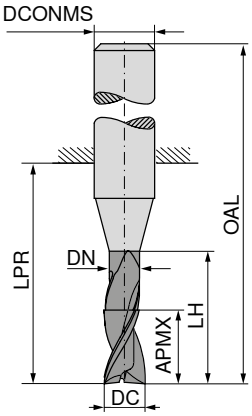
AluLine – End mill – W

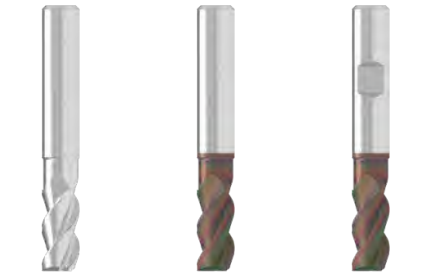
The specialist for machining non-ferrous metals

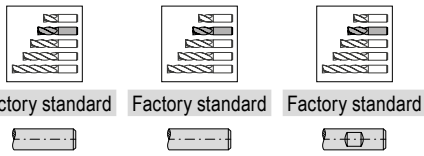
▲ With polished chip spaces











DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 615 ...	SA 53 617 ...	SA 53 618 ...
2.0	4.5	1.8	6.0	14	50	6	3	**02100**	**02100**	**02100**
2.5	5.5	2.3	7.5	19	55	6	3	**02600**	**02600**	**02600**
3.0	6.5	2.8	9.0	19	55	6	3	**03100**	**03100**	**03100**
3.5	8.5	3.3	12.0	19	55	6	3	**03600**	**03600**	**03600**
4.0	8.5	3.8	12.0	19	55	6	3	**04100**	**04100**	**04100**
4.5	10.5	4.3	15.0	22	58	6	3	**04600**	**04600**	**04600**
5.0	10.5	4.8	15.0	22	58	6	3	**05100**	**05100**	**05100**
5.5	13.0	5.3	18.0	22	58	6	3	**05600**	**05600**	**05600**
6.0	13.0	5.8	18.0	22	58	6	3	**06100**	**06100**	**06100**
8.0	17.0	7.7	24.0	28	64	8	3	**08100**	**08100**	**08100**
10.0	21.0	9.7	30.0	34	74	10	3	**10100**	**10100**	**10100**
12.0	25.0	11.6	36.0	40	85	12	3	**12100**	**12100**	**12100**
14.0	29.0	13.6	42.0	46	91	14	3			**14100**
16.0	32.0	15.5	48.0	52	100	16	3	**16100**		
16.0	33.0	15.5	48.0	52	100	16	3		**16100**	**16100**
20.0	42.0	19.5	60.0	64	114	20	3	**20100**	**20100**	**20100**

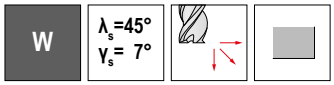
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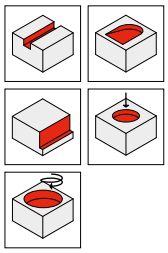
→ Find the cutting data standard values here.

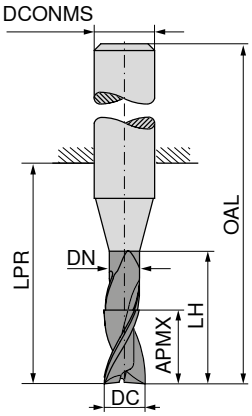
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces









DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 615 ...	SA 53 617 ...	SA 53 618 ...
Factory standard										
2.0	5.5	1.8	10.0	19	55	6	3	**02200**	**02200**	**02200**
2.5	6.5	2.3	12.5	22	58	6	3	**02700**	**02700**	**02700**
3.0	8.0	2.8	15.0	22	58	6	3	**03200**	**03200**	**03200**
3.5	10.5	3.3	20.0	26	62	6	3	**03700**	**03700**	**03700**
4.0	10.5	3.8	20.0	26	62	6	3	**04200**	**04200**	**04200**
4.5	13.0	4.3	25.0	34	70	6	3	**04700**	**04700**	**04700**
5.0	13.0	4.8	25.0	34	70	6	3	**05200**	**05200**	**05200**
5.5	16.0	5.3	30.0	34	70	6	3	**05700**	**05700**	**05700**
6.0	16.0	5.8	30.0	34	70	6	3	**06200**	**06200**	**06200**
8.0	21.0	7.7	40.0	44	80	8	3	**08200**	**08200**	**08200**
10.0	26.0	9.7	50.0	54	94	10	3	**10200**	**10200**	**10200**
12.0	31.0	11.6	60.0	64	109	12	3	**12200**	**12200**	**12200**
14.0	36.0	13.6	70.0	74	119	14	3			**14200**
16.0	41.0	15.5	80.0	84	132	16	3	**16200**	**16200**	**16200**
20.0	52.0	19.5	100.0	104	154	20	3	**20200**	**20200**	**20200**

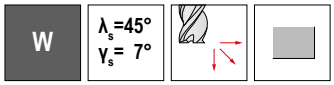
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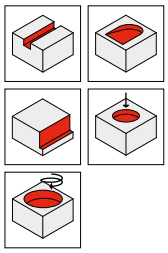
→ Find the cutting data standard values here.

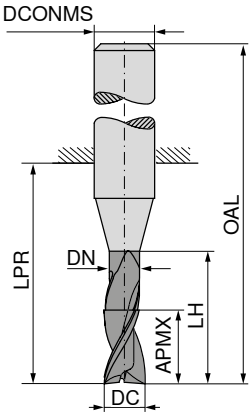
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces









Factory standard | Factory standard | Factory standard







DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 615 ...	SA 53 617 ...	SA 53 618 ...
2.0	8.5	1.8	16	26	62	6	3	**02400**	**02400**	**02400**
2.5	10.5	2.3	20	31	67	6	3	**02900**	**02900**	**02900**
3.0	12.5	2.8	24	31	67	6	3	**03400**	**03400**	**03400**
3.5	16.5	3.3	32	38	74	6	3	**03900**	**03900**	**03900**
4.0	16.5	3.8	32	38	74	6	3	**04400**	**04400**	**04400**
4.5	20.5	4.3	40	52	88	6	3	**04900**	**04900**	**04900**
5.0	20.5	4.8	40	52	88	6	3	**05400**	**05400**	**05400**
5.5	25.0	5.3	48	52	88	6	3	**05900**	**05900**	**05900**
6.0	25.0	5.8	48	52	88	6	3	**06400**	**06400**	**06400**
8.0	33.0	7.7	64	68	104	8	3	**08400**	**08400**	**08400**
10.0	41.0	9.7	80	84	124	10	3	**10400**	**10400**	**10400**
12.0	49.0	11.6	96	100	145	12	3	**12400**	**12400**	**12400**
14.0	57.0	13.6	112	116	161	14	3			**14400**
16.0	65.0	15.5	128	132	180	16	3	**16400**	**16400**	**16400**
20.0	82.0	19.5	160	164	214	20	3	**20400**	**20400**	**20400**

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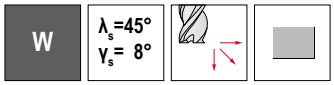


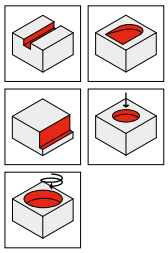
→ Find the cutting data standard values here.

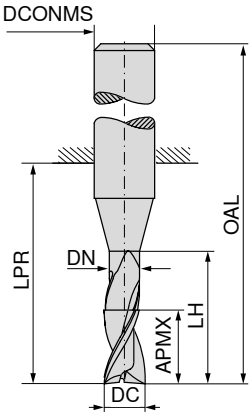
AluLine – End mill – W

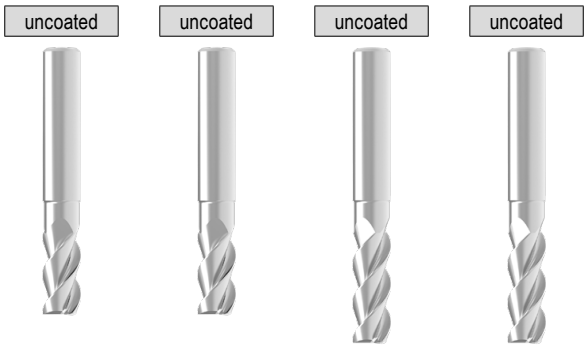
The specialist for machining non-ferrous metals

▲ With polished chip spaces













DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 517 ...	SA 53 518 ...	SA 53 519 ...	SA 53 520 ...
3	8	2.7	13	21	57	6	3				**030**
4	11	3.7	17	21	57	6	3				**040**
5	13	4.7	19	21	57	6	3			**050**	
6	13	5.7	19	21	57	6	3			**060**	
6	18	5.7	24	26	62	6	3				**060**
8	21	7.4	25	27	63	8	3		**080**		
8	24	7.4	30	32	68	8	3			**080**	
10	22	9.2	30	32	72	10	3		**100**		
10	30	9.2	38	40	80	10	3			**100**	
12	26	11.0	36	38	83	12	3		**120**		
12	36	11.0	46	48	93	12	3			**120**	
14	26	13.0	36	38	83	14	3	**140**			
16	36	15.0	42	44	92	16	3	**160**			
16	48	15.0	58	60	108	16	3			**160**	
18	36	17.0	42	44	92	18	3	**180**			
20	41	19.0	52	54	104	20	3	**200**			
20	60	19.0	74	76	126	20	3			**200**	

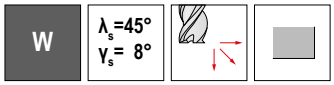
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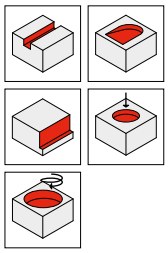
→ Find the cutting data standard values here.

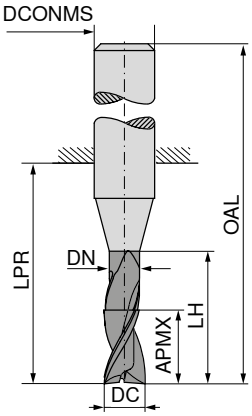
AluLine – End mill – W

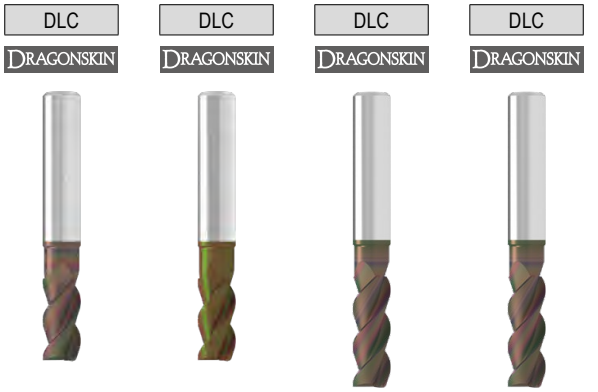
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▲ With polished chip spaces











								Factory standard	Factory standard	Factory standard	Factory standard
								SA	SA	SA	SA
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	53 521 ...	53 522 ...	53 523 ...	53 524 ...
3	8	2.7	13	21	57	6	3				**030**
4	11	3.7	17	21	57	6	3				**040**
5	13	4.7	19	21	57	6	3			**050**	
6	13	5.7	19	21	57	6	3			**060**	
6	18	5.7	24	26	62	6	3				**060**
8	21	7.4	25	27	63	8	3		**080**		
8	24	7.4	30	32	68	8	3			**080**	
10	22	9.2	30	32	72	10	3		**100**		
10	30	9.2	38	40	80	10	3			**100**	
12	26	11.0	36	38	83	12	3		**120**		
12	36	11.0	46	48	93	12	3			**120**	
14	26	13.0	36	38	83	14	3	**140**			
16	36	15.0	42	44	92	16	3	**160**			
18	36	17.0	42	44	92	18	3	**180**			
20	41	19.0	52	54	104	20	3	**200**			

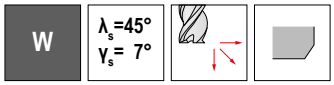
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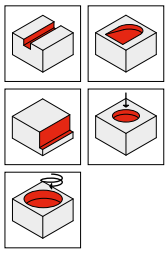
→ Find the cutting data standard values here.

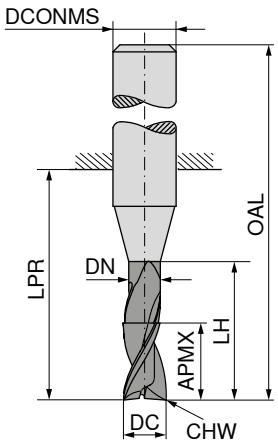
AluLine – End mill – W

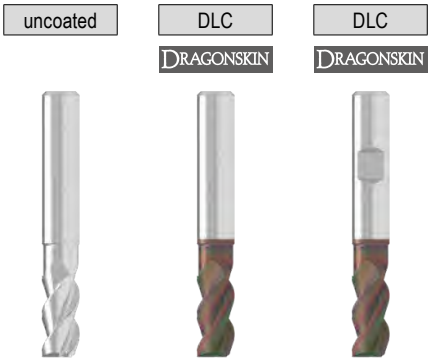
The specialist for machining non-ferrous metals

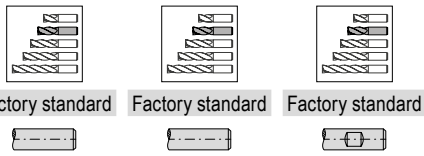
▲ With polished chip spaces











DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 611 ...	SA 53 613 ...	SA 53 614 ...
2.0	4.5	1.8	6.0	14	50	6	0.05	3	**02100**	**02100**	**02100**
2.5	5.5	2.3	7.5	19	55	6	0.05	3	**02600**	**02600**	**02600**
3.0	6.5	2.8	9.0	19	55	6	0.10	3	**03100**	**03100**	**03100**
3.5	8.5	3.3	12.0	19	55	6	0.10	3	**03600**	**03600**	**03600**
4.0	8.5	3.8	12.0	19	55	6	0.10	3	**04100**	**04100**	**04100**
4.5	10.5	4.3	15.0	22	58	6	0.10	3	**04600**	**04600**	**04600**
5.0	10.5	4.8	15.0	22	58	6	0.10	3	**05100**	**05100**	**05100**
5.5	13.0	5.3	18.0	22	58	6	0.10	3	**05600**	**05600**	**05600**
6.0	13.0	5.8	18.0	22	58	6	0.20	3	**06100**	**06100**	**06100**
8.0	17.0	7.7	24.0	28	64	8	0.20	3	**08100**	**08100**	**08100**
10.0	21.0	9.7	30.0	34	74	10	0.20	3	**10100**	**10100**	**10100**
12.0	25.0	11.6	36.0	40	85	12	0.20	3	**12100**	**12100**	**12100**
16.0	33.0	15.5	48.0	52	100	16	0.20	3	**16100**	**16100**	**16100**
20.0	42.0	19.5	60.0	64	114	20	0.20	3	**20100**	**20100**	**20100**

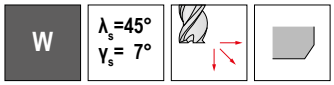
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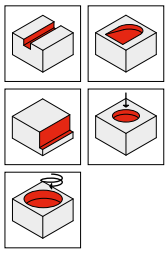
→ Find the cutting data standard values here.

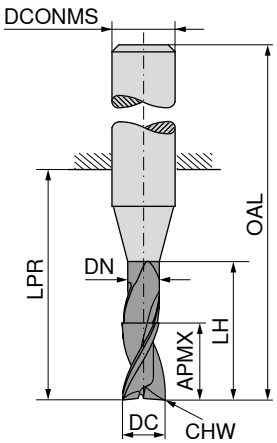
AluLine – End mill – W

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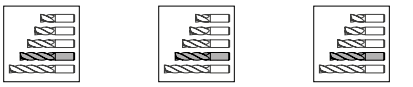
▲ With polished chip spaces













DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 611 ...	SA 53 613 ...	SA 53 614 ...
2.0	5.5	1.8	10.0	19	55	6	0.05	3	**02200**	**02200**	**02200**
2.5	6.5	2.3	12.5	22	58	6	0.05	3	**02700**	**02700**	**02700**
3.0	8.0	2.8	15.0	22	58	6	0.10	3	**03200**	**03200**	**03200**
3.5	10.5	3.3	20.0	26	62	6	0.10	3	**03700**	**03700**	**03700**
4.0	10.5	3.8	20.0	26	62	6	0.10	3	**04200**	**04200**	**04200**
4.5	13.0	4.3	25.0	34	70	6	0.10	3	**04700**	**04700**	**04700**
5.0	13.0	4.8	25.0	34	70	6	0.10	3	**05200**	**05200**	**05200**
5.5	16.0	5.3	30.0	34	70	6	0.10	3	**05700**	**05700**	**05700**
6.0	16.0	5.8	30.0	34	70	6	0.20	3	**06200**	**06200**	**06200**
8.0	21.0	7.7	40.0	44	80	8	0.20	3	**08200**	**08200**	**08200**
10.0	26.0	9.7	50.0	54	94	10	0.20	3	**10200**	**10200**	**10200**
12.0	31.0	11.6	60.0	64	109	12	0.20	3	**12200**	**12200**	**12200**
16.0	41.0	15.5	80.0	84	132	16	0.20	3	**16200**	**16200**	**16200**
20.0	52.0	19.5	100.0	104	154	20	0.20	3	**20200**	**20200**	**20200**

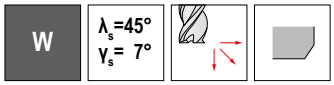
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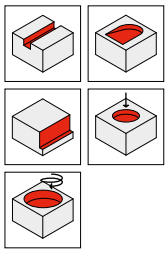
→ Find the cutting data standard values here.

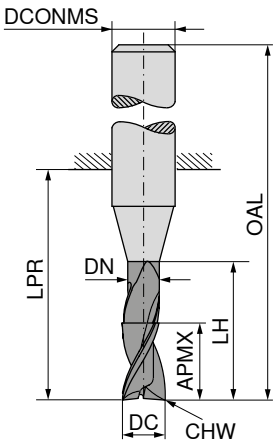
AluLine – End mill – W

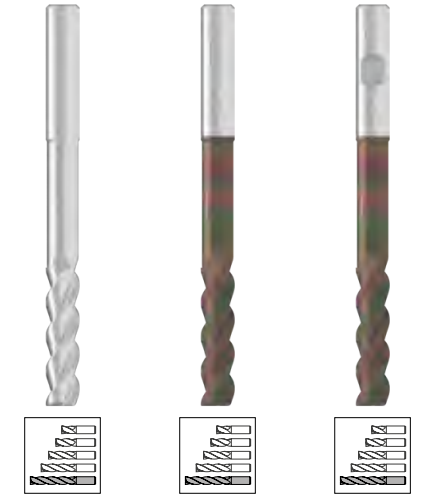
The specialist for machining non-ferrous metals

▲ With polished chip spaces









Factory standard | Factory standard | Factory standard



SA | SA | SA

DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 611 ...	53 613 ...	53 614 ...
2.0	8.5	1.8	16	26	62	6	0.05	3	**02400**	**02400**	**02400**
2.5	10.5	2.3	20	31	67	6	0.05	3	**02900**	**02900**	**02900**
3.0	12.5	2.8	24	31	67	6	0.10	3	**03400**	**03400**	**03400**
3.5	16.5	3.3	32	38	74	6	0.10	3	**03900**	**03900**	**03900**
4.0	16.5	3.8	32	38	74	6	0.10	3	**04400**	**04400**	**04400**
4.5	20.5	4.3	40	52	88	6	0.10	3	**04900**	**04900**	**04900**
5.0	20.5	4.8	40	52	88	6	0.10	3	**05400**	**05400**	**05400**
5.5	25.0	5.3	48	52	88	6	0.10	3	**05900**	**05900**	**05900**
6.0	25.0	5.8	48	52	88	6	0.20	3	**06400**	**06400**	**06400**
8.0	33.0	7.7	64	68	104	8	0.20	3	**08400**	**08400**	**08400**
10.0	41.0	9.7	80	84	124	10	0.20	3	**10400**	**10400**	**10400**
12.0	49.0	11.6	96	100	145	12	0.20	3	**12400**	**12400**	**12400**
16.0	65.0	15.5	128	132	180	16	0.20	3	**16400**	**16400**	**16400**
20.0	82.0	19.5	160	164	214	20	0.20	3	**20400**	**20400**	**20400**

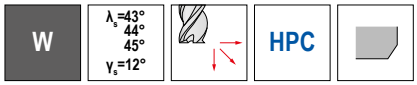
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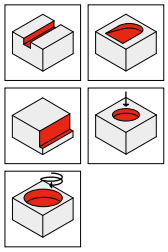
→ Find the cutting data standard values here.

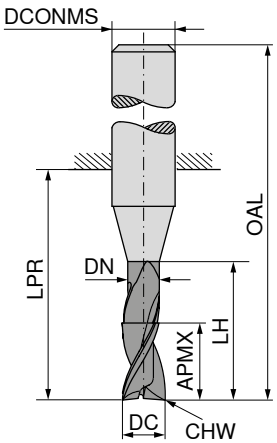
AluLine – End mill – W

The specialist for machining non-ferrous metals

▲ With graduated chip space















Factory standard

Factory standard





DC f8/F8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 598 ...	SA 53 599 ...
3.0	8	2.7	12	21	57	6	0.1	3	**03000**	**03000**
3.5	8	3.2	12	21	57	6	0.1	3	**03600**	**03600**
4.0	11	3.7	18	21	57	6	0.1	3	**04000**	**04000**
4.5	11	4.2	18	21	57	6	0.1	3	**04600**	**04600**
5.0	13	4.7	18	21	57	6	0.1	3	**05000**	**05000**
5.5	13	5.2	18	21	57	6	0.1	3	**05600**	**05600**
6.0	13	5.7	18	21	57	6	0.2	3	**06000**	**06000**
8.0	21	7.4	25	27	63	8	0.2	3	**08000**	**08000**
10.0	22	9.2	30	33	73	10	0.2	3	**10000**	**10000**
12.0	26	11.0	36	38	83	12	0.2	3	**12000**	**12000**
16.0	36	15.0	42	44	92	16	0.2	3	**16000**	**16000**
20.0	41	19.0	52	54	104	20	0.2	3	**20000**	**20000**

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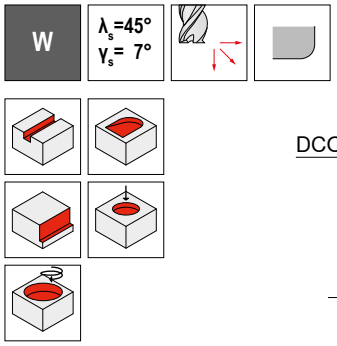


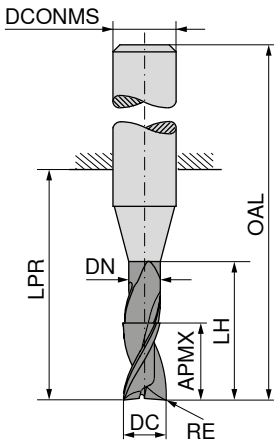
→ Find the cutting data standard values here.

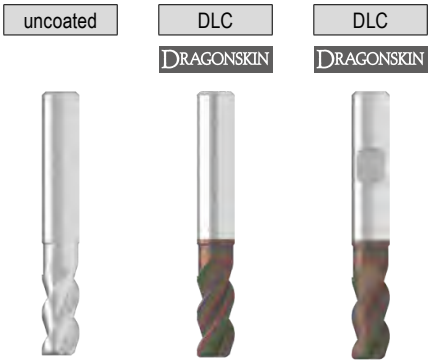
AluLine – End mills with corner radius – W

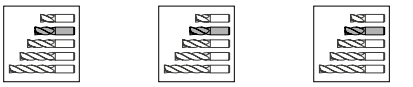
The specialist for machining non-ferrous metals

▲ With polished chip spaces











DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 708 ...	SA 53 710 ...	SA 53 711 ...
2	0.3	4.5	1.8	6	14	50	6	3	02103	02103	02103
2	0.5	4.5	1.8	6	14	50	6	3	02105	02105	02105
3	0.3	6.5	2.7	9	19	55	6	3	03103	03103	03103
3	0.5	6.5	2.7	9	19	55	6	3	03105	03105	03105
3	1.0	6.5	2.7	9	19	55	6	3	03110	03110	03110
4	0.3	8.5	3.7	12	19	55	6	3	04103	04103	04103
4	0.5	8.5	3.7	12	19	55	6	3	04105	04105	04105
4	1.0	8.5	3.7	12	19	55	6	3	04110	04110	04110
5	0.3	10.5	4.7	15	22	58	6	3	05103	05103	05103
5	0.5	10.5	4.7	15	22	58	6	3	05105	05105	05105
5	1.0	10.5	4.7	15	22	58	6	3	05110	05110	05110
6	0.3	13.0	5.7	18	22	58	6	3	06103	06103	06103
6	0.5	13.0	5.7	18	22	58	6	3	06105	06105	06105
6	1.0	13.0	5.7	18	22	58	6	3	06110	06110	06110
6	1.5	13.0	5.7	18	22	58	6	3	06115	06115	06115
8	0.3	17.0	7.4	24	28	64	8	3	08103	08103	08103
8	0.5	17.0	7.4	24	28	64	8	3	08105	08105	08105
8	1.0	17.0	7.4	24	28	64	8	3	08110	08110	08110
8	1.5	17.0	7.4	24	28	64	8	3	08115	08115	08115
8	2.0	17.0	7.4	24	28	64	8	3	08120	08120	08120
10	0.3	21.0	9.2	30	34	74	10	3	10103	10103	10103
10	0.5	21.0	9.2	30	34	74	10	3	10105	10105	10105
10	1.0	21.0	9.2	30	34	74	10	3	10110	10110	10110
10	1.5	21.0	9.2	30	34	74	10	3	10115	10115	10115
10	2.0	21.0	9.2	30	34	74	10	3	10120	10120	10120
10	2.5	21.0	9.2	30	34	74	10	3	10125	10125	
10	3.0	21.0	9.2	30	34	74	10	3	10130	10130	10130
12	0.3	25.0	11.0	36	40	85	12	3	12103	12103	12103
12	0.5	25.0	11.0	36	40	85	12	3	12105	12105	12105

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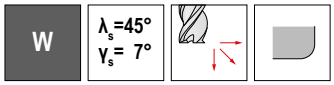
→ Find the cutting data standard values here.

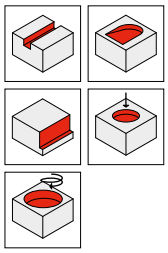
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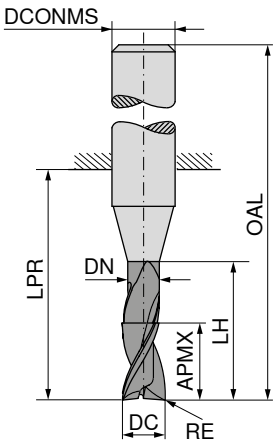
AluLine – End mills with corner radius – W

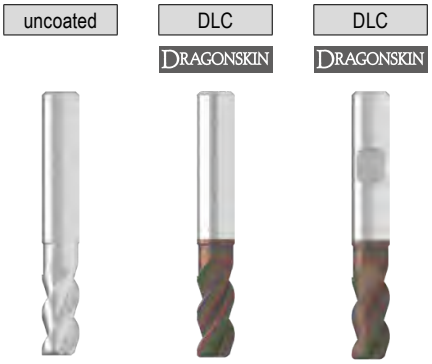
The specialist for machining non-ferrous metals

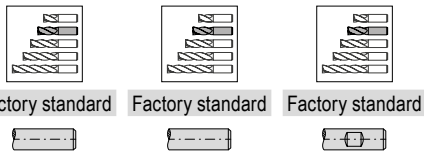
▲ With polished chip spaces











DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 708 ...	SA 53 710 ...	SA 53 711 ...
12	1.0	25.0	11.0	36	40	85	12	3	**12110**	**12110**	**12110**
12	1.5	25.0	11.0	36	40	85	12	3	**12115**	**12115**	**12115**
12	2.0	25.0	11.0	36	40	85	12	3	**12120**	**12120**	**12120**
12	2.5	25.0	11.0	36	40	85	12	3	**12125**	**12125**	
12	3.0	25.0	11.0	36	40	85	12	3	**12130**	**12130**	**12130**
12	4.0	25.0	11.0	36	40	85	12	3	**12140**	**12140**	**12140**
16	0.3	33.0	15.0	48	52	100	16	3	**16103**	**16103**	**16103**
16	0.5	33.0	15.0	48	52	100	16	3	**16105**	**16105**	**16105**
16	1.0	33.0	15.0	48	52	100	16	3	**16110**	**16110**	**16110**
16	1.5	33.0	15.0	48	52	100	16	3	**16115**	**16115**	**16115**
16	2.0	33.0	15.0	48	52	100	16	3	**16120**	**16120**	**16120**
16	2.5	33.0	15.0	48	52	100	16	3	**16125**	**16125**	
16	3.0	33.0	15.0	48	52	100	16	3	**16130**	**16130**	**16130**
16	4.0	33.0	15.0	48	52	100	16	3	**16140**	**16140**	**16140**
20	0.5	42.0	19.0	60	64	114	20	3	**20105**	**20105**	**20105**
20	1.0	42.0	19.0	60	64	114	20	3	**20110**	**20110**	**20110**
20	1.5	42.0	19.0	60	64	114	20	3	**20115**	**20115**	**20115**
20	2.0	42.0	19.0	60	64	114	20	3	**20120**	**20120**	**20120**
20	2.5	42.0	19.0	60	64	114	20	3	**20125**	**20125**	
20	3.0	42.0	19.0	60	64	114	20	3	**20130**	**20130**	**20130**
20	4.0	42.0	19.0	60	64	114	20	3	**20140**	**20140**	**20140**

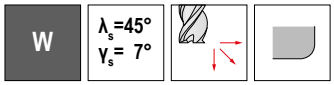
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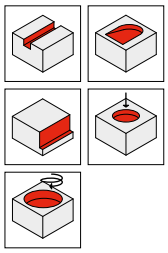
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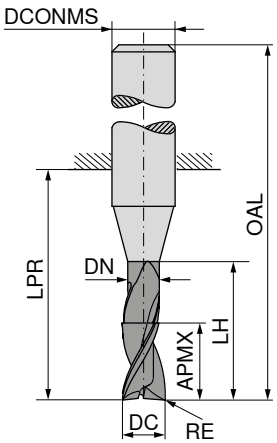
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces









Factory standard | Factory standard | Factory standard

SA | SA | SA

DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 708 ...	53 710 ...	53 711 ...
2	0.3	5.5	1.8	10	19	55	6	3	02203	02203	02203
2	0.5	5.5	1.8	10	19	55	6	3	02205	02205	02205
3	0.3	8.0	2.7	15	22	58	6	3	03203	03203	03203
3	0.5	8.0	2.7	15	22	58	6	3	03205	03205	03205
3	1.0	8.0	2.7	15	22	58	6	3	03210	03210	03210
4	0.3	10.5	3.7	20	26	62	6	3	04203	04203	04203
4	0.5	10.5	3.7	20	26	62	6	3	04205	04205	04205
4	1.0	10.5	3.7	20	26	62	6	3	04210	04210	04210
5	0.3	13.0	4.7	25	34	70	6	3	05203	05203	05203
5	0.5	13.0	4.7	25	34	70	6	3	05205	05205	05205
5	1.0	13.0	4.7	25	34	70	6	3	05210	05210	05210
6	0.3	16.0	5.7	30	34	70	6	3	06203	06203	06203
6	0.5	16.0	5.7	30	34	70	6	3	06205	06205	06205
6	1.0	16.0	5.7	30	34	70	6	3	06210	06210	06210
6	1.5	16.0	5.7	30	34	70	6	3	06215	06215	06215
8	0.3	21.0	7.4	40	44	80	8	3	08203	08203	08203
8	0.5	21.0	7.4	40	44	80	8	3	08205	08205	08205
8	1.0	21.0	7.4	40	44	80	8	3	08210	08210	08210
8	1.5	21.0	7.4	40	44	80	8	3	08215	08215	08215
8	2.0	21.0	7.4	40	44	80	8	3	08220	08220	08220
10	0.3	26.0	9.2	50	54	94	10	3	10203	10203	10203
10	0.5	26.0	9.2	50	54	94	10	3	10205	10205	10205
10	1.0	26.0	9.2	50	54	94	10	3	10210	10210	10210
10	1.5	26.0	9.2	50	54	94	10	3	10215	10215	10215
10	2.0	26.0	9.2	50	54	94	10	3	10220	10220	10220
10	2.5	26.0	9.2	50	54	94	10	3	10225	10225	
10	3.0	26.0	9.2	50	54	94	10	3	10230	10230	10230
12	0.3	31.0	11.0	60	64	109	12	3	12203	12203	12203
12	0.5	31.0	11.0	60	64	109	12	3	12205	12205	12205

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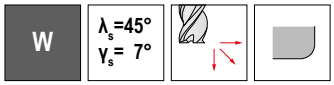
→ Find the cutting data standard values here.

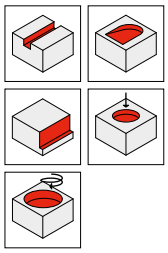
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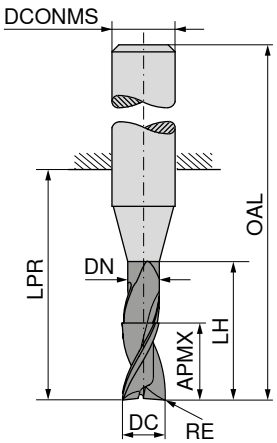
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces









DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 708 ...	SA 53 710 ...	SA 53 711 ...
12	1.0	31.0	11.0	60	64	109	12	3	**12210**	**12210**	**12210**
12	1.5	31.0	11.0	60	64	109	12	3	**12215**	**12215**	**12215**
12	2.0	31.0	11.0	60	64	109	12	3	**12220**	**12220**	**12220**
12	2.5	31.0	11.0	60	64	109	12	3	**12225**	**12225**	
12	3.0	31.0	11.0	60	64	109	12	3	**12230**	**12230**	**12230**
12	4.0	31.0	11.0	60	64	109	12	3	**12240**	**12240**	**12240**
16	0.3	41.0	15.0	80	84	132	16	3	**16203**	**16203**	**16203**
16	0.5	41.0	15.0	80	84	132	16	3	**16205**	**16205**	**16205**
16	1.0	41.0	15.0	80	84	132	16	3	**16210**	**16210**	**16210**
16	1.5	41.0	15.0	80	84	132	16	3	**16215**	**16215**	**16215**
16	2.0	41.0	15.0	80	84	132	16	3	**16220**	**16220**	**16220**
16	2.5	41.0	15.0	80	84	132	16	3	**16225**	**16225**	
16	3.0	41.0	15.0	80	84	132	16	3	**16230**	**16230**	**16230**
16	4.0	41.0	15.0	80	84	132	16	3	**16240**	**16240**	**16240**
20	0.5	52.0	19.0	100	104	154	20	3	**20205**	**20205**	**20205**
20	1.0	52.0	19.0	100	104	154	20	3	**20210**	**20210**	**20210**
20	1.5	52.0	19.0	100	104	154	20	3	**20215**	**20215**	**20215**
20	2.0	52.0	19.0	100	104	154	20	3	**20220**	**20220**	**20220**
20	2.5	52.0	19.0	100	104	154	20	3	**20225**	**20225**	
20	3.0	52.0	19.0	100	104	154	20	3	**20230**	**20230**	**20230**
20	4.0	52.0	19.0	100	104	154	20	3	**20240**	**20240**	**20240**

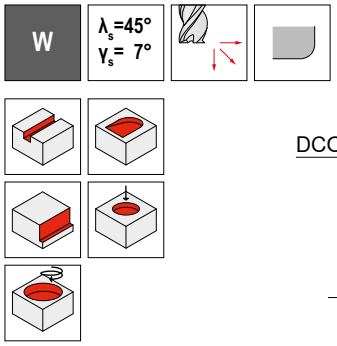
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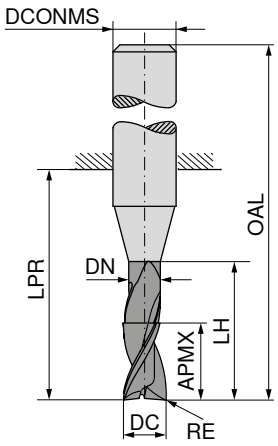
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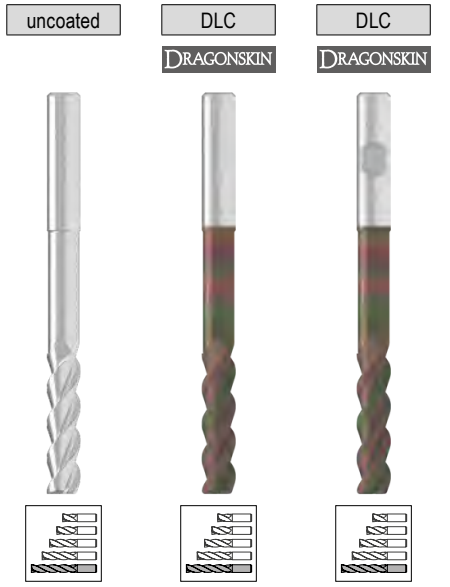
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

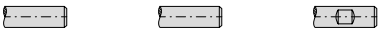
▲ With polished chip spaces







Factory standard | Factory standard | Factory standard



SA | SA | SA

DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 708 ...	53 710 ...	53 711 ...
2	0.3	8.5	1.8	16	26	62	6	3	02403	02403	02403
2	0.5	8.5	1.8	16	26	62	6	3	02405	02405	02405
3	0.3	12.5	2.7	24	31	67	6	3	03403	03403	03403
3	0.5	12.5	2.7	24	31	67	6	3	03405	03405	03405
3	1.0	12.5	2.7	24	31	67	6	3	03410	03410	03410
4	0.3	16.5	3.7	32	38	74	6	3	04403	04403	04403
4	0.5	16.5	3.7	32	38	74	6	3	04405	04405	04405
4	1.0	16.5	3.7	32	38	74	6	3	04410	04410	04410
5	0.3	20.5	4.7	40	52	88	6	3	05403	05403	05403
5	0.5	20.5	4.7	40	52	88	6	3	05405	05405	05405
5	1.0	20.5	4.7	40	52	88	6	3	05410	05410	05410
6	0.3	25.0	5.7	48	52	88	6	3	06403	06403	06403
6	0.5	25.0	5.7	48	52	88	6	3	06405	06405	06405
6	1.0	25.0	5.7	48	52	88	6	3	06410	06410	06410
6	1.5	25.0	5.7	48	52	88	6	3	06415	06415	06415
8	0.3	33.0	7.4	64	68	104	8	3	08403	08403	08403
8	0.5	33.0	7.4	64	68	104	8	3	08405	08405	08405
8	1.0	33.0	7.4	64	68	104	8	3	08410	08410	08410
8	1.5	33.0	7.4	64	68	104	8	3	08415	08415	08415
8	2.0	33.0	7.4	64	68	104	8	3	08420	08420	08420
10	0.3	41.0	9.2	80	84	124	10	3	10403	10403	10403
10	0.5	41.0	9.2	80	84	124	10	3	10405	10405	10405
10	1.0	41.0	9.2	80	84	124	10	3	10410	10410	10410
10	1.5	41.0	9.2	80	84	124	10	3	10415	10415	10415
10	2.0	41.0	9.2	80	84	124	10	3	10420	10420	10420
10	2.5	41.0	9.2	80	84	124	10	3	10425	10425	
10	3.0	41.0	9.2	80	84	124	10	3	10430	10430	10430
12	0.3	49.0	11.0	96	100	145	12	3	12403	12403	12403
12	0.5	49.0	11.0	96	100	145	12	3	12405	12405	12405

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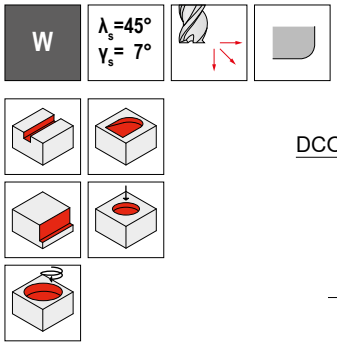
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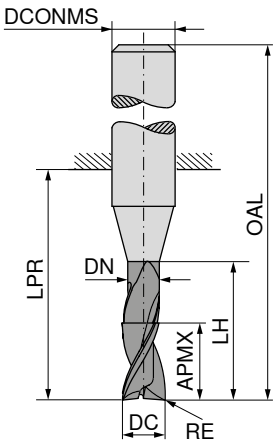
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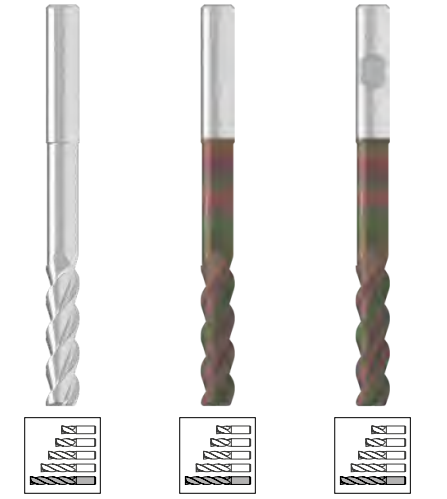
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

▲ With polished chip spaces







Factory standard | Factory standard | Factory standard





SA | SA | SA

DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 708 ...	53 710 ...	53 711 ...
12	1.0	49.0	11.0	96	100	145	12	3	**12410**	**12410**	**12410**
12	1.5	49.0	11.0	96	100	145	12	3	**12415**	**12415**	**12415**
12	2.0	49.0	11.0	96	100	145	12	3	**12420**	**12420**	**12420**
12	2.5	49.0	11.0	96	100	145	12	3	**12425**	**12425**	
12	3.0	49.0	11.0	96	100	145	12	3	**12430**	**12430**	**12430**
12	4.0	49.0	11.0	96	100	145	12	3	**12440**	**12440**	**12440**
16	0.3	65.0	15.0	128	132	180	16	3	**16403**	**16403**	**16403**
16	0.5	65.0	15.0	128	132	180	16	3	**16405**	**16405**	**16405**
16	1.0	65.0	15.0	128	132	180	16	3	**16410**	**16410**	**16410**
16	1.5	65.0	15.0	128	132	180	16	3	**16415**	**16415**	**16415**
16	2.0	65.0	15.0	128	132	180	16	3	**16420**	**16420**	**16420**
16	2.5	65.0	15.0	128	132	180	16	3	**16425**	**16425**	
16	3.0	65.0	15.0	128	132	180	16	3	**16430**	**16430**	**16430**
16	4.0	65.0	15.0	128	132	180	16	3	**16440**	**16440**	**16440**
20	0.5	82.0	19.0	160	164	214	20	3	**20405**	**20405**	**20405**
20	1.0	82.0	19.0	160	164	214	20	3	**20410**	**20410**	**20410**
20	1.5	82.0	19.0	160	164	214	20	3	**20415**	**20415**	**20415**
20	2.0	82.0	19.0	160	164	214	20	3	**20420**	**20420**	**20420**
20	2.5	82.0	19.0	160	164	214	20	3	**20425**	**20425**	
20	3.0	82.0	19.0	160	164	214	20	3	**20430**	**20430**	**20430**
20	4.0	82.0	19.0	160	164	214	20	3	**20440**	**20440**	**20440**

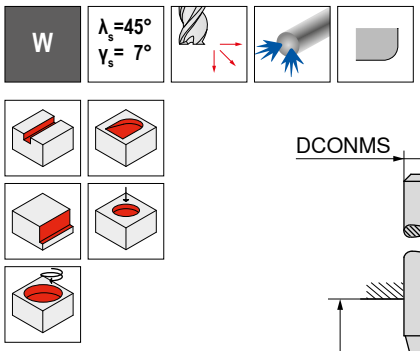
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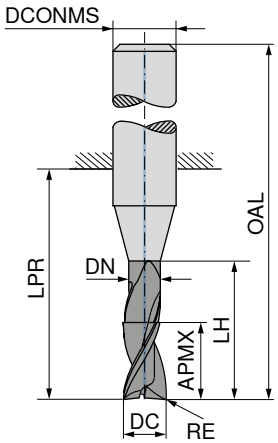
→ Find the cutting data standard values here.

AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces










Factory standard | Factory standard




SA | SA

DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 714 ...	53 715 ...
6	0.3	13	5.7	18	22	58	6	3	06103	
6	0.5	13	5.7	18	22	58	6	3	06105	
6	1.0	13	5.7	18	22	58	6	3	06110	
6	1.5	13	5.7	18	22	58	6	3	06115	
8	0.3	17	7.4	24	28	64	8	3	08103	
8	0.5	17	7.4	24	28	64	8	3	08105	
8	1.0	17	7.4	24	28	64	8	3	08110	
8	1.5	17	7.4	24	28	64	8	3	08115	
8	2.0	17	7.4	24	28	64	8	3	08120	
10	0.3	21	9.2	30	34	74	10	3	10103	
10	0.5	21	9.2	30	34	74	10	3	10105	
10	1.0	21	9.2	30	34	74	10	3	10110	
10	1.5	21	9.2	30	34	74	10	3	10115	
10	2.0	21	9.2	30	34	74	10	3	10120	
10	2.5	21	9.2	30	34	74	10	3	10125	
10	3.0	21	9.2	30	34	74	10	3	10130	
12	0.3	25	11.0	36	40	85	12	3	12103	
12	0.5	25	11.0	36	40	85	12	3	12105	
12	1.0	25	11.0	36	40	85	12	3	12110	
12	1.5	25	11.0	36	40	85	12	3	12115	
12	2.0	25	11.0	36	40	85	12	3	12120	
12	2.5	25	11.0	36	40	85	12	3	12125	
12	3.0	25	11.0	36	40	85	12	3	12130	
12	4.0	25	11.0	36	40	85	12	3	12140	
16	0.3	33	15.0	48	52	100	16	3	16103	16103
16	0.5	33	15.0	48	52	100	16	3	16105	16105
16	1.0	33	15.0	48	52	100	16	3	16110	16110
16	1.5	33	15.0	48	52	100	16	3	16115	16115

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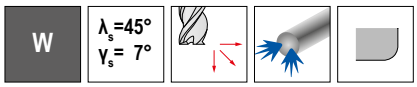
→ Find the cutting data standard values here.

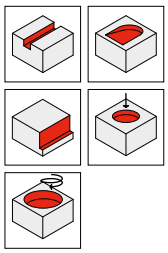
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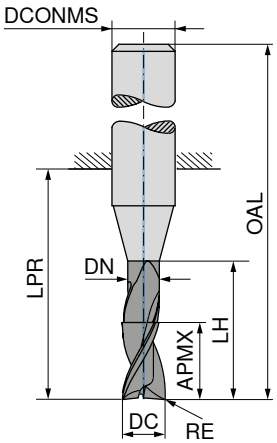
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces







DLC DRAGONSKIN



DLC DRAGONSKIN





Factory standard





Factory standard



DC h6 mm	RE ±0,05/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 714 ...	SA 53 715 ...
16	2.0	33	15.0	48	52	100	16	3	**16120**	**16120**
16	2.5	33	15.0	48	52	100	16	3	**16125**	
16	3.0	33	15.0	48	52	100	16	3	**16130**	**16130**
16	4.0	33	15.0	48	52	100	16	3	**16140**	**16140**
20	0.5	42	19.0	60	64	114	20	3	**20105**	**20105**
20	1.0	42	19.0	60	64	114	20	3	**20110**	**20110**
20	1.5	42	19.0	60	64	114	20	3	**20115**	**20115**
20	2.0	42	19.0	60	64	114	20	3	**20120**	**20120**
20	2.5	42	19.0	60	64	114	20	3	**20125**	
20	3.0	42	19.0	60	64	114	20	3	**20130**	**20130**
20	4.0	42	19.0	60	64	114	20	3	**20140**	**20140**

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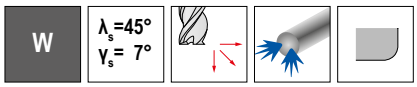


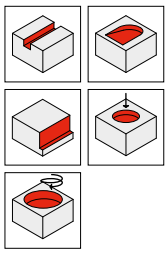
→ Find the cutting data standard values here.

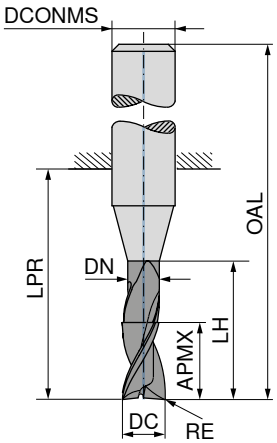
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces















Factory standard

Factory standard





DC h6 mm	RE ±0,01/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 714 ...	SA 53 715 ...
6	0.3	16	5.7	30	34	70	6	3	06203	
6	0.5	16	5.7	30	34	70	6	3	06205	
6	1.0	16	5.7	30	34	70	6	3	06210	
6	1.5	16	5.7	30	34	70	6	3	06215	
8	0.3	21	7.4	40	44	80	8	3	08203	
8	0.5	21	7.4	40	44	80	8	3	08205	
8	1.0	21	7.4	40	44	80	8	3	08210	
8	1.5	21	7.4	40	44	80	8	3	08215	
8	2.0	21	7.4	40	44	80	8	3	08220	
10	0.3	26	9.2	50	54	94	10	3	10203	
10	0.5	26	9.2	50	54	94	10	3	10205	
10	1.0	26	9.2	50	54	94	10	3	10210	
10	1.5	26	9.2	50	54	94	10	3	10215	
10	2.0	26	9.2	50	54	94	10	3	10220	
10	3.0	26	9.2	50	54	94	10	3	10230	
12	0.3	31	11.0	60	64	109	12	3	12203	
12	0.5	31	11.0	60	64	109	12	3	12205	
12	1.0	31	11.0	60	64	109	12	3	12210	
12	1.5	31	11.0	60	64	109	12	3	12215	
12	2.0	31	11.0	60	64	109	12	3	12220	
12	3.0	31	11.0	60	64	109	12	3	12230	
12	4.0	31	11.0	60	64	109	12	3	12240	
16	0.3	41	15.0	80	84	132	16	3	16203	16203
16	0.5	41	15.0	80	84	132	16	3	16205	16205
16	1.0	41	15.0	80	84	132	16	3	16210	16210
16	1.5	41	15.0	80	84	132	16	3	16215	16215
16	2.0	41	15.0	80	84	132	16	3	16220	16220
16	3.0	41	15.0	80	84	132	16	3	16230	16230

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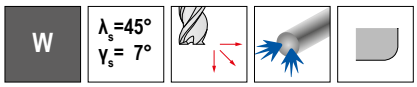
→ Find the cutting data standard values here.

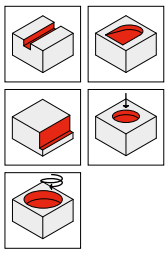
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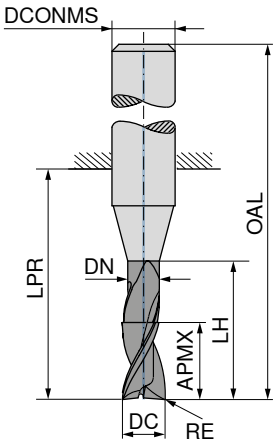
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces















Factory standard

Factory standard





DC h6 mm	RE ±0,01/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 714 ...	SA 53 715 ...
16	4.0	41	15.0	80	84	132	16	3	**16240**	**16240**
20	0.5	52	19.0	100	104	154	20	3	**20205**	**20205**
20	1.0	52	19.0	100	104	154	20	3	**20210**	**20210**
20	1.5	52	19.0	100	104	154	20	3	**20215**	**20215**
20	2.0	52	19.0	100	104	154	20	3	**20220**	**20220**
20	3.0	52	19.0	100	104	154	20	3	**20230**	**20230**
20	4.0	52	19.0	100	104	154	20	3	**20240**	**20240**

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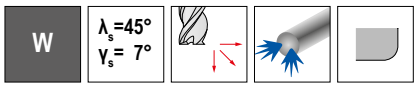


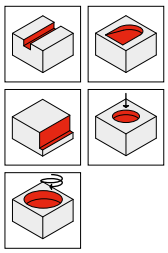
→ Find the cutting data standard values here.

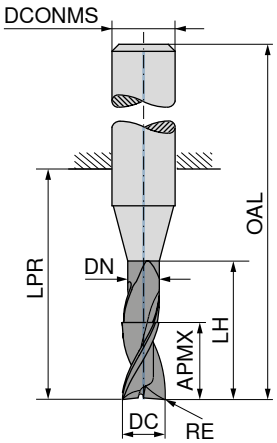
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces















Factory standard | Factory standard





DC h6 mm	RE ±0,01/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 714 ...	SA 53 715 ...
6	0.3	25	5.7	48	52	88	6	3	06403	
6	0.5	25	5.7	48	52	88	6	3	06405	
6	1.0	25	5.7	48	52	88	6	3	06410	
6	1.5	25	5.7	48	52	88	6	3	06415	
8	0.3	33	7.4	64	68	104	8	3	08403	
8	0.5	33	7.4	64	68	104	8	3	08405	
8	1.0	33	7.4	64	68	104	8	3	08410	
8	1.5	33	7.4	64	68	104	8	3	08415	
8	2.0	33	7.4	64	68	104	8	3	08420	
10	0.3	41	9.2	80	84	124	10	3	10403	
10	0.5	41	9.2	80	84	124	10	3	10405	
10	1.0	41	9.2	80	84	124	10	3	10410	
10	1.5	41	9.2	80	84	124	10	3	10415	
10	2.0	41	9.2	80	84	124	10	3	10420	
10	3.0	41	9.2	80	84	124	10	3	10430	
12	0.3	49	11.0	96	100	145	12	3	12403	
12	0.5	49	11.0	96	100	145	12	3	12405	
12	1.0	49	11.0	96	100	145	12	3	12410	
12	1.5	49	11.0	96	100	145	12	3	12415	
12	2.0	49	11.0	96	100	145	12	3	12420	
12	3.0	49	11.0	96	100	145	12	3	12430	
12	4.0	49	11.0	96	100	145	12	3	12440	
16	0.3	65	15.0	128	132	180	16	3	16403	16403
16	0.5	65	15.0	128	132	180	16	3	16405	16405
16	1.0	65	15.0	128	132	180	16	3	16410	16410
16	1.5	65	15.0	128	132	180	16	3	16415	16415
16	2.0	65	15.0	128	132	180	16	3	16420	16420
16	3.0	65	15.0	128	132	180	16	3	16430	16430

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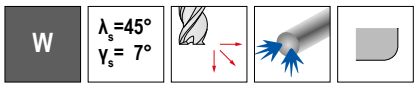
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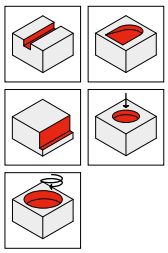
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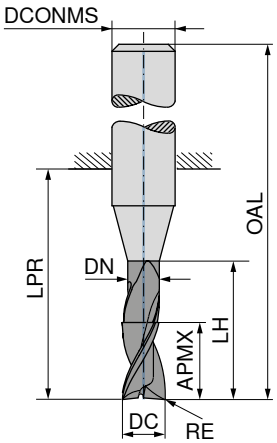
AluLine – End mills with corner radius – W

The specialist for machining non-ferrous metals

- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces















Factory standard | Factory standard





DC h6 mm	RE ±0,01/ mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 714 ...	SA 53 715 ...
16	4.0	65	15.0	128	132	180	16	3	**16440**	**16440**
20	0.5	82	19.0	160	164	214	20	3	**20405**	**20405**
20	1.0	82	19.0	160	164	214	20	3	**20410**	**20410**
20	1.5	82	19.0	160	164	214	20	3	**20415**	**20415**
20	2.0	82	19.0	160	164	214	20	3	**20420**	**20420**
20	3.0	82	19.0	160	164	214	20	3	**20430**	**20430**
20	4.0	82	19.0	160	164	214	20	3	**20440**	**20440**

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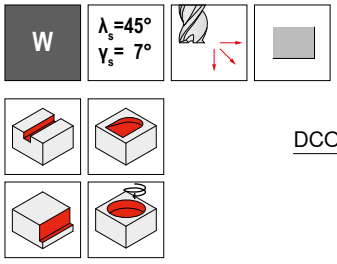


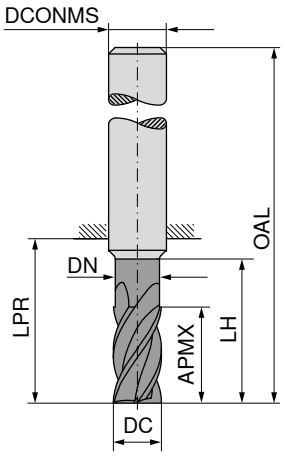
→ Find the cutting data standard values here.

AluLine – End mill – W

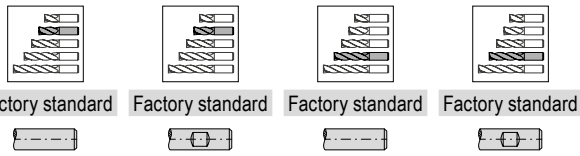
The specialist for machining non-ferrous metals

▲ With polished chip spaces









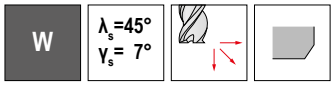
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								SA	SA	SA	SA
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 706 ...	53 707 ...	53 706 ...	53 707 ...
2	5.5	1.8	10	19	55	6	4			02200	02200
3	8.0	2.8	15	22	58	6	4			03200	03200
4	10.5	3.8	20	26	62	6	4			04200	04200
5	10.5	4.8	15	22	58	6	4	05100	05100		
5	13.0	4.8	25	34	70	6	4			05200	05200
6	13.0	5.8	18	22	58	6	4	06100	06100		
6	16.0	5.8	30	34	70	6	4			06200	06200
8	17.0	7.7	24	28	64	8	4	08100	08100		
8	21.0	7.7	40	44	80	8	4			08200	08200
10	21.0	9.7	30	34	74	10	4	10100	10100		
10	26.0	9.7	50	54	94	10	4			10200	10200
12	25.0	11.6	36	40	85	12	4	12100	12100		
12	31.0	11.6	60	64	109	12	4			12200	12200
16	33.0	15.5	48	52	100	16	4	16100	16100		
16	41.0	15.5	80	84	132	16	4			16200	16200
20	42.0	19.5	60	64	114	20	4	20100	20100		
20	52.0	19.5	100	104	154	20	4			20200	20200
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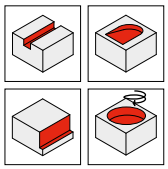
→ Find the cutting data standard values here.

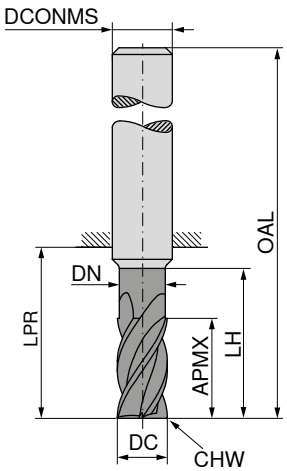
AluLine – End mill – W

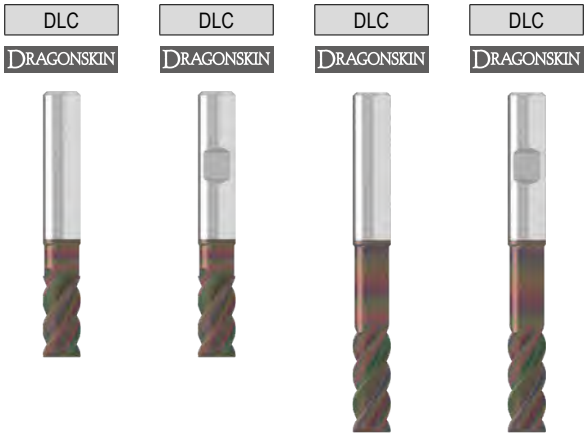
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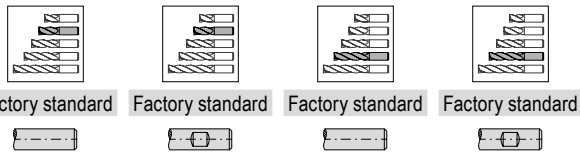
▲ With polished chip spaces











									Factory standard	Factory standard	Factory standard	Factory standard
									SA	SA	SA	SA
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 702 ...	53 703 ...	53 702 ...	53 703 ...
2	5.5	1.8	10	19	55	6	0.05	4			02200	02200
3	8.0	2.8	15	22	58	6	0.10	4			03200	03200
4	10.5	3.8	20	26	62	6	0.10	4			04200	04200
5	10.5	4.8	15	22	58	6	0.10	4	05100	05100		
5	13.0	4.8	25	34	70	6	0.10	4			05200	05200
6	13.0	5.8	18	22	58	6	0.20	4	06100	06100		
6	16.0	5.8	30	34	70	6	0.20	4			06200	06200
8	17.0	7.7	24	28	64	8	0.20	4	08100	08100		
8	21.0	7.7	40	44	80	8	0.20	4			08200	08200
10	21.0	9.7	30	34	74	10	0.20	4	10100	10100		
10	26.0	9.7	50	54	94	10	0.20	4			10200	10200
12	25.0	11.6	36	40	85	12	0.20	4	12100	12100		
12	31.0	11.6	60	64	109	12	0.20	4			12200	12200
16	33.0	15.5	48	52	100	16	0.20	4	16100	16100		
16	41.0	15.5	80	84	132	16	0.20	4			16200	16200
20	42.0	19.5	60	54	114	20	0.20	4	20100			
20	42.0	19.5	60	64	114	20	0.20	4		20100		
20	52.0	19.5	100	104	154	20	0.20	4			20200	20200

P				
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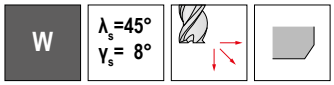


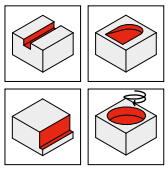
→ Find the cutting data standard values here.

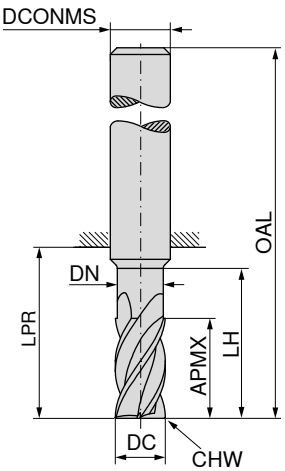
AluLine – End mill – W

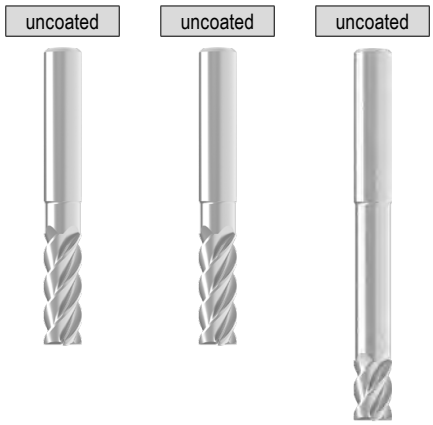
The specialist for machining non-ferrous metals

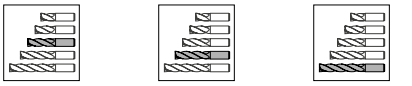
▲ With polished chip spaces













DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 562 ...	SA 53 563 ...	SA 53 564 ...
3.0	8	2.7	13	21	57	6	0.1	4		**030**	
3.5	11	3.2	17	21	57	6	0.1	4		**035**	
4.0	11	3.7	17	21	57	6	0.1	4		**040**	
4.5	13	4.2	19	21	57	6	0.1	4		**045**	
5.0	13	4.7	19	21	57	6	0.1	4	**050**		
5.5	13	5.2	19	21	57	6	0.1	4	**055**		
6.0	10	5.7	42	44	80	6	0.2	4			**060**
6.0	13	5.7	19	21	57	6	0.2	4	**060**		
6.0	18	5.7	24	26	62	6	0.2	4		**060**	
6.5	21	6.1	25	27	63	8	0.2	4	**065**		
8.0	13	7.4	62	64	100	8	0.2	4			**080**
8.0	24	7.4	30	32	68	8	0.2	4	**080**		
8.5	22	7.9	30	32	72	10	0.2	4	**085**		
10.0	16	9.2	58	60	100	10	0.2	4		**100**	
10.0	30	9.2	38	40	80	10	0.2	4	**100**		
12.0	19	11.0	73	75	120	12	0.2	4			**120**
12.0	36	11.0	46	48	93	12	0.2	4	**120**		
16.0	25	15.0	100	102	150	16	0.2	4			**160**
16.0	48	15.0	58	60	108	16	0.2	4	**160**		
20.0	32	19.0	98	100	150	20	0.2	4		**200**	
20.0	60	19.0	74	76	126	20	0.2	4	**200**		

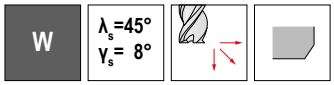
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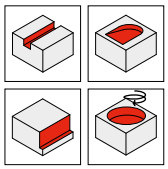
→ Find the cutting data standard values here.

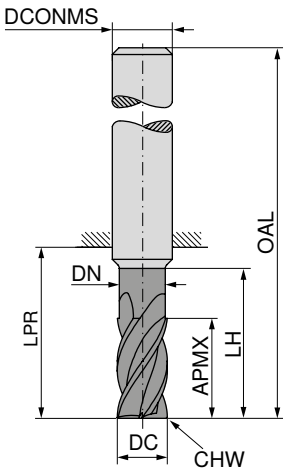
AluLine – End mill – W

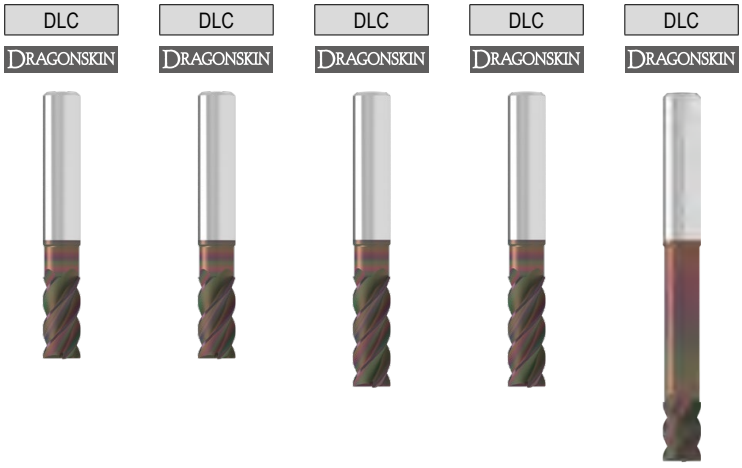
The specialist for machining non-ferrous metals

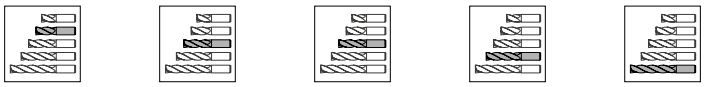
▲ With polished chip spaces



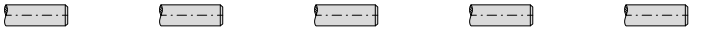








Factory standard



SA

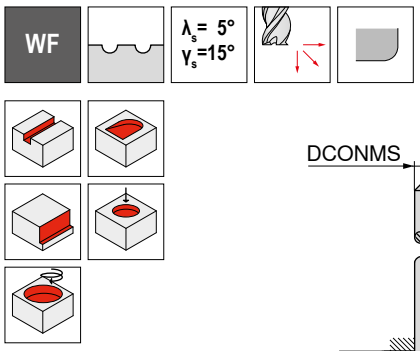
DC h10 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 565 ...	53 566 ...	53 567 ...	53 568 ...	53 569 ...
3.0	8	2.7	13	21	57	6	0.1	4				**030**	
3.5	11	3.2	17	21	57	6	0.1	4				**035**	
4.0	11	3.7	17	21	57	6	0.1	4				**040**	
4.5	13	4.2	19	21	57	6	0.1	4				**045**	
5.0	13	4.7	19	21	57	6	0.1	4			**050**		
5.5	13	5.2	19	21	57	6	0.1	4			**055**		
6.0	10	5.7	42	44	80	6	0.2	4					**060**
6.0	13	5.7	19	21	57	6	0.2	4			**060**		
6.0	18	5.7	24	26	62	6	0.2	4				**060**	
6.5	21	6.1	25	27	63	8	0.2	4			**065**		
8.0	13	7.4	62	64	100	8	0.2	4					**080**
8.0	21	7.4	25	27	63	8	0.2	4		**080**			
8.0	24	7.2	30	32	68	8	0.2	4			**080**		
8.5	22	7.9	30	32	72	10	0.2	4			**085**		
10.0	16	9.2	58	60	100	10	0.2	4				**100**	
10.0	22	9.2	30	32	72	10	0.2	4		**100**			
10.0	30	9.2	38	40	80	10	0.2	4			**100**		
12.0	19	11.0	73	75	120	12	0.2	4					**120**
12.0	26	11.0	36	38	83	12	0.2	4		**120**			
12.0	36	11.0	46	48	93	12	0.2	4			**120**		
14.0	26	13.0	36	38	83	14	0.2	4	**140**				
16.0	25	15.0	100	102	150	16	0.2	4					**160**
16.0	36	15.0	42	44	92	16	0.2	4	**160**				
16.0	48	15.0	58	60	108	16	0.2	4			**160**		
18.0	36	17.0	42	44	92	18	0.2	4	**180**				
20.0	32	19.0	98	100	150	20	0.2	4				**200**	
20.0	41	19.0	52	54	104	20	0.2	4	**200**				
20.0	60	19.0	74	76	126	20	0.2	4			**200**		
25.0	52	24.0	62	65	121	25	0.3	4	**250**				

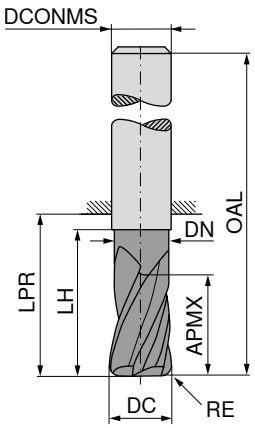
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→ Find the cutting data standard values here.

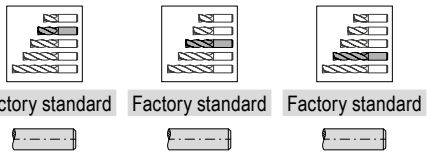
AluLine – Roughing-finishing milling cutters – WF

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DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 582 ...	SA 53 582 ...	SA 53 582 ...
3	0.10	5	2.7	18	44	80	6	3		03301	
4	0.10	7	3.7	24	44	80	6	3		04301	
5	0.15	8	4.7	16	18	54	6	3	05101		
5	0.15	8	4.7	30	44	80	6	3		05301	
5	0.15	13	4.7	18	21	57	6	3			05201
6	0.20	10	5.7	17	18	54	6	3	06102		
6	0.20	10	5.7	42	44	80	6	3		06302	
6	0.20	13	5.7	18	21	57	6	3			06202
8	0.25	13	7.4	20	22	58	8	3	08103		
8	0.25	13	7.4	62	64	100	8	3		08303	
8	0.25	21	7.4	25	27	63	8	3			08203
10	0.30	16	9.2	24	26	66	10	3	10103		
10	0.30	16	9.2	58	60	100	10	3		10303	
10	0.30	22	9.2	30	32	72	10	3			10203
12	0.35	19	11.0	26	28	73	12	3	12104		
12	0.35	19	11.0	73	75	120	12	3		12304	
12	0.35	26	11.0	36	38	83	12	3			12204

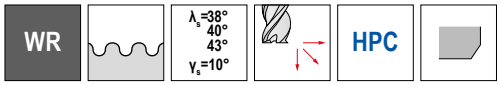
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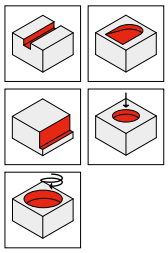
→ Find the cutting data standard values here.

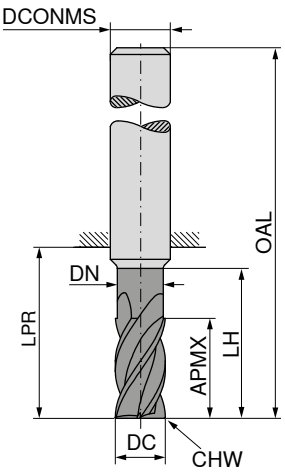
AluLine – Roughing milling cutters – WR

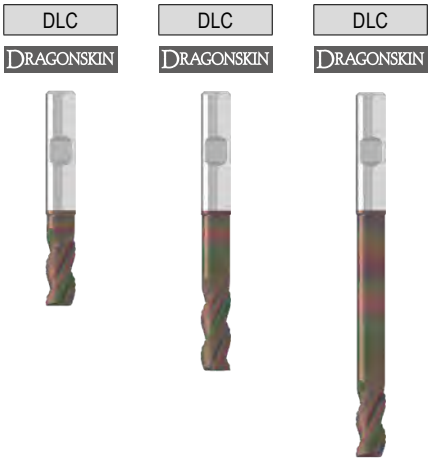
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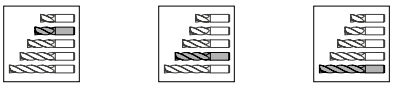
▲ With polished chip spaces













DC d11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 579 ...
6	13	5.8	18	22	58	6	0.4	3	**06100**
6	16	5.8	30	34	70	6	0.4	3	**06200**
6	13	5.8	48	52	88	6	0.4	3	**06400**
8	17	7.7	24	28	64	8	0.4	3	**08100**
8	21	7.7	40	44	80	8	0.4	3	**08200**
8	17	7.7	65	68	104	8	0.4	3	**08400**
10	21	9.7	30	34	74	10	0.4	3	**10100**
10	26	9.7	50	54	94	10	0.4	3	**10200**
10	21	9.7	80	84	124	10	0.4	3	**10400**
12	25	11.6	36	40	85	12	0.4	3	**12100**
12	31	11.6	60	64	109	12	0.4	3	**12200**
12	25	11.6	96	100	145	12	0.4	3	**12400**
16	33	15.5	48	52	100	16	0.4	3	**16100**
16	41	15.5	80	84	132	16	0.4	3	**16200**
16	33	15.5	128	132	180	16	0.4	3	**16400**
20	42	19.5	60	64	114	20	0.4	3	**20100**
20	52	19.5	100	104	154	20	0.4	3	**20200**
20	42	19.5	160	164	214	20	0.4	3	**20400**

	SA 53 579 ...	SA 53 579 ...	SA 53 579 ...
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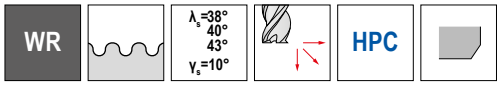


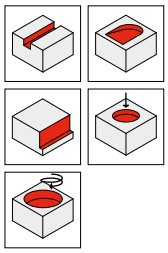
→ Find the cutting data standard values here.

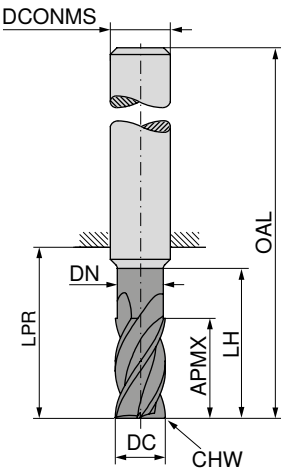
AluLine – Roughing milling cutters – WR

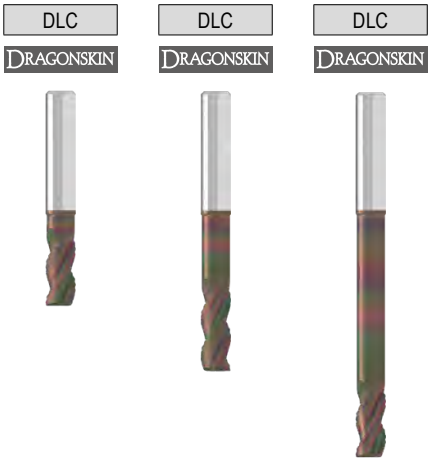
The specialist for machining non-ferrous metals

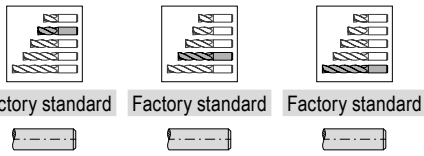
▲ With polished chip spaces











DC d11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SA 53 578 ...	SA 53 578 ...	SA 53 578 ...
6	13	5.8	18	22	58	6	0.4	3	**06100**		
6	16	5.8	30	34	70	6	0.4	3		**06200**	
6	13	5.8	48	52	88	6	0.4	3			**06400**
8	17	7.7	24	28	64	8	0.4	3	**08100**		
8	21	7.7	40	44	80	8	0.4	3		**08200**	
8	17	7.7	65	68	104	8	0.4	3			**08400**
10	21	9.7	30	34	74	10	0.4	3	**10100**		
10	26	9.7	50	54	94	10	0.4	3		**10200**	
10	21	9.7	80	84	124	10	0.4	3			**10400**
12	25	11.6	36	40	85	12	0.4	3	**12100**		
12	31	11.6	60	64	109	12	0.4	3		**12200**	
12	25	11.6	96	100	145	12	0.4	3			**12400**

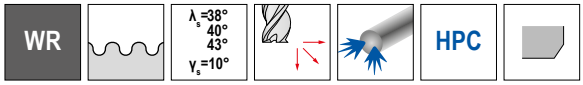
P			
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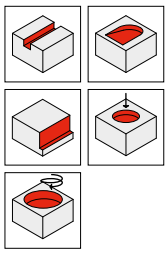
→ Find the cutting data standard values here.

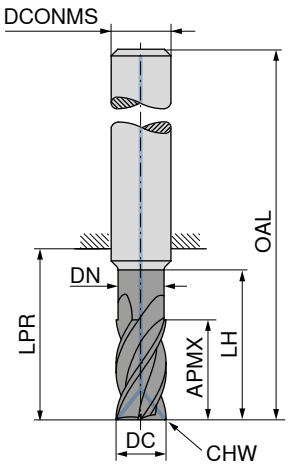
AluLine – Roughing milling cutters – WR

The specialist for machining non-ferrous metals

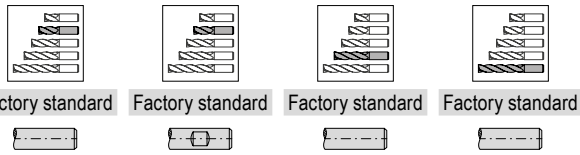
- ▲ Three coolant outlets at the end cutting edges
- ▲ With polished chip spaces











									Factory standard	Factory standard	Factory standard	Factory standard
									SA	SA	SA	SA
DC d11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	53 580 ...	53 581 ...	53 580 ...	53 580 ...
6	13	5.8	18	22	58	6	0.4	3	06100	06100		
6	16	5.8	30	34	70	6	0.4	3			06200	
6	13	5.8	48	52	88	6	0.4	3				06400
8	17	7.7	24	28	64	8	0.4	3	08100	08100		
8	21	7.7	40	44	80	8	0.4	3			08200	
8	17	7.7	64	68	104	8	0.4	3				08400
10	21	9.7	30	34	74	10	0.4	3	10100	10100		
10	26	9.7	50	54	94	10	0.4	3			10200	
10	21	9.7	80	84	124	10	0.4	3				10400
12	25	11.6	36	40	85	12	0.4	3	12100	12100		
12	31	11.6	60	64	109	12	0.4	3			12200	
12	25	11.6	96	100	145	12	0.4	3				12400
16	33	15.5	48	52	100	16	0.4	3		16100		
16	41	15.5	80	84	132	16	0.4	3			16200	
20	42	19.5	60	64	114	20	0.4	3		20100		
20	52	19.5	100	104	154	20	0.4	3			20200	
P												
M												
K												
N									●	●	●	●
S												
H												
O												

→ Find the cutting data standard values here.

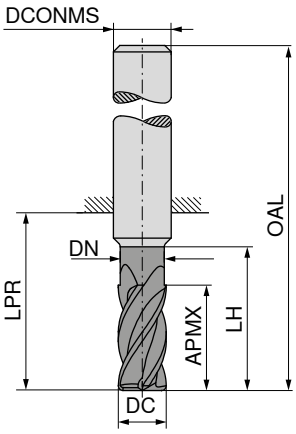
AluLine – High-precision finishing milling cutters – W

The specialist for machining non-ferrous metals

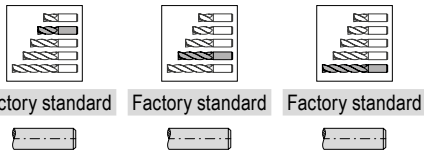
▲ Max. taper of 0.005 mm for high precision and parallelism of vertical walls

W | λ_s=44° γ_s=47° γ_s=20° | HPC









Factory standard | Factory standard | Factory standard

SA | SA | SA

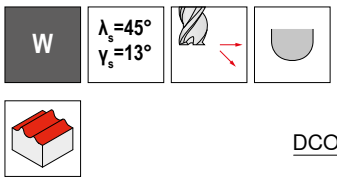
DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 639 ...	53 639 ...	53 639 ...
6	16	5.7	20	22	58	6	6	**06100**		
6	16	5.7	42	44	80	6	6			**06400**
8	19	7.4	26	28	64	8	6	**08100**		
8	19	7.4	62	64	100	8	6			**08400**
10	25	9.2	32	34	74	10	6	**10100**		
10	25	9.2	58	60	100	10	6			**10400**
12	30	11.0	37	39	84	12	6	**12100**		
12	30	11.0	73	75	120	12	6			**12400**
12	45			75	120	12	6		**12200**	
16	40	15.0	44	45	93	16	6	**16100**		
16	40	15.0	100	102	150	16	6			**16400**
16	65			102	150	16	6		**16200**	
20	50	19.0	53	54	104	20	6	**20100**		
20	50	19.0	98	100	150	20	6			**20400**
20	75			100	150	20	6		**20200**	

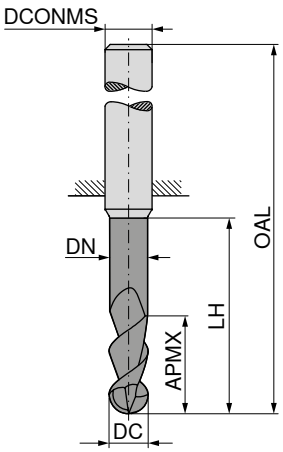
P			
M			
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N	●	●	●
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O			

→ Find the cutting data standard values here.

AluLine – Ball-nosed end mills – W

The specialist for machining non-ferrous metals











DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 607 ...	SA 53 608 ...
3	6	2.7	16	22	50	3	2	**03100**	**03100**
4	7	3.7	17	26	54	4	2	**04100**	**04100**
5	8	4.6	18	26	54	5	2	**05100**	**05100**
6	10	5.5	21	26	62	6	2	**06100**	**06100**
8	12	7.5	27	31	67	8	2	**08100**	**08100**
10	13	9.4	32	34	74	10	2	**10100**	**10100**
12	16	11.4	38	48	93	12	2	**12100**	**12100**
14	16	13.2	38	55	100	14	2	**14100**	**14100**
16	20	15.0	44	52	100	16	2	**16100**	**16100**
20	25	19.0	50	54	104	20	2	**20100**	**20100**

P		
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N	●	●
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H		
O	○	○

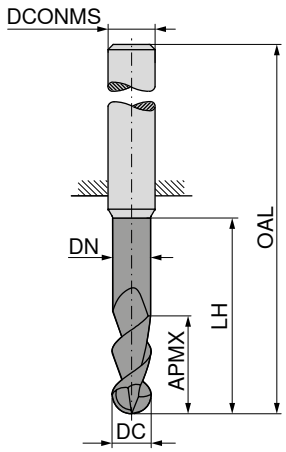
→ Find the cutting data standard values here.

AluLine – Ball-nosed end mills – W

The specialist for machining non-ferrous metals

W

λ_s=45°
γ_s=13°



uncoated

DLC
DRAGONSKIN









Factory standard

Factory standard





DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 607 ...	SA 53 608 ...
3	10	2.7	32	47	75	3	2	**03200**	**03200**
4	13	3.7	36	47	75	4	2	**04200**	**04200**
5	15	4.6	40	47	75	5	2	**05200**	**05200**
6	16	5.5	44	64	100	6	2	**06200**	**06200**
8	22	7.5	54	64	100	8	2	**08200**	**08200**
10	25	9.4	60	61	101	10	2	**10200**	**10200**
12	26	11.4	60	63	108	12	2	**12200**	**12200**
14	26	13.2	60	65	110	14	2	**14200**	**14200**
16	30	15.0	92	102	150	16	2	**16200**	**16200**
20	40	19.0	92	100	150	20	2	**20200**	**20200**

P		
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N	●	●
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O	○	○

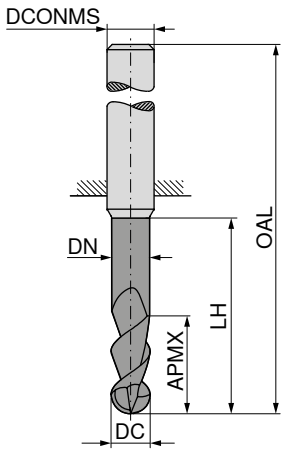
→ Find the cutting data standard values here.

AluLine – Ball-nosed end mills – W

The specialist for machining non-ferrous metals

W

λ_s=45°
γ_s=13°





Factory standard

Factory standard

SA

SA

DC f8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 607 ...	53 608 ...
3	10	2.7	82	97	125	3	2	**03400**	**03400**
4	13	3.7	86	97	125	4	2	**04400**	**04400**
6	16	5.5	94	114	150	6	2	**06400**	**06400**
8	22	7.5	104	114	150	8	2	**08400**	**08400**
10	25	9.4	110	111	151	10	2	**10400**	**10400**
12	26	11.4	105	106	151	12	2	**12400**	**12400**
16	30	15.0	192	202	250	16	2	**16400**	**16400**

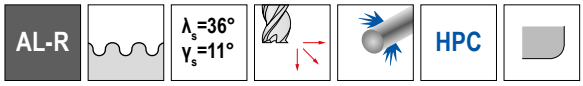
P		
M		
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N	●	●
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O	○	○

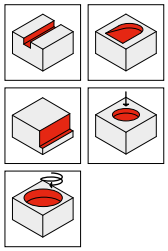
→ Find the cutting data standard values here.

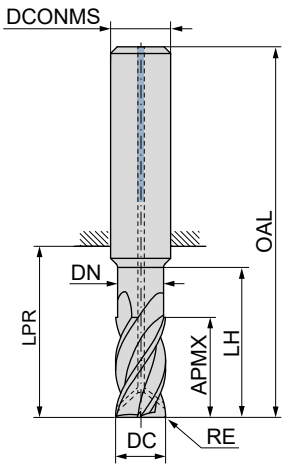
AluLine – Rough milling cutters with corner radius – AL-R

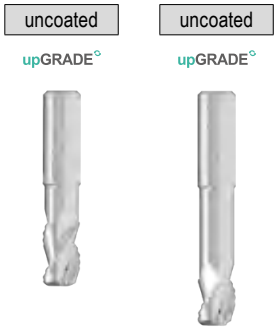
Optimized for machining grades of aluminum specifically for the aerospace industry.

- Cutting edges with irregular pitch
- With polished chip spaces
- Geometry specially designed for high-volume machining
- Ideal for when maximum chip volume is required
- Coolant outlet in the chip flutes

















DC d11 mm	RE ±0,1 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	NEW SA 53 640 ...	NEW SA 53 640 ...
16	2	24	15.1	42	45	93	16	3	16320	
16	2	20	15.1	65	68	116	16	3		16220
16	3	24	15.1	42	45	93	16	3	16330	
16	3	20	15.1	65	68	116	16	3		16230
16	4	24	15.1	42	45	93	16	3	16340	
16	4	20	15.1	65	68	116	16	3		16240
20	2	35	18.8	54	57	107	20	3	20320	
20	2	25	18.8	73	76	126	20	3		20220
20	3	35	18.8	54	57	107	20	3	20330	
20	3	25	18.8	73	76	126	20	3		20230
20	4	35	18.8	54	57	107	20	3	20340	
20	4	25	18.8	73	76	126	20	3		20240
25	2	40	23.8	59	62	118	25	3	25320	
25	2	31	23.8	77	74	133	25	3		25220
25	3	40	23.8	59	62	118	25	3	25330	
25	3	31	23.8	77	74	133	25	3		25230
25	4	40	23.8	59	62	118	25	3	25340	
25	4	31	23.8	77	74	133	25	3		25240

P		
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N	●	●
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O		

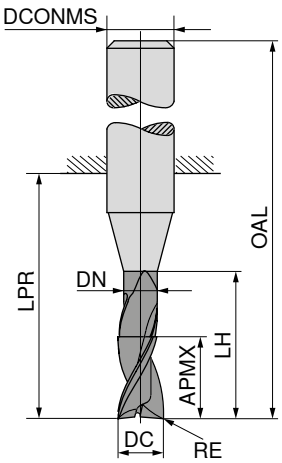
→ Find the cutting data standard values here.

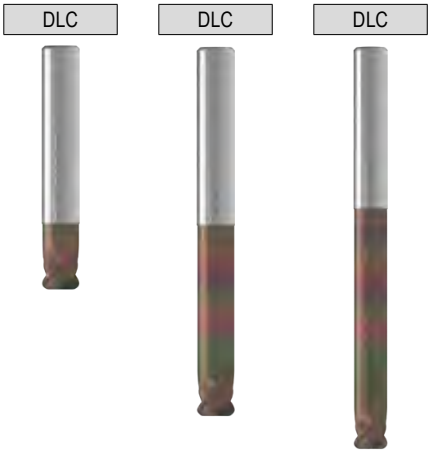
AluLine – Torus cutters – AL

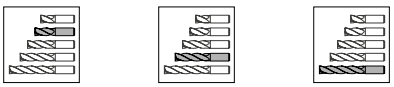
The specialist for machining non-ferrous metals

AL | λ_s=45° γ_s=15°









Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA

DC $_{h10}$ mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS $_{h5}$ mm	ZEFP	53 645 ...	53 645 ...	53 645 ...
2	0.3	2	1.8	12	14	50	6	2	02103		
2	0.3	2	1.8	22	24	60	6	2		02203	
2	0.5	2	1.8	12	14	50	6	2	02105		
2	0.5	2	1.8	22	24	60	6	2		02205	
3	0.3	2	2.8	12	14	50	6	2	03103		
3	0.3	2	2.8	22	24	60	6	2		03203	
3	0.3	2	2.8	47	49	85	6	2			03403
3	0.5	2	2.8	12	14	50	6	2	03105		
3	0.5	2	2.8	22	24	60	6	2		03205	
3	0.5	2	2.8	47	49	85	6	2			03405
4	0.3	3	3.8	16	18	54	6	2	04103		
4	0.3	3	3.8	37	37	75	6	2		04203	
4	0.3	3	3.8	47	49	85	6	2			04403
4	0.5	3	3.8	16	18	54	6	2	04105		
4	0.5	3	3.8	37	37	75	6	2		04205	
4	0.5	3	3.8	47	49	85	6	2			04405
4	1.0	3	3.8	16	18	54	6	2	04110		
4	1.0	3	3.8	37	37	75	6	2		04210	
4	1.0	3	3.8	47	49	85	6	2			04410
5	0.5	3	4.6	37	37	75	6	2		05205	
5	1.0	2	4.6	37	37	75	6	2		05210	
5	1.5	3	4.6	37	37	75	6	2		05215	
6	0.5	4	5.6	16	18	54	6	2	06105		
6	0.5	4	5.6	47	49	85	6	2		06205	
6	0.5	4	5.6	62	64	100	6	2			06405
6	1.0	4	5.6	16	18	54	6	2	06110		
6	1.0	4	5.6	47	49	85	6	2		06210	
6	1.0	4	5.6	62	64	100	6	2			06410
8	0.5	4	7.6	20	22	58	8	2	08105		
8	0.5	4	7.6	62	64	100	8	2			08405
8	1.0	4	7.6	20	22	58	8	2	08110		
8	1.0	4	7.6	62	64	100	8	2			08410
10	1.0	6	9.6	18	26	66	10	2	10110		
10	1.0	6	9.6	58	60	100	10	2		10210	
12	1.0	8	11.5	26	28	73	12	2	12110		

P			
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O	○	○	○

→ Find the cutting data standard values here.

AluLine – NC deburring cutters – W

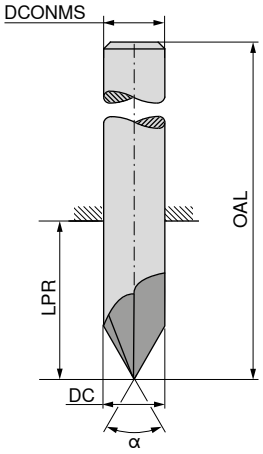
The specialist for machining non-ferrous metals

▲ Point angle α = 60°

W

λ_s=0°
γ_s=8°







DC h6 mm	OAL mm	LPR mm	DCONMS h6 mm	ZEFP	α = 60° Factory standard SA 53 666 ...	α = 60° Factory standard SA 53 667 ...	α = 60° Factory standard SA 53 662 ...	α = 60° Factory standard SA 53 663 ...
4	50	22	4	4	**04000**		**04000**	
6	55	19	6	4	**06000**	**06000**	**06000**	**06000**
8	58	22	8	4	**08000**	**08000**	**08000**	**08000**
10	60	20	10	4	**10000**	**10000**	**10000**	**10000**
12	70	25	12	4	**12000**	**12000**	**12000**	**12000**
16	80	32	16	4	**16000**	**16000**	**16000**	**16000**

P				
M				
K				
N	●	●	●	●
S				
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O	●	●	●	●

→ Find the cutting data standard values here.

AluLine – NC deburring cutters – W

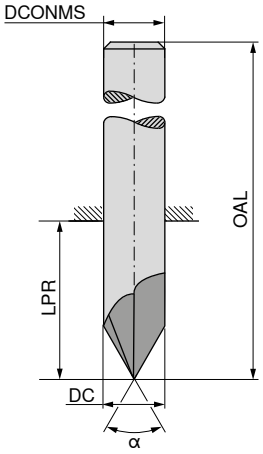
The specialist for machining non-ferrous metals

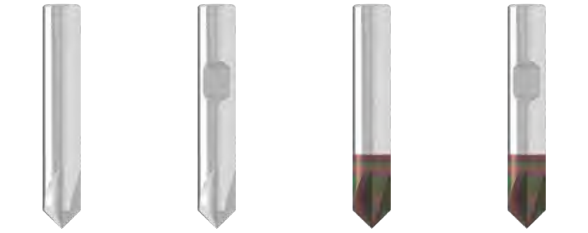
▲ Point angle α = 90°

W

λ_s=0°
γ_s=8°







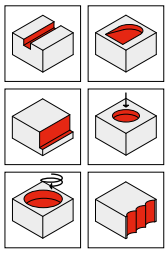
	uncoated	uncoated	DLC DRAGONSKIN	DLC DRAGONSKIN
	α = 90° Factory standard	α = 90° Factory standard	α = 90° Factory standard	α = 90° Factory standard
	SA	SA	SA	SA
DC h6 mm / OAL mm / LPR mm / DCONMS h6 mm / ZEFP	53 664 ...	53 665 ...	53 660 ...	53 661 ...
4 / 50 / 22 / 4 / 4	04000		04000	
6 / 55 / 19 / 6 / 4	06000	06000	06000	06000
8 / 58 / 22 / 8 / 4	08000	08000	08000	08000
10 / 60 / 20 / 10 / 4	10000	10000	10000	10000
12 / 70 / 25 / 12 / 4	12000	12000	12000	12000
16 / 80 / 32 / 16 / 4	16000	16000	16000	16000
P				
M				
K				
N	●	●	●	●
S				
H				
O	●	●	●	●

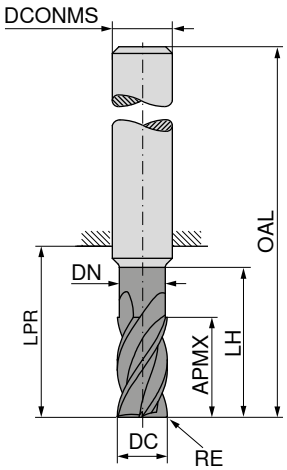
→ Find the cutting data standard values here.

MonsterMill – Plunge milling cutters with corner radius – PCR ALU

The specialist for ramping, plunge milling, and helical milling

PCR ALU | λ_s=36° γ_s=13° | HPC





DLC DRAGONSKIN



DLC DRAGONSKIN





DIN 6527



DIN 6527



SA

52 616 ...



SA

52 617 ...

DC f8 mm	RE ±0,03 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 616 ...	52 617 ...
5.0	0.20	13	4.8	19	21	57	6	4	**050**	
5.0	0.20	13	4.8	24	26	62	6	4		**050**
5.7	0.20	13	5.5	19	21	57	6	4	**057**	
5.7	0.20	13	5.5	24	26	62	6	4		**057**
6.0	0.20	13	5.8	19	21	57	6	4	**060**	
6.0	0.20	13	5.8	24	26	62	6	4		**060**
7.7	0.20	19	7.5	25	27	63	8	4	**077**	
7.7	0.20	21	7.4	30	32	68	8	4		**077**
8.0	0.20	19	7.8	25	27	63	8	4	**080**	
8.0	0.20	21	7.7	30	32	68	8	4		**080**
9.0	0.32	19	8.8	30	32	72	10	4	**090**	
9.0	0.32	22	8.7	38	40	80	10	4		**090**
10.0	0.32	22	9.8	30	32	72	10	4	**100**	
10.0	0.32	22	9.7	38	40	80	10	4		**100**
11.7	0.32	26	11.5	36	38	83	12	4	**117**	
12.0	0.32	26	11.8	36	38	83	12	4	**120**	
12.0	0.32	26	11.6	46	48	93	12	4		**120**
13.7	0.32	26	13.5	36	38	83	14	4	**137**	
14.0	0.32	26	13.8	36	38	83	14	4	**140**	
14.0	0.32	26	13.6	52	54	99	14	4		**140**
16.0	0.32	32	15.8	42	44	92	16	4	**160**	
16.0	0.32	36	15.5	58	60	108	16	4		**160**
20.0	0.50	38	19.8	52	54	104	20	4	**200**	
20.0	0.50	41	19.5	74	76	126	20	4		**200**

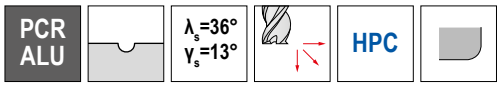
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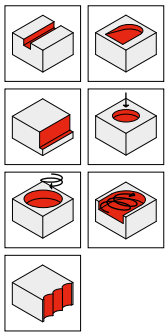
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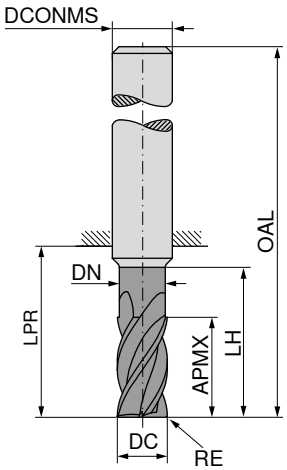
MonsterMill – Plunge milling cutters with corner radius – PCR ALU

The specialist for ramping, plunge milling, and helical milling

- ▲ Suitable for trochoidal milling
- ▲ Chip breaker 0.9xDC
- ▲ Cutting depth: 3xDC







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DC f8 mm	RE ±0,03 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	52 618 ...
5	0.20	17	4.8	24	26	62	6	4	**05202**
6	0.20	18	5.8	25	26	62	6	4	**06202**
8	0.20	24	7.7	30	32	68	8	4	**08202**
10	0.32	30	9.7	35	40	80	10	4	**10203**
12	0.32	36	11.6	45	48	93	12	4	**12203**
14	0.32	42	13.6	50	54	99	14	4	**14203**
16	0.32	48	15.5	56	60	108	16	4	**16203**
18	0.32	54	17.5	67	69	117	18	4	**18203**
20	0.50	60	19.5	70	76	126	20	4	**20205**

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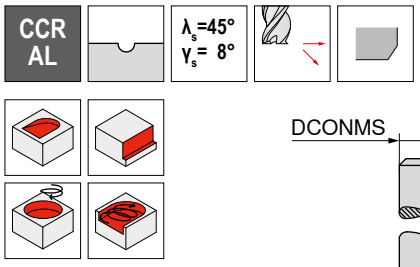


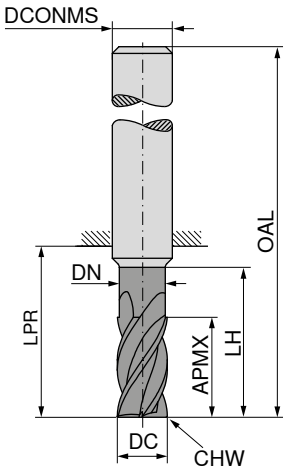
→ Find the cutting data standard values here.

CoreLine – End mill – CCR-AL

The specialist for trochoidal machining

- ▲ Chip breaker 1.8 x DC
- ▲ 53 590 ... Cutting depth: 3 x DC
- ▲ 53 591 ... Cutting depth: 4 x DC










Factory standard | Factory standard




DC e8 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 53 590 ...	SM 53 591 ...
6	19	5.8	24	30	66	6	0.2	4	060	
6	25	5.8	30	35	71	6	0.2	4		060
8	25	7.7	32	37	73	8	0.2	4	080	
8	33	7.7	40	44	80	8	0.2	4		080
10	31	9.7	40	49	89	10	0.2	4	100	
10	41	9.7	50	55	95	10	0.2	4		100
12	37	11.6	48	56	101	12	0.2	4	120	
12	49	11.6	60	64	109	12	0.2	4		120
14	43	13.0	56	60	105	14	0.2	4	14000	
14	57	13.0	70	74	119	14	0.2	4		14000
16	49	15.5	64	72	120	16	0.2	4	160	
16	65	15.5	80	84	132	16	0.2	4		160
20	62	19.5	80	84	134	20	0.2	4	200	
20	82	19.5	100	104	154	20	0.2	4		200

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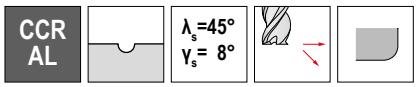


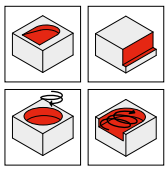
→ Find the cutting data standard values here.

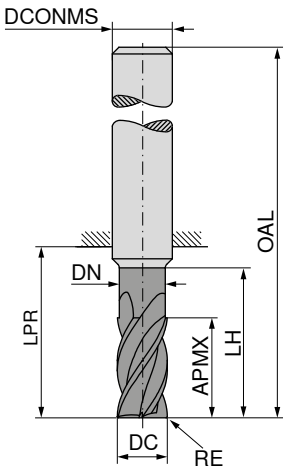
CoreLine – End mills with corner radius – CCR-AL

The specialist for trochoidal machining

- ▲ Chip breaker 1.8 x DC
- ▲ Cutting depth: 3 x DC







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Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 594 ...
6	0.2	19	5.8	24	30	66	6	4	06002
6	1.0	19	5.8	24	30	66	6	4	06010
6	1.5	19	5.8	24	30	66	6	4	06015
8	0.2	25	7.7	32	37	73	8	4	08002
8	1.0	25	7.7	32	37	73	8	4	08010
8	1.5	25	7.7	32	37	73	8	4	08015
8	2.0	25	7.7	32	37	73	8	4	08020
10	0.2	31	9.7	40	49	89	10	4	10002
10	1.0	31	9.7	40	49	89	10	4	10010
10	1.5	31	9.7	40	49	89	10	4	10015
10	1.6	31	9.7	40	49	89	10	4	10016
10	2.0	31	9.7	40	49	89	10	4	10020
12	0.2	37	11.6	48	56	101	12	4	12002
12	1.0	37	11.6	48	56	101	12	4	12010
12	1.5	37	11.6	48	56	101	12	4	12015
12	1.6	37	11.6	48	56	101	12	4	12016
12	2.0	37	11.6	48	56	101	12	4	12020
12	3.0	37	11.6	48	56	101	12	4	12030
14	0.2	43	13.0	56	60	105	14	4	14002
14	3.0	43	13.0	56	60	105	14	4	14030
16	0.2	49	15.5	64	72	120	16	4	16002
16	1.0	49	15.5	64	72	120	16	4	16010
16	1.5	49	15.5	64	72	120	16	4	16015
16	1.6	49	15.5	64	72	120	16	4	16016
16	2.0	49	15.5	64	72	120	16	4	16020
16	3.0	49	15.5	64	72	120	16	4	16030
16	4.0	49	15.5	64	72	120	16	4	16040
20	0.2	62	19.5	80	84	134	20	4	20002
20	1.0	62	19.5	80	84	134	20	4	20010
20	1.5	62	19.5	80	84	134	20	4	20015
20	2.0	62	19.5	80	84	134	20	4	20020
20	3.0	62	19.5	80	84	134	20	4	20030
20	4.0	62	19.5	80	84	134	20	4	20040

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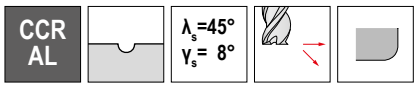


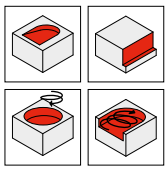
→ Find the cutting data standard values here.

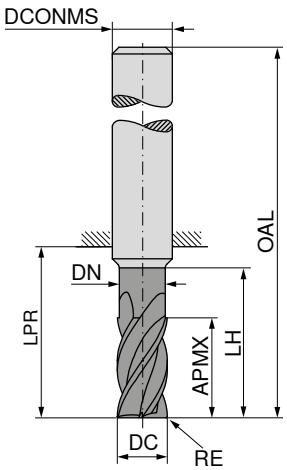
CoreLine – End mills with corner radius – CCR-AL

The specialist for trochoidal machining

- ▲ Chip breaker 1.8 x DC
- ▲ Cutting depth: 4 x DC







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Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 595 ...
6	0.2	25	5.8	30	35	71	6	4	06002
6	1.0	25	5.8	30	35	71	6	4	06010
6	1.5	25	5.8	30	35	71	6	4	06015
8	0.2	33	7.7	40	44	80	8	4	08002
8	1.0	33	7.7	40	44	80	8	4	08010
8	1.5	33	7.7	40	44	80	8	4	08015
8	2.0	33	7.7	40	44	80	8	4	08020
10	0.2	41	9.7	50	55	95	10	4	10002
10	1.0	41	9.7	50	55	95	10	4	10010
10	1.5	41	9.7	50	55	95	10	4	10015
10	1.6	41	9.7	50	55	95	10	4	10016
10	2.0	41	9.7	50	55	95	10	4	10020
12	0.2	49	11.6	60	64	109	12	4	12002
12	1.0	49	11.6	60	64	109	12	4	12010
12	1.5	49	11.6	60	64	109	12	4	12015
12	1.6	49	11.6	60	64	109	12	4	12016
12	2.0	49	11.6	60	64	109	12	4	12020
12	3.0	49	11.6	60	64	109	12	4	12030
14	0.2	57	13.0	70	74	119	14	4	14002
16	0.2	65	15.5	80	84	132	16	4	16002
16	1.0	65	15.5	80	84	132	16	4	16010
16	1.5	65	15.5	80	84	132	16	4	16015
16	1.6	65	15.5	80	84	132	16	4	16016
16	2.0	65	15.5	80	84	132	16	4	16020
16	3.0	65	15.5	80	84	132	16	4	16030
16	4.0	65	15.5	80	84	132	16	4	16040
20	0.2	82	19.5	100	104	154	20	4	20002
20	1.0	82	19.5	100	104	154	20	4	20010
20	1.5	82	19.5	100	104	154	20	4	20015
20	2.0	82	19.5	100	104	154	20	4	20020
20	3.0	82	19.5	100	104	154	20	4	20030
20	4.0	82	19.5	100	104	154	20	4	20040

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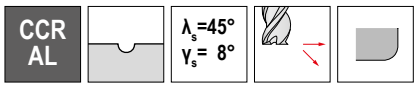


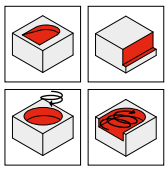
→ Find the cutting data standard values here.

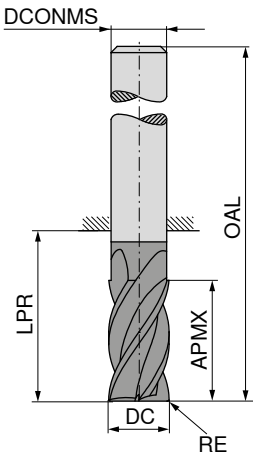
CoreLine – End mills with corner radius – CCR-AL

The specialist for trochoidal machining

- ▲ Chip breaker 1.8 x DC
- ▲ Cutting depth: 5 x DC







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DRAGONSKIN





Factory standard



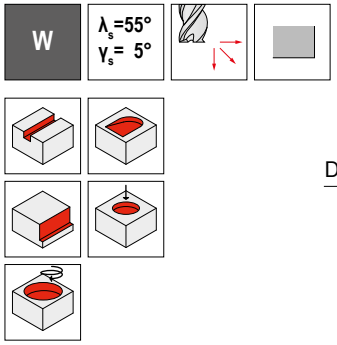
DC h8 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SM 53 641 ...
6	0.2	31	40	76	6	4	06002
6	1.0	31	40	76	6	4	06010
6	1.5	31	40	76	6	4	06015
8	0.2	41	50	86	8	4	08002
8	1.0	41	50	86	8	4	08010
8	1.5	41	50	86	8	4	08015
8	2.0	41	50	86	8	4	08020
10	0.2	51	61	101	10	4	10002
10	1.0	51	61	101	10	4	10010
10	1.5	51	61	101	10	4	10015
10	2.0	51	61	101	10	4	10020
12	0.2	61	71	116	12	4	12002
12	1.0	61	71	116	12	4	12010
12	1.5	61	71	116	12	4	12015
12	2.0	61	71	116	12	4	12020
14	0.2	71	82	127	14	4	14002
16	0.2	81	93	141	16	4	16002
16	1.0	81	93	141	16	4	16010
16	1.5	81	93	141	16	4	16015
16	2.0	81	93	141	16	4	16020
18	0.2	91	103	151	18	4	18002
20	0.2	102	114	164	20	4	20002
20	1.0	102	114	164	20	4	20010
20	1.5	102	114	164	20	4	20015
20	2.0	102	114	164	20	4	20020

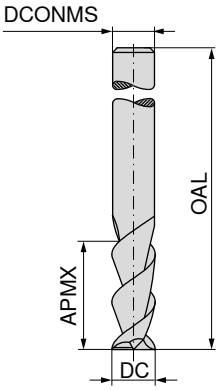
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→ Find the cutting data standard values here.

CoreLine – End mill – W





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≈DIN 6527



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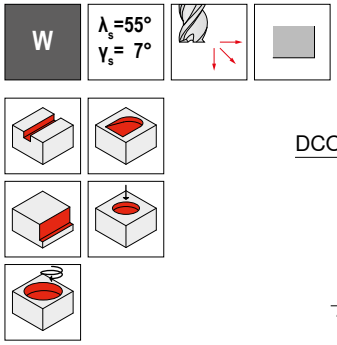
DC h6 mm	APMX mm	OAL mm	DCONMS h6 mm	ZEFP	50 960 ...
3	12	50	3	2	**030**
4	15	50	4	2	**040**
5	20	50	5	2	**050**
6	20	57	6	2	**060**
8	20	63	8	2	**080**
10	25	73	10	2	**100**
12	25	83	12	2	**120**
14	30	83	14	2	**140**
16	30	92	16	2	**160**
20	38	104	20	2	**200**

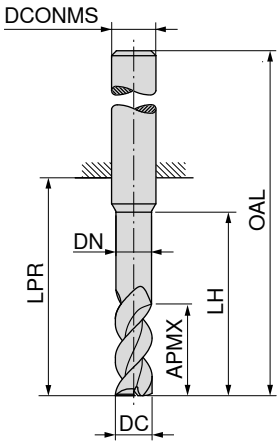
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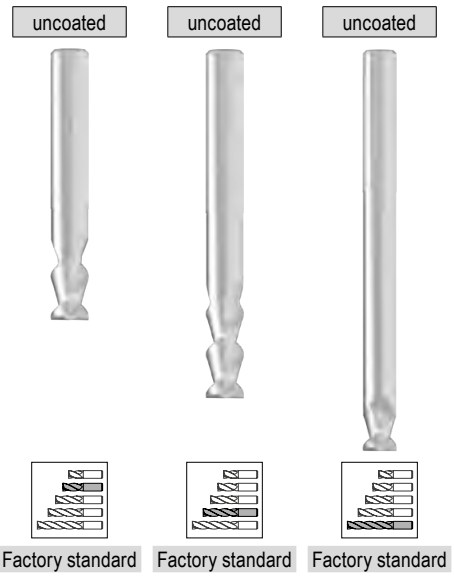


→ Find the cutting data standard values here.

CoreLine – End mill – W







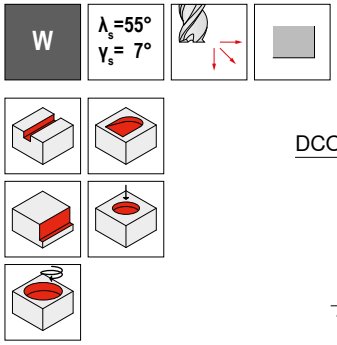
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	54 590 ...	54 590 ...	54 590 ...
2.7	5.0	2.5	12	19	55	6	2	**027**		
2.7	8.0	2.5	15	22	58	6	2		**028**	
3.0	3.5	2.8	12	19	55	6	2	**033**		
3.0	5.0	2.8	12	19	55	6	2	**031**		
3.0	3.5	2.8	15	22	58	6	2		**034**	
3.0	8.0	2.8	15	22	58	6	2		**032**	
3.0	3.5	2.8	24	31	67	6	2			**035**
3.7	6.5	3.5	12	19	55	6	2	**037**		
3.7	10.5	3.5	20	26	62	6	2		**038**	
4.0	4.5	3.8	12	19	55	6	2	**043**		
4.0	6.5	3.8	12	19	55	6	2	**041**		
4.0	4.5	3.8	20	26	62	6	2		**044**	
4.0	10.5	3.8	20	26	62	6	2		**042**	
4.0	4.5	3.8	32	38	74	6	2			**045**
4.7	8.0	4.5	15	22	58	6	2	**047**		
4.7	13.0	4.5	25	34	70	6	2		**048**	
5.0	5.5	4.8	15	22	58	6	2	**053**		
5.0	8.0	4.8	15	22	58	6	2	**051**		
5.0	5.5	4.8	25	34	70	6	2		**054**	
5.0	13.0	4.8	25	34	70	6	2		**052**	
5.0	5.5	4.8	40	52	88	6	2			**055**
5.7	10.0	5.5	18	22	58	6	2	**057**		
5.7	16.0	5.5	30	34	70	6	2		**058**	
6.0	7.0	5.8	18	22	58	6	2	**063**		
6.0	10.0	5.8	18	22	58	6	2	**061**		
6.0	7.0	5.8	30	34	70	6	2		**064**	
6.0	16.0	5.8	30	34	70	6	2		**062**	
6.0	7.0	5.8	48	52	88	6	2			**065**
6.7	13.0	6.4	24	28	64	8	2	**067**		
6.7	21.0	6.4	40	44	80	8	2		**068**	
7.0	13.0	6.7	24	28	64	8	2	**071**		
7.0	21.0	6.7	40	44	80	8	2		**072**	
7.7	13.0	7.4	24	28	64	8	2	**077**		
7.7	21.0	7.4	40	44	80	8	2		**078**	

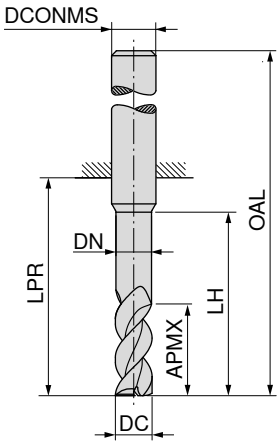
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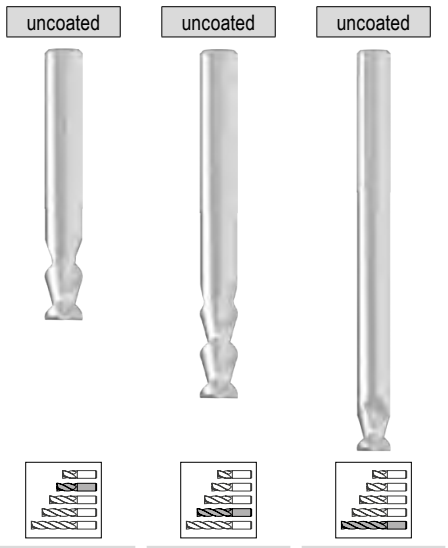
→ Find the cutting data standard values here.

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CoreLine – End mill – W







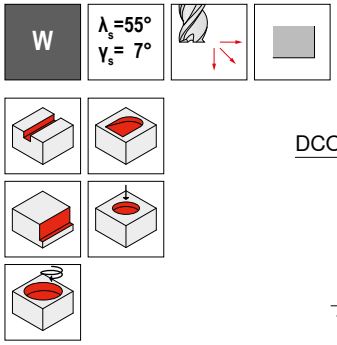
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	CX 54 590 ...	CX 54 590 ...	CX 54 590 ...
8.0	9.0	7.7	24	28	64	8	2	**083**		
8.0	13.0	7.7	24	28	64	8	2	**081**		
8.0	9.0	7.7	40	44	80	8	2		**084**	
8.0	21.0	7.7	40	44	80	8	2		**082**	
8.0	9.0	7.7	64	68	104	8	2			**085**
8.7	16.0	8.4	30	34	74	10	2	**087**		
8.7	26.0	8.4	50	54	94	10	2		**088**	
9.0	16.0	8.7	30	34	74	10	2	**091**		
9.0	26.0	8.7	50	54	94	10	2		**092**	
9.7	16.0	9.4	30	34	74	10	2	**097**		
9.7	26.0	9.4	50	54	94	10	2		**098**	
10.0	11.0	9.7	30	34	74	10	2	**103**		
10.0	16.0	9.7	30	34	74	10	2	**101**		
10.0	11.0	9.7	50	54	94	10	2		**104**	
10.0	26.0	9.7	50	54	94	10	2		**102**	
10.0	11.0	9.7	80	84	124	10	2			**105**
10.7	19.0	10.3	36	40	85	12	2	**107**		
10.7	31.0	10.3	60	64	109	12	2		**108**	
11.0	19.0	10.6	36	40	85	12	2	**111**		
11.0	31.0	10.6	60	64	109	12	2		**112**	
11.7	19.0	11.3	36	40	85	12	2	**117**		
11.7	31.0	11.3	60	64	109	12	2		**118**	
12.0	13.0	11.6	36	40	85	12	2	**123**		
12.0	19.0	11.6	36	40	85	12	2	**121**		
12.0	13.0	11.6	60	64	109	12	2		**124**	
12.0	31.0	11.6	60	64	109	12	2		**122**	
12.0	13.0	11.6	96	100	145	12	2			**125**
13.0	22.0	12.6	42	46	91	14	2	**131**		
13.0	36.0	12.6	70	74	119	14	2		**132**	
13.7	22.0	13.3	42	46	91	14	2	**137**		
13.7	36.0	13.3	70	74	119	14	2		**138**	
14.0	15.0	13.6	42	46	91	14	2	**143**		
14.0	22.0	13.6	42	46	91	14	2	**141**		
14.0	15.0	13.6	70	74	119	14	2		**144**	

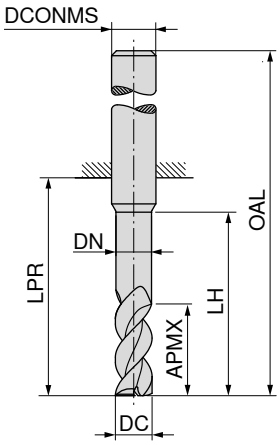
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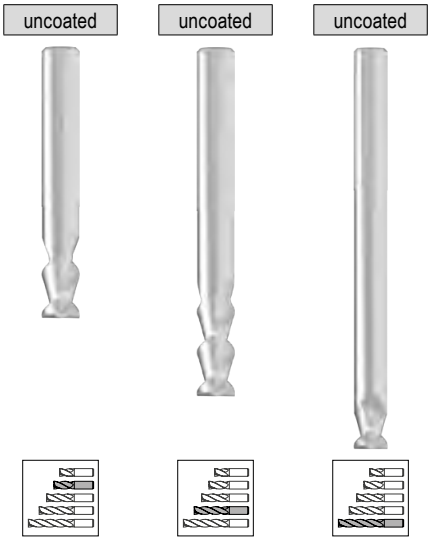
→ Find the cutting data standard values here.

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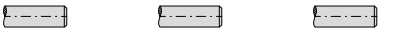
CoreLine – End mill – W







Factory standard | Factory standard | Factory standard



CX | CX | CX

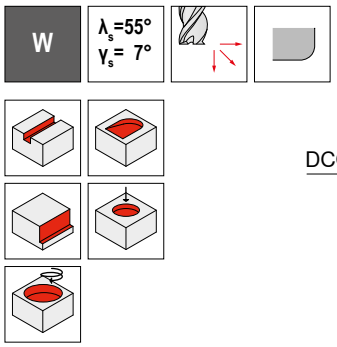
DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	54 590 ...	54 590 ...	54 590 ...
14.0	36.0	13.6	70	74	119	14	2		**142**	
14.0	15.0	13.6	112	116	161	14	2			**145**
15.0	25.0	14.5	48	52	100	16	2	**151**		
15.0	41.0	14.5	80	84	132	16	2		**152**	
15.7	25.0	15.2	48	52	100	16	2	**157**		
15.7	41.0	15.2	80	84	132	16	2		**158**	
16.0	17.0	15.5	48	52	100	16	2	**163**		
16.0	25.0	15.5	48	52	100	16	2	**161**		
16.0	17.0	15.5	80	84	132	16	2		**164**	
16.0	41.0	15.5	80	84	132	16	2		**162**	
16.0	17.0	15.5	128	132	180	16	2			**165**
18.0	20.0	17.5	54	58	106	18	2	**183**		
18.0	29.0	17.5	54	58	106	18	2	**181**		
18.0	20.0	17.5	90	94	142	18	2		**184**	
18.0	47.0	17.5	90	94	142	18	2		**182**	
18.0	20.0	17.5	144	148	196	18	2			**185**
19.7	32.0	19.2	60	64	114	20	2	**197**		
19.7	52.0	19.2	100	104	154	20	2		**198**	
20.0	22.0	19.5	60	64	114	20	2	**203**		
20.0	32.0	19.5	60	64	114	20	2	**201**		
20.0	22.0	19.5	100	104	154	20	2		**204**	
20.0	52.0	19.5	100	104	154	20	2		**202**	
20.0	22.0	19.5	160	164	214	20	2			**205**
24.7	40.0	24.2	75	80	136	25	2	**247**		
25.0	27.0	24.5	75	80	136	25	2	**253**		
25.0	40.0	24.5	75	80	136	25	2	**251**		

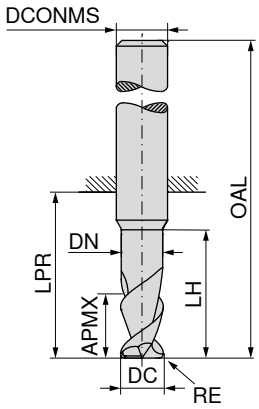
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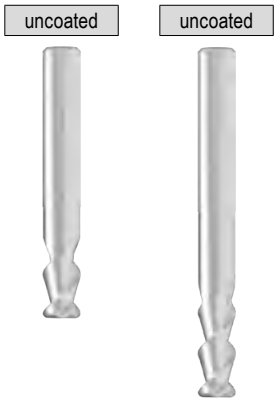


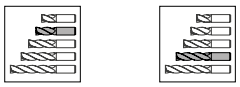
→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – W













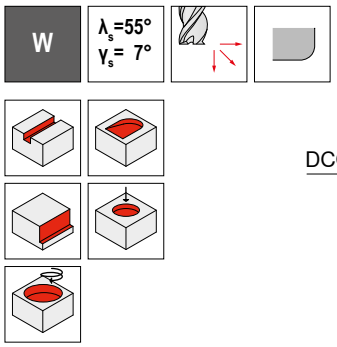
DC h6	RE ±0,01	APMX	DN	LH	LPR	OAL	DCONMS h5	ZEFP	CX	CX
mm	mm	mm	mm	mm	mm	mm	mm		54 594 ...	54 594 ...
3	0.2	5.0	2.8	12	19	55	6	2	031	
3	0.2	8.0	2.8	15	22	58	6	2		032
3	0.3	5.0	2.8	12	19	55	6	2	033	
3	0.3	8.0	2.8	15	22	58	6	2		034
3	0.5	5.0	2.8	12	19	55	6	2	035	
3	0.5	8.0	2.8	15	22	58	6	2		036
4	0.3	6.5	3.8	12	19	55	6	2	041	
4	0.3	10.5	3.8	20	26	62	6	2		042
4	0.5	6.5	3.8	12	19	55	6	2	043	
4	0.5	10.5	3.8	20	26	62	6	2		044
4	1.0	6.5	3.8	12	19	55	6	2	045	
4	1.0	10.5	3.8	20	26	62	6	2		046
5	0.3	8.0	4.8	15	22	58	6	2	051	
5	0.3	13.0	4.8	25	34	70	6	2		052
5	0.5	8.0	4.8	15	22	58	6	2	053	
5	0.5	13.0	4.8	25	34	70	6	2		054
5	1.0	8.0	4.8	15	22	58	6	2	055	
5	1.0	13.0	4.8	25	34	70	6	2		056
6	0.3	10.0	5.8	18	22	58	6	2	061	
6	0.3	16.0	5.8	30	34	70	6	2		062
6	0.5	10.0	5.8	18	22	58	6	2	063	
6	0.5	16.0	5.8	30	34	70	6	2		064
6	1.0	10.0	5.8	18	22	58	6	2	065	
6	1.0	16.0	5.8	30	34	70	6	2		066
8	0.3	13.0	7.7	24	28	64	8	2	081	
8	0.3	21.0	7.7	40	44	80	8	2		082
8	0.5	13.0	7.7	24	28	64	8	2	083	
8	0.5	21.0	7.7	40	44	80	8	2		084
8	1.0	13.0	7.7	24	28	64	8	2	085	
8	1.0	21.0	7.7	40	44	80	8	2		086
10	0.3	16.0	9.7	30	34	74	10	2	101	
10	0.5	26.0	9.7	50	54	94	10	2		102
10	1.0	16.0	9.7	30	34	74	10	2	103	
10	1.0	26.0	9.7	50	54	94	10	2		104

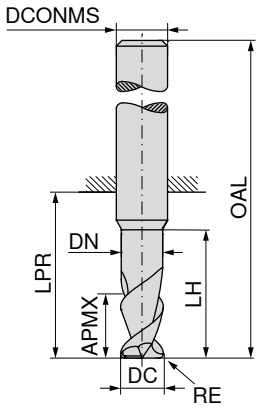
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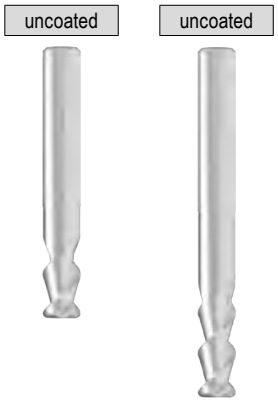
→ Find the cutting data standard values here.

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CoreLine – End mills with corner radius – W










Factory standard Factory standard



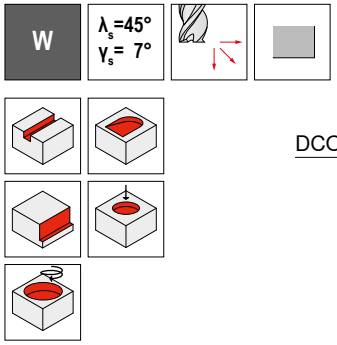

DC h6	RE ±0,01	APMX	DN	LH	LPR	OAL	DCONMS h5	ZEFP	CX	CX
mm	mm	mm	mm	mm	mm	mm	mm		54 594 ...	54 594 ...
10	1.5	16.0	9.7	30	34	74	10	2	105	
10	1.5	26.0	9.7	50	54	94	10	2		106
12	1.0	19.0	11.6	36	40	85	12	2	121	
12	1.0	31.0	11.6	60	64	109	12	2		122
12	1.5	19.0	11.6	36	40	85	12	2	123	
12	1.5	31.0	11.6	60	64	109	12	2		124
12	2.0	19.0	11.6	36	40	85	12	2	125	
12	2.0	31.0	11.6	60	64	109	12	2		126
16	2.0	25.0	15.5	48	52	100	16	2	161	
16	2.0	41.0	15.5	80	84	132	16	2		162
16	2.5	25.0	15.5	48	52	100	16	2	163	
16	2.5	41.0	15.5	80	84	132	16	2		164
16	3.0	25.0	15.5	48	52	100	16	2	165	
16	4.0	41.0	15.5	80	84	132	16	2		166
20	2.0	32.0	19.5	60	64	114	20	2	201	
20	2.0	52.0	19.5	100	104	154	20	2		202
20	2.5	32.0	19.5	60	64	114	20	2	203	
20	2.5	52.0	19.5	100	104	154	20	2		204
20	3.0	32.0	19.5	60	64	114	20	2	205	
20	4.0	32.0	19.5	60	64	114	20	2	206	
20	4.0	52.0	19.5	100	104	154	20	2		207
25	2.0	40.0	24.5	75	80	136	25	2	251	
25	2.0	65.0	24.5	125	130	186	25	2		252
25	4.0	40.0	24.5	75	80	136	25	2	253	
25	4.0	65.0	24.5	125	130	186	25	2		254

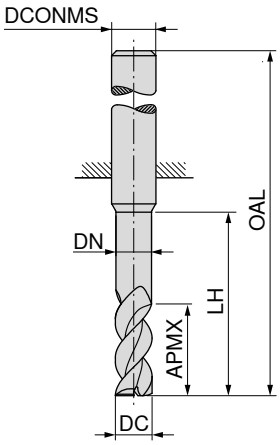
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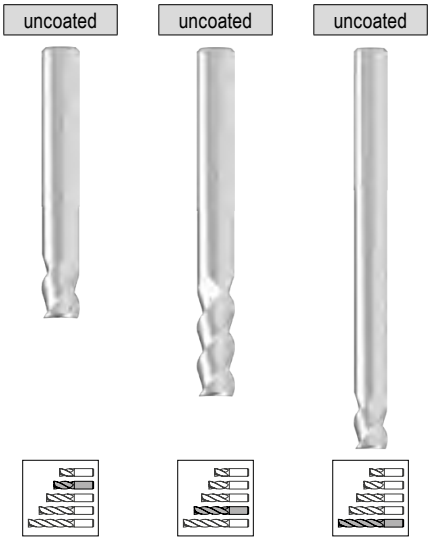


→ Find the cutting data standard values here.

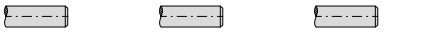
CoreLine – End mill – W







Factory standard | Factory standard | Factory standard



CX | CX | CX

DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	54 610 ...	54 610 ...	54 610 ...
3	3.5	2.8	12	19	55	6	3	033		
3	3.5	2.8	15	22	58	6	3		034	
3	3.5	2.8	24	31	67	6	3			035
3	8.0	2.8	15	22	58	6	3		032	
4	4.5	3.8	12	19	55	6	3	043		
4	4.5	3.8	20	26	62	6	3		044	
4	4.5	3.8	32	38	74	6	3			045
4	10.5	3.8	20	26	62	6	3		042	
5	5.5	4.8	15	22	58	6	3	053		
5	5.5	4.8	25	34	70	6	3		054	
5	5.5	4.8	40	52	88	6	3			055
5	13.0	4.8	25	34	70	6	3		052	
6	7.0	5.8	18	22	58	6	3	063		
6	7.0	5.8	30	34	70	6	3		064	
6	7.0	5.8	48	52	88	6	3			065
6	16.0	5.8	30	34	70	6	3		062	
7	21.0	6.7	40	44	80	8	3		072	
8	9.0	7.7	24	28	64	8	3	083		
8	9.0	7.7	40	44	80	8	3		084	
8	9.0	7.7	64	68	104	8	3			085
8	21.0	7.7	40	44	80	8	3		082	
9	26.0	8.7	50	54	94	10	3		092	
10	11.0	9.7	30	34	74	10	3	103		
10	11.0	9.7	50	54	94	10	3		104	
10	11.0	9.7	80	84	124	10	3			105
10	26.0	9.7	50	54	94	10	3		102	
11	31.0	10.6	60	64	109	12	3		112	
12	13.0	11.6	36	40	85	12	3	123		
12	13.0	11.6	60	64	109	12	3		124	
12	13.0	11.6	96	100	145	12	3			125
12	31.0	11.6	60	64	109	12	3		122	
13	36.0	12.6	70	74	119	14	3		132	
14	15.0	13.6	42	46	91	14	3	143		
14	15.0	13.6	70	74	119	14	3		144	

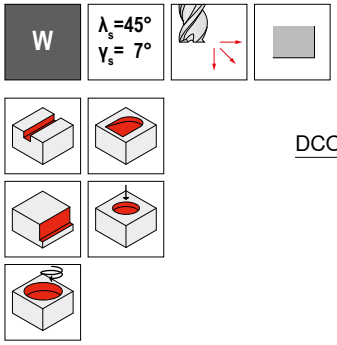
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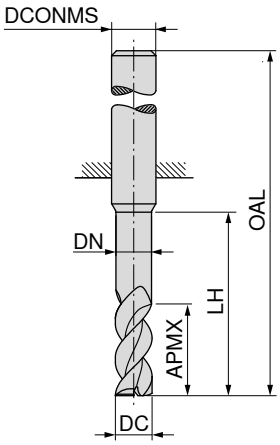


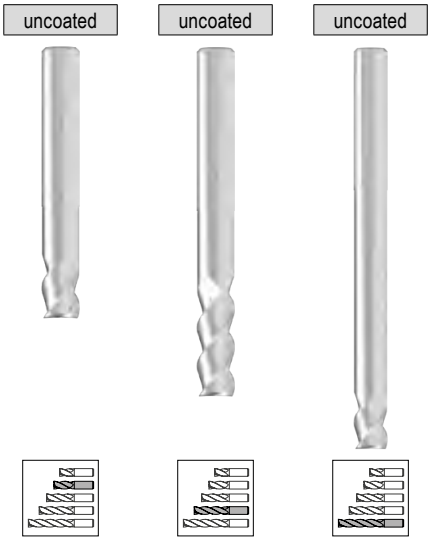
→ Find the cutting data standard values here.

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CoreLine – End mill – W







DC h6 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	CX 54 610 ...	CX 54 610 ...	CX 54 610 ...
14	15.0	13.6	112	116	161	14	3			**145**
14	36.0	13.6	70	74	119	14	3		**142**	
15	17.0	14.5	48	52	100	16	3	**153**		
15	17.0	14.5	80	84	132	16	3		**154**	
15	41.0	14.5	80	84	132	16	3		**152**	
16	17.0	15.5	48	52	100	16	3	**163**		
16	17.0	15.5	80	84	132	16	3		**164**	
16	17.0	15.5	128	132	180	16	3			**165**
16	41.0	15.5	80	84	132	16	3		**162**	
18	20.0	17.5	54	58	106	18	3	**183**		
18	20.0	17.5	90	94	142	18	3		**184**	
18	20.0	17.5	144	148	196	18	3			**185**
18	47.0	17.5	90	94	142	18	3		**182**	
20	22.0	19.5	60	64	114	20	3	**203**		
20	22.0	19.5	100	104	154	20	3		**204**	
20	22.0	19.5	160	164	214	20	3			**205**
20	52.0	19.5	100	104	154	20	3		**202**	
25	27.0	24.5	75	80	136	25	3	**253**		
25	27.0	24.5	125	130	186	25	3		**254**	

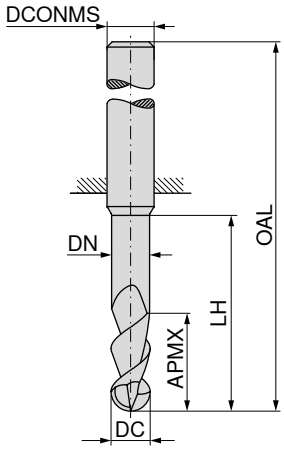
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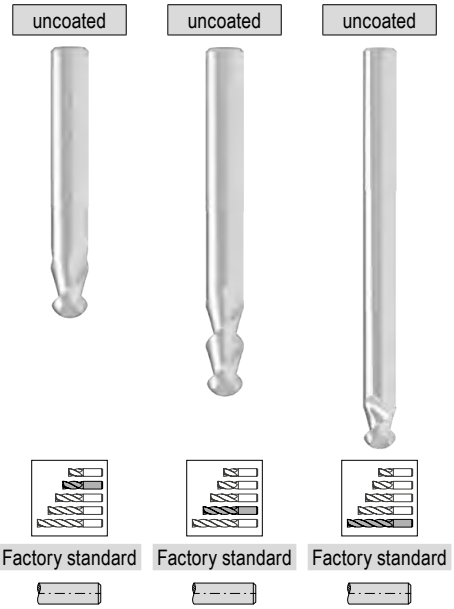
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – W

▲ Radius accuracy: ± 0.01 mm

W | λ_s=55° γ_s= 7°





Factory standard | Factory standard | Factory standard

CX | CX | CX

DC h6 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h5 mm	ZEFP	54 640 ...	54 640 ...	54 640 ...
3	5.0	2.8	12	55	6	2	031		
3	3.5	2.8	15	58	6	2		034	
3	8.0	2.8	15	58	6	2		032	
3	3.5	2.8	24	67	6	2			035
4	6.5	3.8	12	55	6	2	041		
4	4.5	3.8	20	62	6	2		044	
4	10.5	3.8	20	62	6	2		042	
4	4.5	3.8	32	74	6	2			045
5	8.0	4.8	15	58	6	2	051		
5	5.5	4.8	25	70	6	2		054	
5	13.0	4.8	25	70	6	2		052	
5	5.5	4.8	40	88	6	2			055
6	10.0	5.8	18	58	6	2	061		
6	7.0	5.8	30	70	6	2		064	
6	16.0	5.8	30	70	6	2		062	
6	7.0	5.8	48	88	6	2			065
8	13.0	7.7	24	64	8	2	081		
8	9.0	7.7	40	80	8	2		084	
8	21.0	7.7	40	80	8	2		082	
8	9.0	7.7	64	104	8	2			085
10	16.0	9.7	30	74	10	2	101		
10	11.0	9.7	50	94	10	2		104	
10	26.0	9.7	50	94	10	2		102	
10	11.0	9.7	80	124	10	2			105
12	19.0	11.6	36	85	12	2	121		
12	13.0	11.6	60	109	12	2		124	
12	31.0	11.6	60	109	12	2		122	
12	13.0	11.6	96	145	12	2			125
14	22.0	13.6	42	91	14	2	141		
14	15.0	13.6	70	119	14	2		144	
14	36.0	13.6	70	119	14	2		142	
14	15.0	13.6	112	161	14	2			145
16	25.0	15.5	48	100	16	2	161		

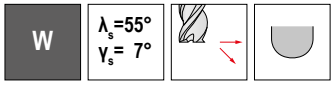
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→ Find the cutting data standard values here.

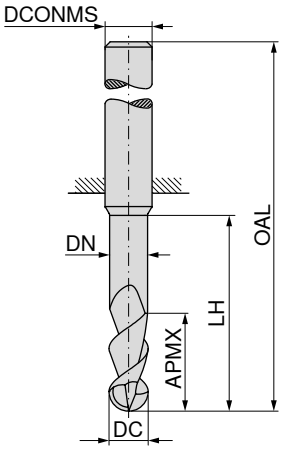
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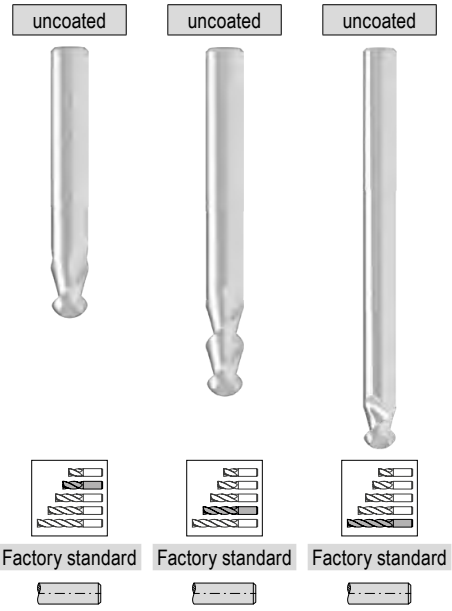
CoreLine – Ball-nosed end mills – W

▲ Radius accuracy: ± 0.01 mm









Factory standard | Factory standard | Factory standard

CX | CX | CX

DC h6 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h5 mm	ZEFP	54 640 ...	54 640 ...	54 640 ...
16	17.0	15.5	80	132	16	2		**164**	
16	41.0	15.5	80	132	16	2		**162**	
16	17.0	15.5	128	180	16	2			**165**
18	29.0	17.5	54	106	18	2	**181**		
18	20.0	17.5	90	142	18	2		**184**	
18	47.0	17.5	90	142	18	2		**182**	
18	20.0	17.5	144	196	18	2			**185**
20	32.0	19.5	60	114	20	2	**201**		
20	52.0	19.5	100	154	20	2		**202**	
20	22.0	19.5	100	154	20	2		**204**	
20	22.0	19.5	160	214	20	2			**205**

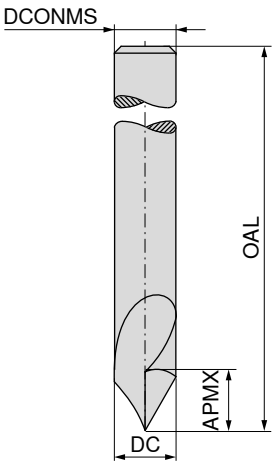
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→ Find the cutting data standard values here.

CoreLine – Engraving cutters 60° – AL

AL | λ_s=15° γ_s=20°



uncoated



Factory standard



DC h6 mm	APMX mm	OAL mm	DCONMS h6 mm	CX 52 196 ...
3	2.6	50	3	03000
4	3.5	50	4	04000
6	5.2	54	6	06000

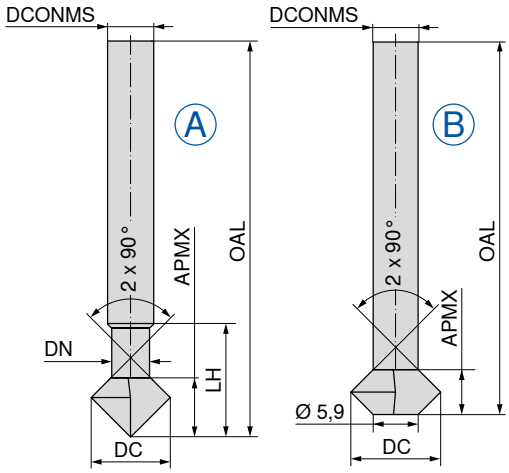
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→ Find the cutting data standard values here.

CoreLine – NC front and rear chamfer milling cutters – AL

AL | λ_s=0° γ_s=0°





uncoated



Factory standard



DC +0,09 / -0,1 mm	APMX mm	DN mm	LH mm	OAL mm	LPR mm	DCONMS h6 mm	ZEFP	Fig.	CX 52 188 ...
3.0	2.00	2.2	12.0	75	47	4	4	A	**03000**
4.0	2.65	2.9	17.7	75	47	4	4	A	**04000**
4.8	2.95	3.7	18.0	75	47	5	4	A	**04800**
5.0	3.05	3.9	18.0	75	47	5	4	A	**05000**
5.8	3.85	3.9	19.0	100	64	6	4	A	**05800**
6.0	4.05	3.9	19.0	100	64	6	4	A	**06000**
7.8	2.05			100	64	6	4	B	**07800**
8.0	2.25			100	64	6	4	B	**08000**
10.0	4.25			100	64	6	4	B	**10000**
12.0	6.25			100	64	6	4	B	**12000**

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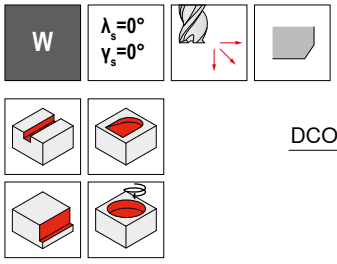


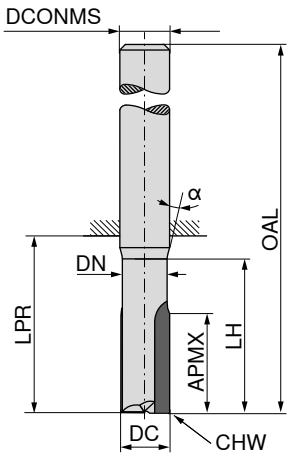
→ Find the cutting data standard values here.

CoreLine – PCD end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Transition angle α = 45°







DC h7 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	PC 50 010 ...	PC 50 010 ...
3	6	2.8	11	21	57	6	0.15	2	**03100**	
3	6	2.8	22	64	100	6	0.15	2		**03300**
4	8	3.5	13	21	57	6	0.15	2	**04100**	
4	8	3.5	26	64	100	6	0.15	2		**04300**
5	10	4.4	15	21	57	6	0.15	2	**05100**	
5	10	4.4	30	64	100	6	0.15	2		**05300**
6	12	5.4	19	21	57	6	0.15	2	**06100**	
6	12	5.4	38	64	100	6	0.15	2		**06300**
8	16	7.2	26	28	64	8	0.15	2	**08100**	
8	16	7.2	52	64	100	8	0.15	2		**08300**
10	20	9.0	31	34	74	10	0.15	2	**10100**	
10	20	9.0	60	60	100	10	0.15	2		**10300**

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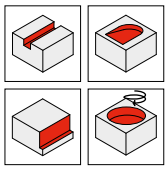
→ Find the cutting data standard values here.

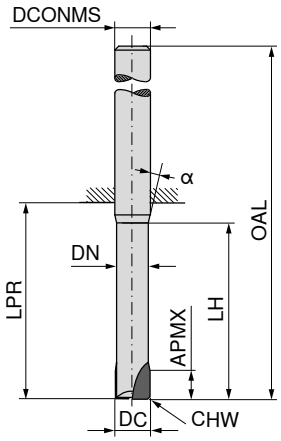
CoreLine – PCD end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Transition angle α = 15°













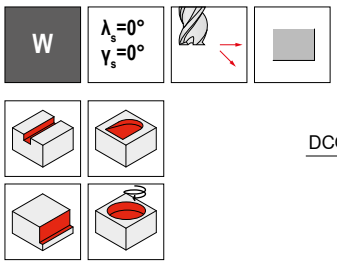
DC h7 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	PC 50 011 ...
2	2.0	1.7	6	39	75	6	0.1	1	**02100**
2	2.0	1.7	10	39	75	6	0.1	1	**02300**
2	2.0	1.7	14	39	75	6	0.1	1	**02200**
3	2.5	2.5	9	39	75	6	0.2	2	**03100**
3	2.5	2.5	15	39	75	6	0.2	2	**03300**
3	2.5	2.5	21	39	75	6	0.2	2	**03200**
4	2.5	3.5	12	39	75	6	0.2	2	**04100**
4	2.5	3.5	20	39	75	6	0.2	2	**04300**
4	2.5	3.5	28	39	75	6	0.2	2	**04200**
5	3.0	4.4	15	39	75	6	0.2	2	**05100**
5	3.0	4.4	25	39	75	6	0.2	2	**05300**
5	3.0	4.4	35	39	75	6	0.2	2	**05200**
6	6.0	5.4	18	64	100	6	0.2	2	**06100**
6	6.0	5.4	30	64	100	6	0.2	2	**06300**
6	6.0	5.4	42	64	100	6	0.2	2	**06200**
8	7.0	7.2	24	64	100	8	0.2	2	**08100**
8	7.0	7.2	40	64	100	8	0.2	2	**08300**
10	8.0	9.0	30	60	100	10	0.2	2	**10100**
10	8.0	9.0	50	60	100	10	0.2	2	**10300**
12	9.0	11.0	36	60	105	12	0.2	2	**12100**
12	9.0	11.0	58	60	105	12	0.2	2	**12300**

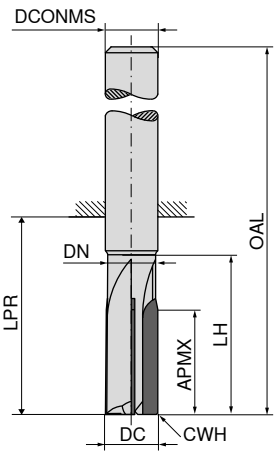
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→ Find the cutting data standard values here.

CoreLine – PCD end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics







DC h7 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	PC 50 013 ...	PC 50 013 ...
6	12	5.4	19	21	57	6	0.05	4	**06100**	
6	12	5.4	38	64	100	6	0.05	4		**06200**
8	16	7.2	26	28	64	8	0.05	4	**08100**	
8	16	7.2	52	64	100	8	0.05	4		**08200**
10	20	9.0	31	34	74	10	0.10	4	**10100**	
10	20	9.0	62	60	100	10	0.10	4		**10200**
12	24	11.0	37	39	84	12	0.10	4	**12100**	
12	24	11.0	73	70	115	12	0.10	4		**12200**
16	32	15.0	44	45	93	16	0.20	4	**16100**	
16	32	15.0	88	90	130	16	0.20	4		**16200**
20	38	19.0	53	54	104	20	0.20	4	**20100**	
20	38	19.0	105	110	160	20	0.20	4		**20200**

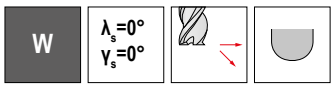
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→ Find the cutting data standard values here.

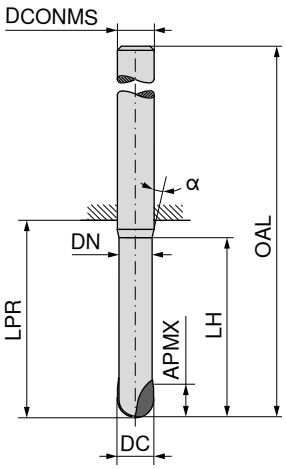
CoreLine – PCD ball-nosed end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Transition angle α = 15°













DC h7 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	PC 50 014 ...
2	2.0	1.7	6	39	75	6	1	**02100**
2	2.0	1.7	10	39	75	6	1	**02200**
2	2.0	1.7	14	39	75	6	1	**02300**
2	2.0	1.7	35	39	75	6	1	**02400**
3	2.5	2.5	9	39	75	6	2	**03100**
3	2.5	2.5	15	39	75	6	2	**03200**
3	2.5	2.5	21	39	75	6	2	**03300**
3	2.5	2.5	35	39	75	6	2	**03400**
4	2.5	3.5	12	39	75	6	2	**04100**
4	2.5	3.5	20	39	75	6	2	**04200**
4	2.5	3.5	28	39	75	6	2	**04300**
4	2.5	3.5	35	39	75	6	2	**04400**
5	3.0	4.4	15	39	75	6	2	**05100**
5	3.0	4.4	25	39	75	6	2	**05200**
5	3.0	4.4	35	39	75	6	2	**05400**
6	6.0	5.4	18	64	100	6	2	**06100**
6	6.0	5.4	30	64	100	6	2	**06200**
6	6.0	5.4	40	64	100	8	2	**06300**
6	6.0	5.4	42	64	100	6	2	**06400**
8	7.0	7.2	24	64	100	8	2	**08100**
8	7.0	7.2	40	64	100	8	2	**08300**
8	7.0	7.2	40	60	100	10	2	**08900**
10	8.0	9.0	30	60	100	10	2	**10100**
10	8.0	9.0	40	55	100	12	2	**10200**
10	8.0	9.0	50	60	100	10	2	**10300**
12	9.0	11.0	36	60	105	12	2	**12100**
12	9.0	11.0	40	55	100	16	2	**12200**
12	9.0	11.0	58	60	105	12	2	**12400**
16	11.0	15.0	45	82	130	16	2	**16200**
16	11.0	15.0	50	82	130	16	2	**16300**
20	13.0	19.0	60	110	160	20	2	**20400**

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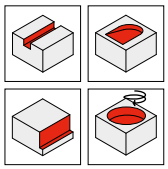
→ Find the cutting data standard values here.

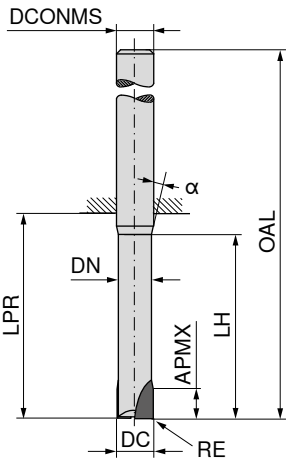
CoreLine – PCD torus cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Transition angle α = 15°













DC h7 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	PC 50 012 ...
2	0.3	2.0	1.7	6	39	75	6	1	02103
2	0.3	2.0	1.7	10	39	75	6	1	02203
2	0.3	2.0	1.7	14	39	75	6	1	02303
2	0.3	2.0	1.7	35	39	75	6	1	02403
3	0.3	2.5	2.5	9	39	75	6	2	03103
3	0.3	2.5	2.5	15	39	75	6	2	03203
3	0.3	2.5	2.5	21	39	75	6	2	03303
3	0.3	2.5	2.5	35	39	75	6	2	03403
4	0.3	2.5	3.5	12	39	75	6	2	04103
4	0.3	2.5	3.5	20	39	75	6	2	04203
4	0.3	2.5	3.5	28	39	75	6	2	04303
4	0.3	2.5	3.5	35	39	75	6	2	04403
5	0.3	3.0	4.4	15	39	75	6	2	05103
5	0.3	3.0	4.4	25	39	75	6	2	05203
5	0.3	3.0	4.4	35	39	75	6	2	05303
6	0.3	6.0	5.4	18	64	100	6	2	06103
6	0.3	6.0	5.4	30	64	100	6	2	06203
6	0.3	6.0	5.4	42	64	100	6	2	06403
6	0.5	6.0	5.4	18	64	100	6	2	06105
6	0.5	6.0	5.4	30	64	100	6	2	06205
6	0.5	6.0	5.4	42	64	100	6	2	06405
6	1.0	6.0	5.4	18	64	100	6	2	06110
6	1.0	6.0	5.4	40	64	100	8	2	06310
6	1.0	6.0	5.4	42	64	100	6	2	06410
8	0.3	7.0	7.2	24	64	100	8	2	08103
8	0.3	7.0	7.2	40	64	100	8	2	08203
8	0.5	7.0	7.2	24	64	100	8	2	08105
8	0.5	7.0	7.2	40	64	100	8	2	08205
8	1.0	7.0	7.2	24	64	100	8	2	08110
8	1.0	7.0	7.2	40	64	100	8	2	08210

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→ Find the cutting data standard values here.

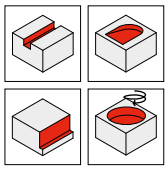
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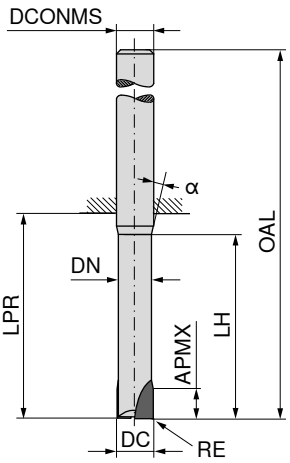
CoreLine – PCD torus cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Transition angle α = 15°













DC h7 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	PC 50 012 ...
8	2.0	7.0	7.2	24	64	100	8	2	**08120**
8	2.0	7.0	7.2	40	60	100	10	2	**08920**
8	2.0	7.0	7.2	40	64	100	8	2	**08220**
10	0.5	8.0	9.0	30	60	100	10	2	**10105**
10	0.5	8.0	9.0	50	60	100	10	2	**10305**
10	1.0	8.0	9.0	30	60	100	10	2	**10110**
10	1.0	8.0	9.0	50	60	100	10	2	**10310**
10	1.5	8.0	9.0	30	60	100	10	2	**10115**
10	1.5	8.0	9.0	50	60	100	10	2	**10315**
10	2.0	8.0	9.0	30	60	100	10	2	**10120**
10	2.0	8.0	9.0	50	60	100	10	2	**10320**
10	3.0	8.0	9.0	30	60	100	10	2	**10130**
10	3.0	8.0	9.0	40	55	100	12	2	**10230**
10	3.0	8.0	9.0	50	60	100	10	2	**10330**
12	0.5	9.0	11.0	36	60	105	12	2	**12105**
12	0.5	9.0	11.0	58	60	105	12	2	**12305**
12	1.0	9.0	11.0	36	60	105	12	2	**12110**
12	1.0	9.0	11.0	58	60	105	12	2	**12310**
12	1.5	9.0	11.0	36	60	105	12	2	**12115**
12	1.5	9.0	11.0	58	60	105	12	2	**12315**
12	4.0	9.0	11.0	40	52	100	16	2	**12240**
16	3.0	11.0	15.0	45	82	130	16	2	**16130**
16	5.0	11.0	15.0	50	82	130	16	2	**16250**
20	6.0	13.0	19.0	60	140	160	20	2	**20260**

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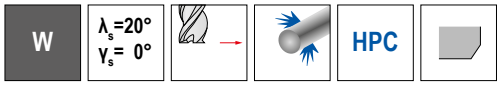


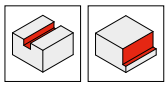
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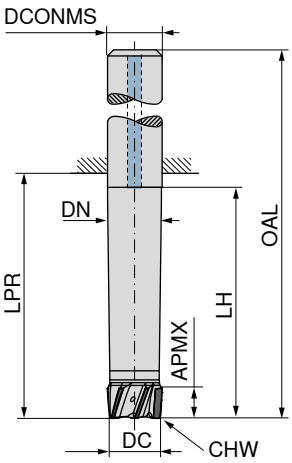
CoreLine – PCD end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

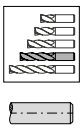
▲ Manufactured using 3D printing











DC mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS mm	CHW mm	ZEFP	PC 50 015 ...
10	5	9.6	25.0	27	67	10	0.2	4	**10200**
12	5	11.6	30.0	33	78	12	0.2	4	**12200**
16	11	15.6	40.0	43	91	16	0.2	5	**16200**
20	11	19.6	50.0	54	104	20	0.2	6	**20200**
25	11	24.6	62.5	68	124	25	0.2	8	**25200**
32	11	31.6	80.0	87	147	32	0.2	10	**32200**

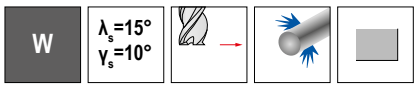
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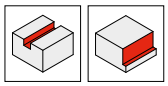


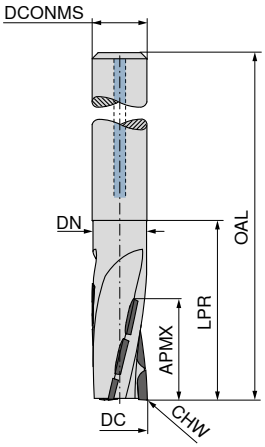
→ Find the cutting data standard values here.

CoreLine – PCD face and shoulder mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics













DC h7 mm	APMX mm	DN mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	PC 50 020 ...
16	30	15.5	45	93	16	3	**01600**
20	30	19.5	50	100	20	3	**02000**
25	30	24.5	54	110	25	3	**02500**

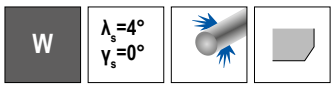
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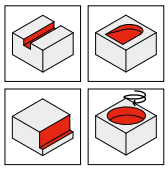


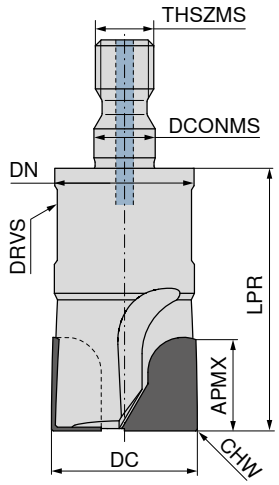
→ Find the cutting data standard values here.

CoreLine – PCD drill slot milling screw-in cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics









DC mm	APMX mm	DN mm	LPR mm	DCONMS mm	CHW mm	DRVS mm	ZEFP	THSZMS	PC 50 016 ...
10	10	9.6	28	5.5	0.2	8	2	M5	**01000**
12	12	9.6	28	5.5	0.2	8	2	M5	**01200**
16	16	13.8	32	8.5	0.2	13	3	M8	**01600**
20	20	18.0	45	10.5	0.2	16	3	M10	**02000**
25	20	21.0	45	12.6	0.2	18	3	M12	**02500**

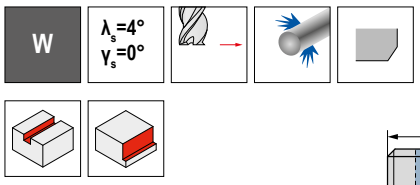
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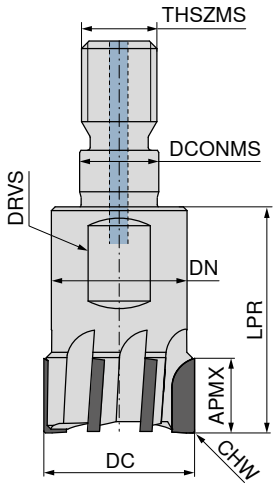


→ Find the cutting data standard values here.

CoreLine – PCD face screw-in cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics







DC mm	APMX mm	DN mm	LPR mm	DCONMS mm	CHW mm	DRVS mm	ZEFP	THSZMS	PC 50 018 ...
10	5	9.6	22	5.5	0.2	8	2	M5	**01000**
12	5	9.6	28	5.5	0.2	8	2	M5	**01200**
16	10	13.8	28	8.5	0.2	13	3	M8	**01600**
20	10	18.0	30	10.5	0.2	16	4	M10	**02000**
25	10	21.0	35	12.5	0.2	18	5	M12	**02500**
32	10	29.0	35	17.0	0.2	27	6	M16	**03200**

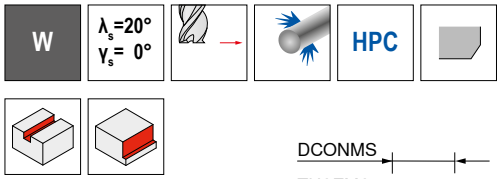
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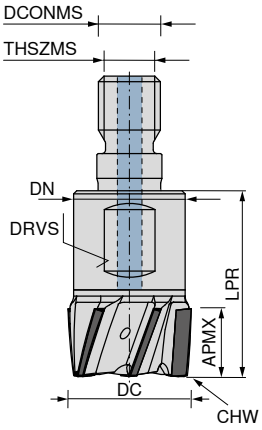
→ Find the cutting data standard values here.

CoreLine – PCD screw-in cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Manufactured using 3D printing







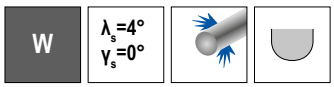
DC mm	APMX mm	DN mm	LPR mm	DCONMS mm	CHW mm	DRVS mm	ZEFP	THSZMS	PC 50 015 ...
10	5	9.6	22	5.5	0.2	8	4	M5	**10100**
12	5	11.5	22	6.5	0.2	10	4	M6	**12100**
16	11	13.8	28	8.5	0.2	13	5	M8	**16100**
20	11	18.0	30	10.5	0.2	16	6	M10	**20100**
25	11	21.0	35	12.5	0.2	18	8	M12	**25100**
32	11	29.0	35	17.0	0.2	27	10	M16	**32100**

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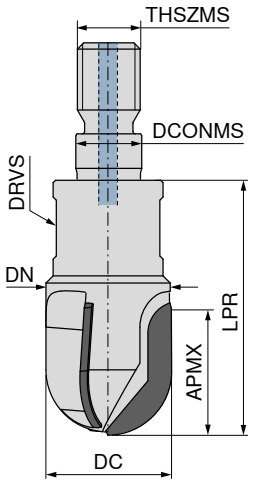
→ Find the cutting data standard values here.

CoreLine – PCD radius screw-in cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics









DC mm	APMX mm	DN mm	LPR mm	DCONMS mm	DRVS mm	ZEFP	THSZMS	PC 50 017 ...
10	10	9.6	28	5.5	8	2	M5	**01000**
12	12	9.6	28	5.5	8	2	M5	**01200**
16	16	13.8	32	8.5	13	3	M8	**01600**

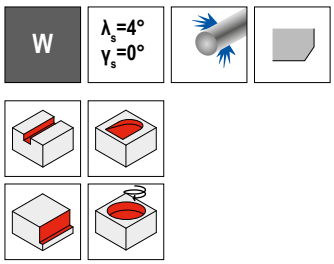
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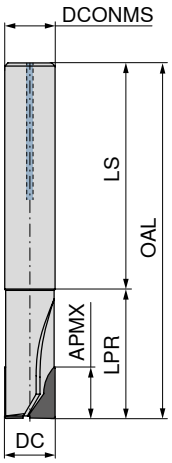


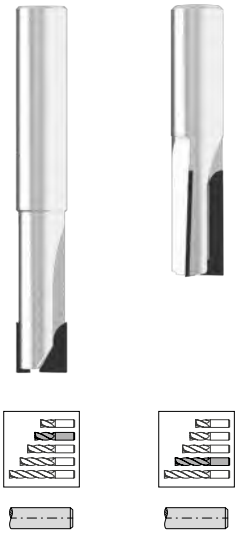
→ Find the cutting data standard values here.

CoreLine – PCD drill slot end mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics







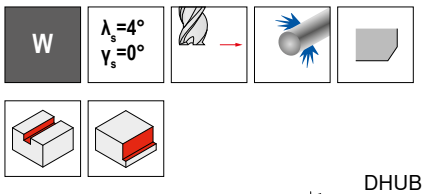
DC h7 mm	APMX mm	LPR mm	LS mm	OAL mm	DCONMS h6 mm	ZEFP	PC 50 024 ...	PC 50 025 ...
6	6	21	36	57	6	2	**00600**	
8	8	27	36	63	8	2	**00800**	
10	10	32	40	72	10	2	**01000**	
16	16	42	48	90	16	3	**01600**	
20	20	54	50	104	20	3	**02000**	
20	40	54	50	104	20	3		**02000**

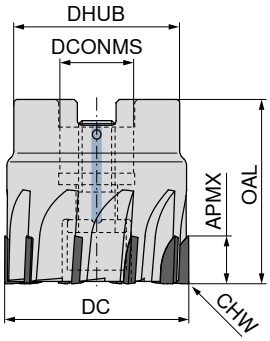
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→ Find the cutting data standard values here.

CoreLine – PCD face mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics







DC mm	OAL mm	DHUB mm	APMX mm	DCONMS H6 mm	CHW mm	ZNF	PC 50 019 ...
40	40	36	10	16	0.2	10	**04000**
50	40	41	10	22	0.2	12	**05000**
63	40	48	10	22	0.2	14	**06300**
80	50	60	10	27	0.2	16	**08000**
100	50	78	10	32	0.2	18	**10000**
125	63	100	10	40	0.2	22	**12500**

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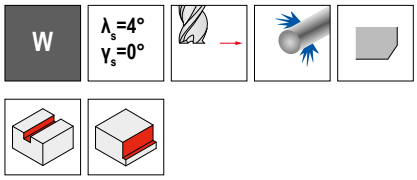
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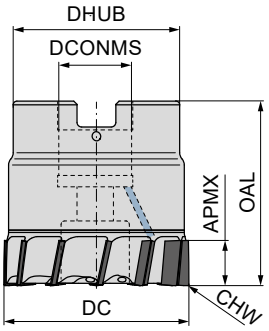
Spare parts can be found in our online shop at ceratizit.com.

CoreLine – PCD face mills – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Manufactured using 3D printing







DC mm	OAL mm	DHUB mm	APMX mm	CHW mm	DCONMS $_{H6}$ mm	ZNF	PC 50 021 ...
40	40	36	5	0.2	16	5	**04005**
40	40	36	5	0.2	16	8	**14008**
40	40	36	5	0.2	16	12	**24012**
50	40	41	5	0.2	22	5	**05005**
50	40	41	5	0.2	22	16	**25016**

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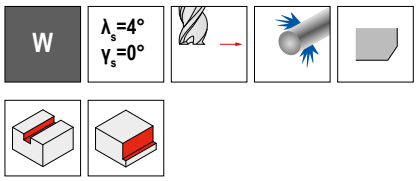
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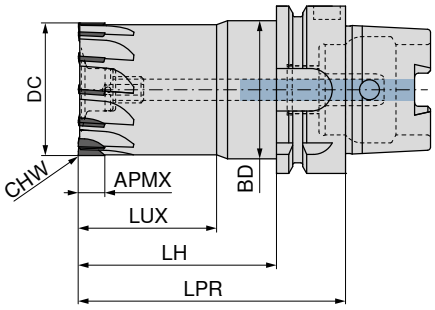
Spare parts can be found in our online shop at ceratizit.com.

CoreLine – PCD face monoblock milling cutters – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ 50 027 ... = for surface qualities >; Rz 10qm
▲ 50 026 ... = for surface qualities <; Rz 10qm







DC mm	LH mm	LUX mm	LPR mm	BD mm	APMX mm	CHW mm	ZNF	PC 50 027 ...	PC 50 026 ...
40	74	48	100	53	10	0.2	10	**04057**	**04057**
50	74	53	100	52	10	0.2	12		**05057**
80			100		10	0.2	16		**08057**
125			100		10	0.2	22		**12557**

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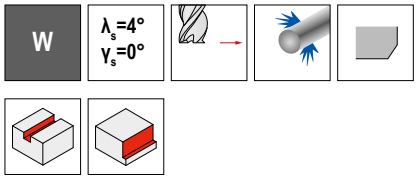
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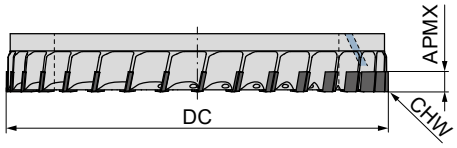
Spare parts can be found in our online shop at ceratizit.com.

CoreLine – PCD milling ring – W

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Manufactured using 3D printing







DC mm	APMX mm	CHW mm	ZNF	PC 50 022 ...
63	5	0.2	20	26320
80	5	0.2	24	28024
100	5	0.2	32	30032

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→ Find the cutting data standard values here.

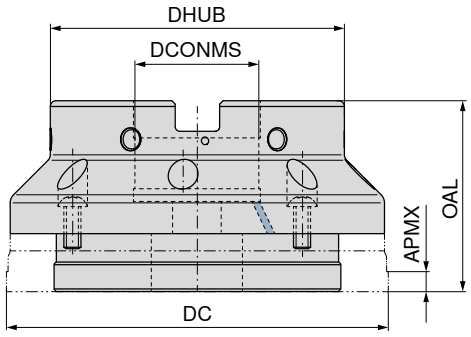
Spare parts can be found in our online shop at ceratizit.com.

CoreLine – Base body for PCD milling ring

The tool with the highest cutting parameters and tool life for machining non-ferrous metals and plastics

▲ Dimensions are inclusive of the milling ring





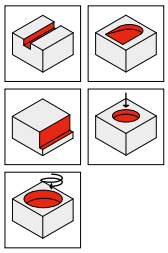


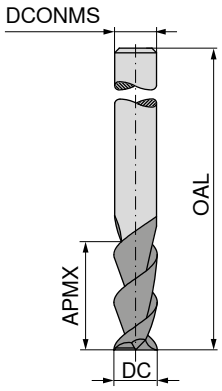
DC mm	OAL mm	DHUB mm	APMX mm	DCONMS H6 mm	ZNF	TO 50 023 ...
63	40	48	5	22	20	**06300**
80	50	58	5	27	24	**08000**
100	50	77	5	32	32	**10000**

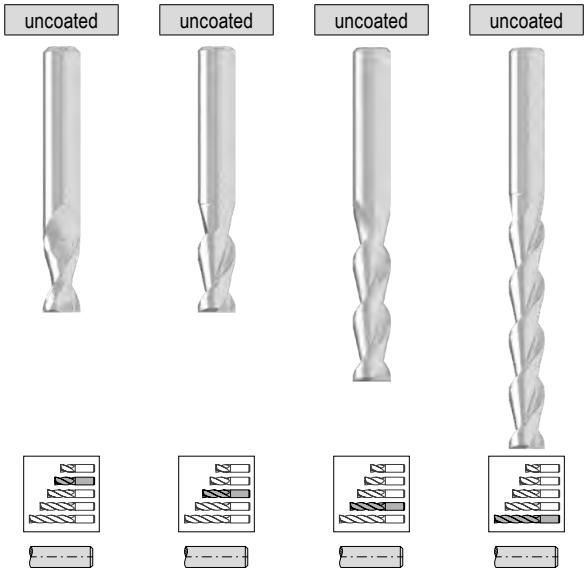
Spare parts can be found in our online shop at ceratizit.com.

CoreLine – End mill – AL

S142 | AL | λ_s=40° γ_s=12°







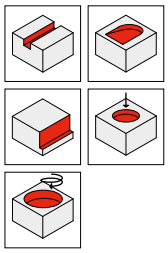
DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 053 ...	*PA* 59 053 ...	*PA* 59 053 ...	*PA* 59 053 ...
1/8	1/4	1 1/2	1/8	2	12520			
1/8	3/8	1 1/2	1/8	2			12530	
5/32	5/16	2	3/16	2	15620			
5/32	9/16	2	3/16	2			15636	
3/16	5/16	2	3/16	2	18817			
3/16	9/16	2	3/16	2			18830	
7/32	3/8	2	1/4	2	21917			
1/4	3/8	2	1/4	2	25015			
1/4	3/4	2 1/2	1/4	2			25030	
1/4	1 1/4	3 1/2	1/4	2				25050
5/16	13/16	2 1/2	5/16	2	31326			
5/16	1 1/4	4	5/16	2			31340	
5/16	2 1/8	4	5/16	2				31368
11/32	1	2 1/2	3/8	2	34429			
3/8	1/2	2 1/2	3/8	2	37513			
3/8	1	2 1/2	3/8	2		37527		
3/8	1 1/2	4	3/8	2			37540	
3/8	2 1/2	6	3/8	2				37567
1/2	5/8	2 1/2	1/2	2	50013			
1/2	1 1/4	3	1/2	2			50025	
1/2	2	4	1/2	2		50040		
1/2	3	6	1/2	2				50060
5/8	1 5/8	3 1/2	5/8	2			62526	
3/4	1	4	3/4	2	75013			
3/4	1 5/8	4	3/4	2		75022		
3/4	3	6	3/4	2			75040	
3/4	4	7	3/4	2				75053
1	2	5	1	2			99920	
1	3	6	1	2				99930

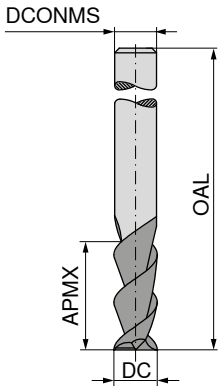
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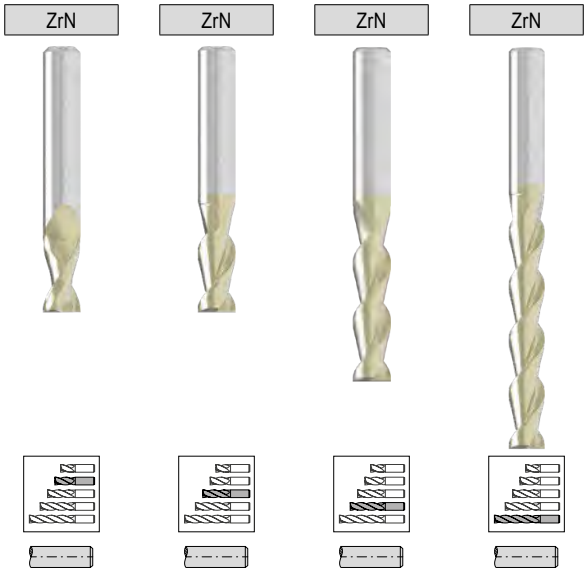
→ Find the cutting data standard values here.

CoreLine – End mill – AL

S142 AL λ_s=40° γ_s=12°







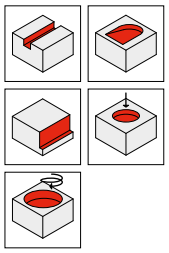
DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 054 ...	*PA* 59 054 ...	*PA* 59 054 ...	*PA* 59 054 ...
1/8	1/4	1 1/2	1/8	2	**12520**			
1/8	3/8	1 1/2	1/8	2			**12530**	
5/32	5/16	2	3/16	2	**15620**			
5/32	9/16	2	3/16	2			**15636**	
3/16	5/16	2	3/16	2	**18817**			
3/16	9/16	2	3/16	2			**18830**	
7/32	3/8	2	1/4	2	**21917**			
1/4	3/8	2	1/4	2	**25015**			
1/4	3/4	2 1/2	1/4	2			**25030**	
1/4	1 1/4	3 1/2	1/4	2				**25050**
5/16	13/16	2 1/2	5/16	2	**31326**			
5/16	1 1/4	4	5/16	2			**31340**	
5/16	2 1/8	4	5/16	2				**31368**
11/32	1	2 1/2	3/8	2	**34429**			
3/8	1/2	2 1/2	3/8	2	**37513**			
3/8	1	2 1/2	3/8	2		**37527**		
3/8	1 1/2	4	3/8	2			**37540**	
3/8	2 1/2	6	3/8	2				**37567**
1/2	5/8	2 1/2	1/2	2	**50013**			
1/2	1 1/4	3	1/2	2		**50025**		
1/2	2	4	1/2	2			**50040**	
1/2	3	6	1/2	2				**50060**
5/8	1 5/8	3 1/2	5/8	2			**62526**	
3/4	1	4	3/4	2	**75013**			
3/4	1 5/8	4	3/4	2		**75022**		
3/4	3	6	3/4	2			**75040**	
3/4	4	7	3/4	2				**75053**
1	2	5	1	2			**99920**	
1	3	6	1	2				**99930**

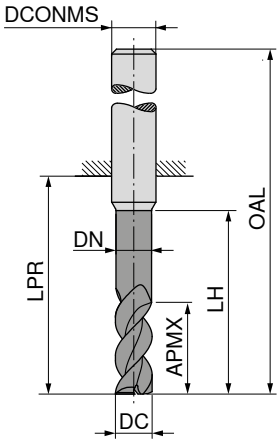
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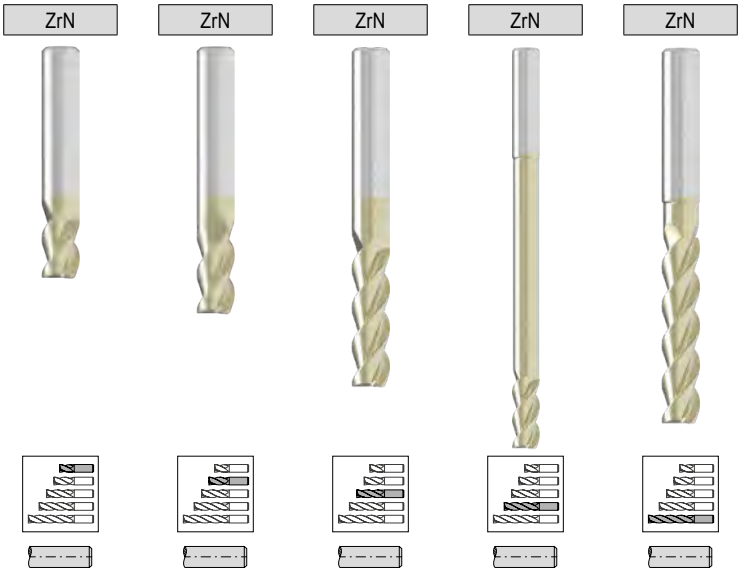
→ Find the cutting data standard values here.

CoreLine – End mill – AL

P109 | AL | λ_s=40° γ_s=15°







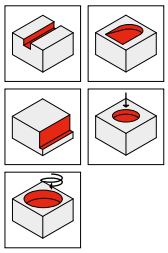
DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	*PA* 59 027 ...	*PA* 59 027 ...	*PA* 59 027 ...	*PA* 59 027 ...	*PA* 59 027 ...
1/8	1/4	1 1/2	1/8	3		12520			
1/8	1/2	1 1/2	1/8	3				12540	
5/32	3/8	2	3/16	3		15624			
5/32	1/2	2	3/16	3				15632	
3/16	3/8	2	3/16	3		18820			
3/16	5/8	2	3/16	3				18833	
7/32	3/8	2	1/4	3		21917			
7/32	3/4	2 1/2	1/4	3				21934	
1/4	3/8	2	1/4	3	25015				
1/4	3/4	2 1/2	1/4	3		25030			
1/4	3/4	4	1/4	3				25130	
1/4	1 1/4	3	1/4	3			25050		
1/4	1 1/2	3 1/2	1/4	3					25060
9/32	1/2	2 1/2	5/16	3		28118			
9/32	3/4	2 1/2	5/16	3				28127	
5/16	1/2	2 1/2	5/16	3		31316			
5/16	3/4	2 1/2	5/16	3				31324	
3/8	5/8	2	3/8	3	37517				
3/8	7/8	2 1/2	3/8	3		37523			
3/8	1	6	3/8	3				37527	
3/8	1 1/2	3 1/2	3/8	3			37540		
3/8	2	4	3/8	3					37553
7/16	1	2 3/4	7/16	3		43823			
1/2	5/8	2 1/2	1/2	3		50013			
1/2	1 1/4	3	1/2	3				50025	
1/2	1 1/2	3 1/2	1/2	3			50030		
1/2	2	4	1/2	3					50040
9/16	1 1/4	3 1/2	9/16	3				56322	
5/8	7/8	3	5/8	3		62514			
5/8	1 1/4	3 1/2	5/8	3				62520	
5/8	1 3/4	4	5/8	3			62528		
5/8	2 1/2	5	5/8	3					62540
3/4	1	3	3/4	3		75013			
3/4	1 5/8	4	3/4	3				75022	
3/4	2 1/2	5	3/4	3			75033		
3/4	3 1/4	6	3/4	3					75043
1	1 3/4	4	1	3				99918	
1	2 3/4	5	1	3			99928		
1	3 3/8	6	1	3					99934
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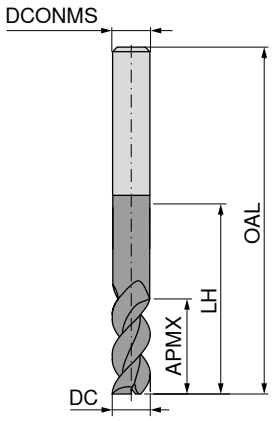
→ Find the cutting data standard values here.

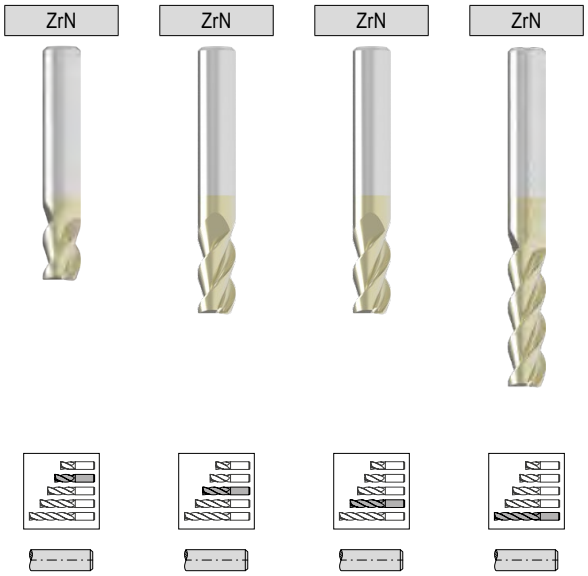
AluLine – End mill – AL

End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

P362 | AL | α β ≠ | λ_s var. | λ_s=43° 45° 48° γ_s=13° | HPC







DC +0.000/-0.002 inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
3/16		3/8	2	3/16	3	18820			
3/16	0.025	3/8	2	3/16	3			18920	
3/16		3/4	2 1/2	3/16	3			18840	
3/16		1	3	3/16	3				18853
1/4	0.030	3/8	2 1/2	1/4	3			25115	
1/4	0.044	3/8	3	1/4	3				25215
1/4	0.084	3/8	4	1/4	3				25315
1/4		3/8	2	1/4	3	25015			
1/4		3/4	2 1/2	1/4	3			25030	
1/4		1	3	1/4	3				25040
5/16	0.044	7/16	2 1/2	5/16	3			31414	
5/16		7/16	2 1/2	5/16	3	31314			
5/16	0.084	7/16	4	5/16	3				31514
3/8	0.044	1/2	3	3/8	3				37613
3/8	0.086	1/2	4	3/8	3				37713
3/8		1/2	2	3/8	3	37513			
3/8		1	2 1/2	3/8	3			37527	
3/8		1 1/2	3 1/2	3/8	3				37540
1/2	0.059	5/8	3	1/2	3				50113
1/2	0.089	5/8	4	1/2	3				50213
1/2	0.133	5/8	5	1/2	3				50313
1/2		5/8	2 1/2	1/2	3	50013			
1/2	0.157	5/8	6	1/2	3				50413
1/2		1	3	1/2	3		50020		
1/2		1 1/4	3	1/2	3			50025	
1/2		1 5/8	4	1/2	3				50033
1/2		2	4	1/2	3				50040
5/8	0.064	3/4	4	5/8	3				62612
5/8	0.094	3/4	6	5/8	3				62712
5/8		3/4	3	5/8	3	62512			
5/8		1 1/4	3 1/2	5/8	3		62520		
5/8		1 5/8	4	5/8	3			62526	
3/4		1	3	3/4	3	75013			
3/4	0.079	1	4	3/4	3				75113
3/4	0.103	1	6	3/4	3				75213
3/4		1 5/8	4	3/4	3			75022	
3/4		2 1/4	5	3/4	3				75030
1		1 1/4	4	1	3	99913			

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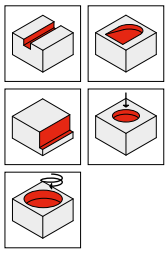
→ Find the cutting data standard values here.

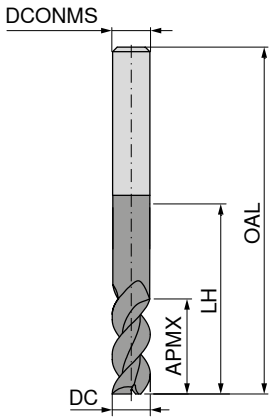
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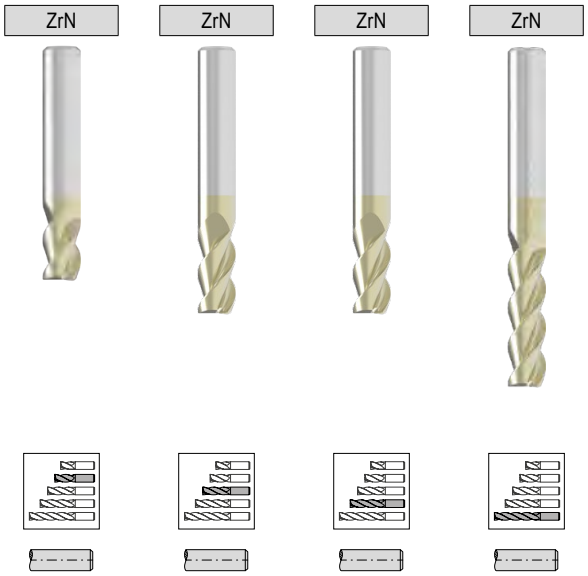
AluLine – End mill – AL

End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

P362 | AL | α β ≠ | λ_s var. | λ_s=43° 45° 48° γ_s=13° | HPC







DC +0.000/-0.002 inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
1	0.103	1 1/4	5	1	3				99927
1	0.148	1 1/4	7	1	3				99940
1		2	5	1	3			99920	
1		3 1/4	6	1	3				99933

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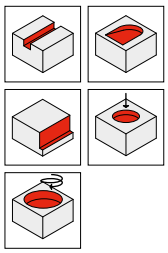
→ Find the cutting data standard values here.

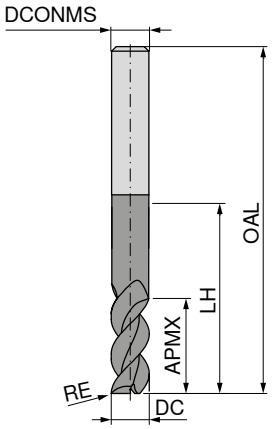
AluLine – End mills with corner radius – AL

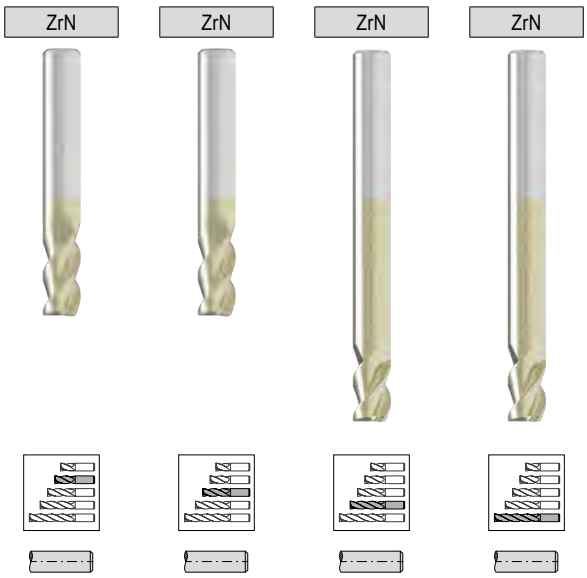
End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P362 AL α β ≠ λ_s var. λ_s=43° 45° 48° γ_s=13° HPC







DC +0.000/-0.002 inch	RE inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
3/16	0.010	0.625	3/8	2	3/16	3			92120	
3/16	0.015		3/8	2	3/16	3	90020			
3/16	0.030		3/8	2	3/16	3	90120			
3/16	0.015		3/4	2 1/2	3/16	3			90040	
3/16	0.030		3/4	2 1/2	3/16	3			90140	
3/16	0.015		1	3	3/16	3				90053
3/16	0.030		1	3	3/16	3				90153
1/4	0.010	0.750	3/8	2 1/2	1/4	3			92115	
1/4	0.010	1.125	3/8	3	1/4	3			92315	
1/4	0.010	2.125	3/8	4	1/4	3				92515
1/4	0.015		3/8	2	1/4	3	90015			
1/4	0.030		3/8	2	1/4	3	90115			
1/4	0.030	0.750	3/8	2 1/2	1/4	3			92215	
1/4	0.030	1.125	3/8	3	1/4	3			92415	
1/4	0.030	2.125	3/8	4	1/4	3				92615
1/4	0.060		3/8	2	1/4	3	90215			
1/4	0.015		3/4	2 1/2	1/4	3			90030	
1/4	0.030		3/4	2 1/2	1/4	3			90130	
1/4	0.060		3/4	2 1/2	1/4	3			90230	
1/4	0.015		1	3	1/4	3				90240
1/4	0.030		1	3	1/4	3				90340
1/4	0.060		1	3	1/4	3				90440
5/16	0.010		7/16	2 1/2	5/16	3	92114			
5/16	0.010	1.125	7/16	2 1/2	5/16	3			92314	
5/16	0.010	2.125	7/16	4	5/16	3				92514
5/16	0.030	1.125	7/16	2 1/2	5/16	3			92414	
5/16	0.030		7/16	2 1/2	5/16	3	92214			
5/16	0.030	2.125	7/16	4	5/16	3				92614
3/8	0.010		1/2	2	3/8	3	92113			
3/8	0.010	1.125	1/2	3	3/8	3			92213	
3/8	0.010	2.188	1/2	4	3/8	3				92513
3/8	0.015		1/2	2	3/8	3	90013			
3/8	0.030		1/2	2	3/8	3	90113			
3/8	0.030	1.125	1/2	3	3/8	3			92313	

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→ Find the cutting data standard values here.

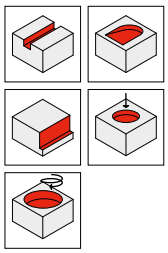
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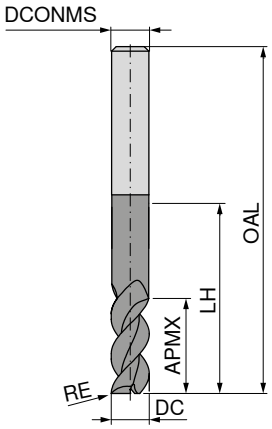
AluLine – End mills with corner radius – AL

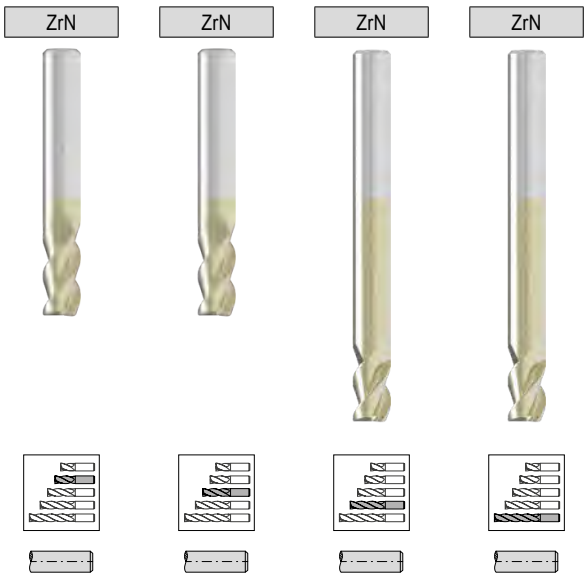
End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P362 AL α β ≠ λ_s var. λ_s=43° 45° 48° γ_s=13° HPC







DC +0.000/-0.002 inch	RE inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
3/8	0.030	2.188	1/2	4	3/8	3				92613
3/8	0.060		1/2	2	3/8	3	90213			
3/8	0.060	1.125	1/2	3	3/8	3			92413	
3/8	0.060	2.188	1/2	4	3/8	3				92713
3/8	0.090		1/2	2	3/8	3	90313			
3/8	0.015		1	2 1/2	3/8	3	90027			
3/8	0.030		1	2 1/2	3/8	3	90127			
3/8	0.060		1	2 1/2	3/8	3	90227			
3/8	0.090		1	2 1/2	3/8	3	90327			
3/8	0.010		1	2 1/2	3/8	3			92127	
3/8	0.015		1 1/2	3 1/2	3/8	3				90540
3/8	0.030		1 1/2	3 1/2	3/8	3				90640
3/8	0.060		1 1/2	3 1/2	3/8	3				90740
3/8	0.090		1 1/2	3 1/2	3/8	3				90840
3/8	0.010		1 1/2	3 1/2	3/8	3				92140
1/2	0.010	3.375	5/8	5	1/2	3				93613
1/2	0.015		5/8	2 1/2	1/2	3	90413			
1/2	0.030		5/8	2 1/2	1/2	3	90513			
1/2	0.030	1.500	5/8	3	1/2	3				92813
1/2	0.030	2.250	5/8	4	1/2	3				93213
1/2	0.030	3.375	5/8	5	1/2	3				93713
1/2	0.030	4.000	5/8	6	1/2	3				94113
1/2	0.060		5/8	2 1/2	1/2	3	90613			
1/2	0.060	1.500	5/8	3	1/2	3				92913
1/2	0.060	2.250	5/8	4	1/2	3				93313
1/2	0.060	3.375	5/8	5	1/2	3				93813
1/2	0.060	4.000	5/8	6	1/2	3				94213
1/2	0.090		5/8	2 1/2	1/2	3	90713			
1/2	0.090	1.500	5/8	3	1/2	3				93013
1/2	0.090	2.250	5/8	4	1/2	3				93413
1/2	0.090	3.375	5/8	5	1/2	3				93913
1/2	0.090	4.000	5/8	6	1/2	3				94313
1/2	0.120	1.500	5/8	3	1/2	3				93113
1/2	0.120	2.250	5/8	4	1/2	3				93513

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→ Find the cutting data standard values here.

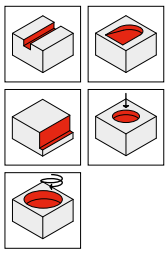
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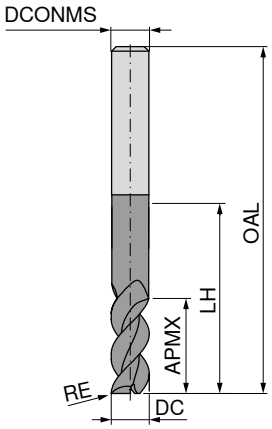
AluLine – End mills with corner radius – AL

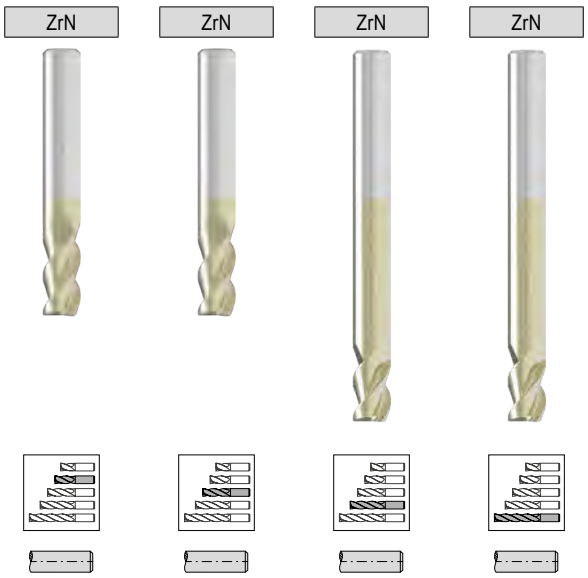
End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P362 AL α β ≠ λ_s var. λ_s=43° 45° 48° γ_s=13° HPC







DC +0.000/-0.002 inch	RE inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
1/2	0.120	3.375	5/8	5	1/2	3				94013
1/2	0.120	4.000	5/8	6	1/2	3				94413
1/2	0.125		5/8	2 1/2	1/2	3	90813			
1/2	0.015		1	3	1/2	3		90220		
1/2	0.030		1	3	1/2	3		90320		
1/2	0.060		1	3	1/2	3		90420		
1/2	0.090		1	3	1/2	3		90520		
1/2	0.125		1	3	1/2	3		90620		
1/2	0.015		1 1/4	3	1/2	3			90025	
1/2	0.030		1 1/4	3	1/2	3			90125	
1/2	0.060		1 1/4	3	1/2	3			90225	
1/2	0.090		1 1/4	3	1/2	3			90325	
1/2	0.125		1 1/4	3	1/2	3			90425	
1/2	0.015		1 5/8	4	1/2	3				90033
1/2	0.030		1 5/8	4	1/2	3				90133
1/2	0.060		1 5/8	4	1/2	3				90233
1/2	0.090		1 5/8	4	1/2	3				90333
1/2	0.125		1 5/8	4	1/2	3				90433
1/2	0.015		2	4	1/2	3				90940
1/2	0.030		2	4	1/2	3				91040
1/2	0.060		2	4	1/2	3				91140
1/2	0.090		2	4	1/2	3				91240
1/2	0.125		2	4	1/2	3				91340
5/8	0.030		3/4	3	5/8	3	90012			
5/8	0.060		3/4	3	5/8	3	90112			
5/8	0.060	1.625	3/4	4	5/8	3				92112
5/8	0.060	2.375	3/4	6	5/8	3				92512
5/8	0.090		3/4	3	5/8	3	90212			
5/8	0.090	1.625	3/4	4	5/8	3				92212
5/8	0.090	2.375	3/4	6	5/8	3				92612
5/8	0.120	1.625	3/4	4	5/8	3				92312
5/8	0.120	2.375	3/4	6	5/8	3				92712
5/8	0.125		3/4	3	5/8	3	90312			
5/8	0.190	1.625	3/4	4	5/8	3				92412

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→ Find the cutting data standard values here.

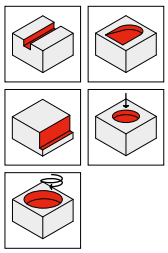
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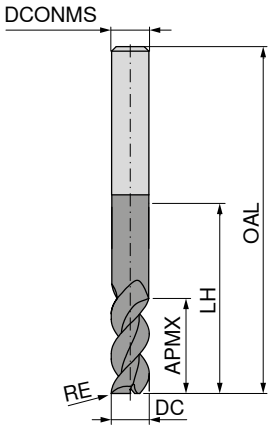
AluLine – End mills with corner radius – AL

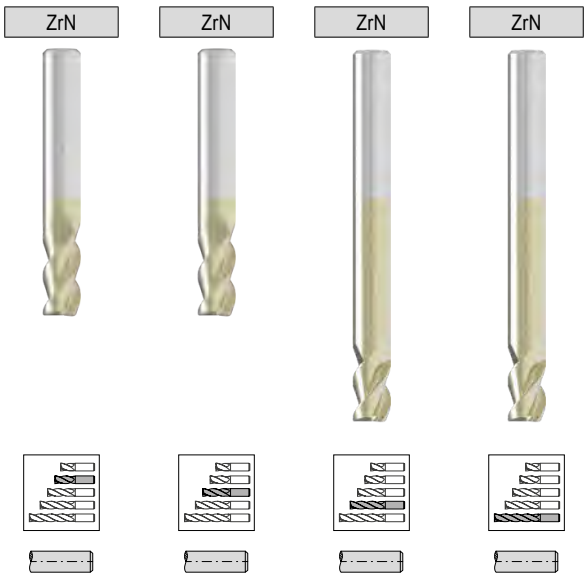
End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P362 AL α β ≠ λ_s var. λ_s=43° 45° 48° γ_s=13° HPC







DC +0.000/-0.002 inch	RE inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
5/8	0.190	2.375	3/4	6	5/8	3				92812
5/8	0.030		1 1/4	3 1/2	5/8	3		90720		
5/8	0.060		1 1/4	3 1/2	5/8	3		90820		
5/8	0.090		1 1/4	3 1/2	5/8	3		90920		
5/8	0.125		1 1/4	3 1/2	5/8	3		91020		
5/8	0.030		1 5/8	4	5/8	3			90026	
5/8	0.060		1 5/8	4	5/8	3			90126	
5/8	0.090		1 5/8	4	5/8	3			90226	
5/8	0.125		1 5/8	4	5/8	3			90326	
3/4	0.030		1	3	3/4	3	90913			
3/4	0.060		1	3	3/4	3	91013			
3/4	0.090		1	3	3/4	3	91113			
3/4	0.125		1	3	3/4	3	91213			
3/4	0.190		1	3	3/4	3	91313			
3/4	0.250		1	3	3/4	3	91413			
3/4	0.060	2.000	1	4	3/4	3				94513
3/4	0.060	2.625	1	6	3/4	3				94913
3/4	0.090	2.000	1	4	3/4	3				94613
3/4	0.090	2.625	1	6	3/4	3				95013
3/4	0.120	2.000	1	4	3/4	3				94713
3/4	0.120	2.625	1	6	3/4	3				95113
3/4	0.190	2.000	1	4	3/4	3				94813
3/4	0.190	2.625	1	6	3/4	3				95213
3/4	0.030		1 5/8	4	3/4	3			90022	
3/4	0.060		1 5/8	4	3/4	3			90122	
3/4	0.090		1 5/8	4	3/4	3			90222	
3/4	0.125		1 5/8	4	3/4	3			90322	
3/4	0.190		1 5/8	4	3/4	3			90422	
3/4	0.250		1 5/8	4	3/4	3			90522	
3/4	0.030		2 1/4	5	3/4	3				90330
3/4	0.060		2 1/4	5	3/4	3				90430
3/4	0.090		2 1/4	5	3/4	3				90530
3/4	0.125		2 1/4	5	3/4	3				90630
3/4	0.190		2 1/4	5	3/4	3				90730

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→ Find the cutting data standard values here.

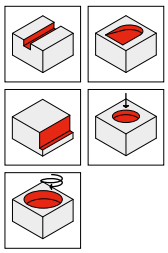
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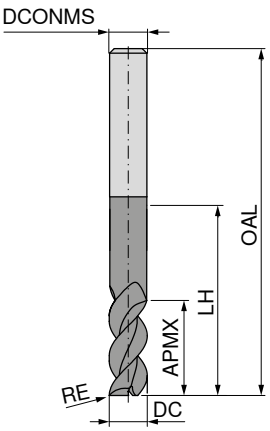
AluLine – End mills with corner radius – AL

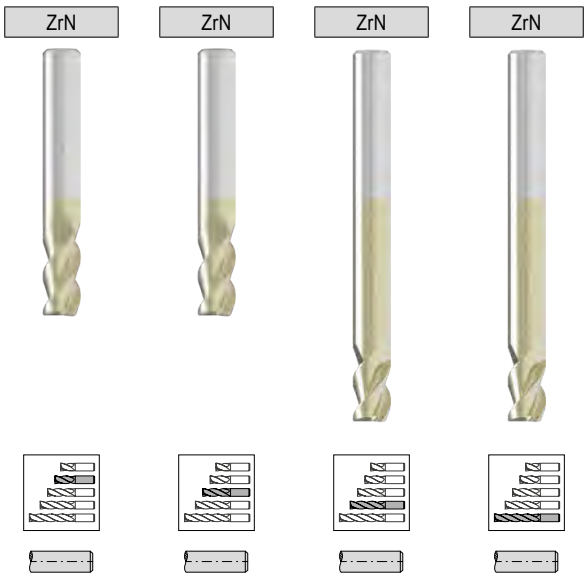
End mills ideal for machining aluminum and non-ferrous metals. The US inch version offers a ZrN coating reduced drag and aids in chip control.

▲ Radius accuracy: +/- 0.001 for Ø ≤ 0.060
+/- 0.0015 for Ø > 0.060

P362 AL λ_s var. λ_s=43° 45° 48° γ_s=13° HPC







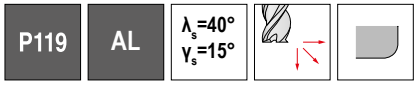
DC +0.000/-0.002 inch	RE inch	LH inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...	SA 59 004 ...
3/4	0.250		2 1/4	5	3/4	3				90830
1	0.030		1 1/4	4	1	3	91513			
1	0.060		1 1/4	4	1	3	91613			
1	0.090		1 1/4	4	1	3	91713			
1	0.125		1 1/4	4	1	3	91813			
1	0.190		1 1/4	4	1	3	91913			
1	0.250		1 1/4	4	1	3	92013			
1	0.060	2.625	1 1/4	5	1	3				99915
1	0.060	3.750	1 1/4	7	1	3				99939
1	0.090	2.625	1 1/4	5	1	3				99926
1	0.090	3.750	1 1/4	7	1	3				99923
1	0.120	2.625	1 1/4	5	1	3				99930
1	0.120	3.750	1 1/4	7	1	3				99938
1	0.190	2.625	1 1/4	5	1	3				99948
1	0.190	3.750	1 1/4	7	1	3				99949
1	0.030		2	5	1	3		91120		
1	0.060		2	5	1	3		91220		
1	0.090		2	5	1	3		91320		
1	0.125		2	5	1	3		91420		
1	0.190		2	5	1	3		91520		
1	0.250		2	5	1	3		91620		
1	0.030		3 1/4	6	1	3				90533
1	0.060		3 1/4	6	1	3				90633
1	0.090		3 1/4	6	1	3				90733
1	0.125		3 1/4	6	1	3				90833
1	0.190		3 1/4	6	1	3				90933
1	0.250		3 1/4	6	1	3				91033

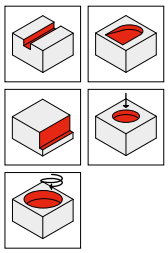
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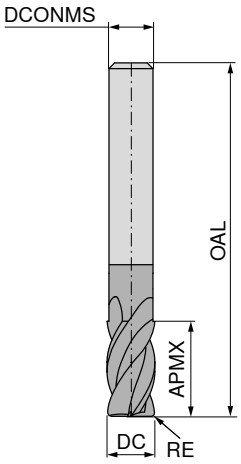
→ Find the cutting data standard values here.

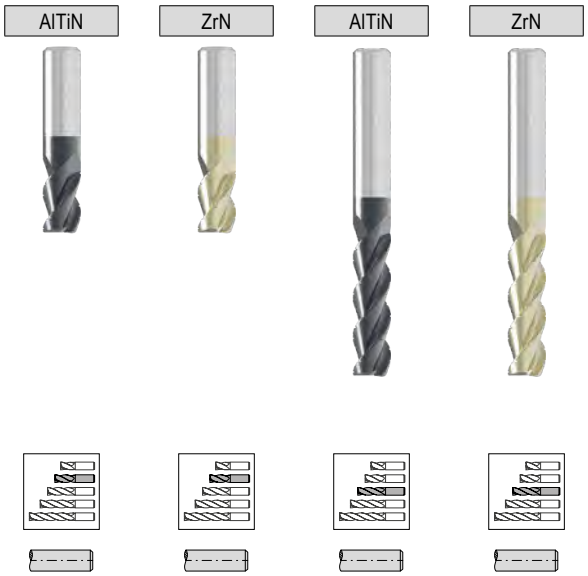
CoreLine – End mills with corner radius – AL

▲ With chip breaker









DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 029 ...	SM 59 030 ...	SM 59 029 ...	SM 59 030 ...
1/8	0.010	1/4	1 1/2	1/8	3	**12520**	**12520**		
5/32	0.010	3/8	2	3/16	3	**15624**	**15624**		
3/16	0.010	3/8	2	3/16	3	**18820**	**18820**		
7/32	0.020	3/8	2	1/4	3	**21917**	**21917**		
1/4	0.020	3/8	2	1/4	3	**25015**	**25015**		
1/4	0.020	1 1/4	3	1/4	3			**25050**	**25050**
9/32	0.020	1/2	2 1/2	5/16	3	**28118**	**28118**		
5/16	0.020	1/2	2 1/2	5/16	3	**31316**	**31316**		
11/32	0.020	5/8	2	3/8	3	**34418**	**34418**		
3/8	0.020	5/8	2	3/8	3	**37517**	**37517**		
3/8	0.020	1 1/2	3 1/2	3/8	3			**37540**	**37540**
7/16	0.020	1	2 3/4	7/16	3	**43823**	**43823**		
1/2	0.020	5/8	2 1/2	1/2	3	**50013**	**50013**		
1/2	0.020	1 1/2	3 1/2	1/2	3			**50030**	**50030**
5/8	0.030	7/8	3	5/8	3	**62514**	**62514**		
5/8	0.030	1 3/4	4	5/8	3			**62528**	**62528**
3/4	0.030	1	3	3/4	3	**75013**	**75013**		
3/4	0.030	2 1/2	5	3/4	3			**75033**	**75033**
1	0.030	2 3/4	5	1	3			**99928**	**99928**

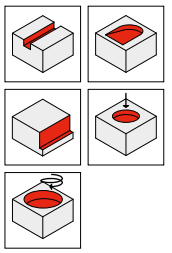
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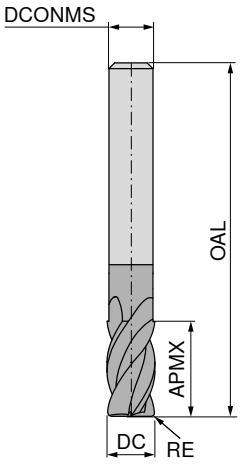
→ Find the cutting data standard values here.

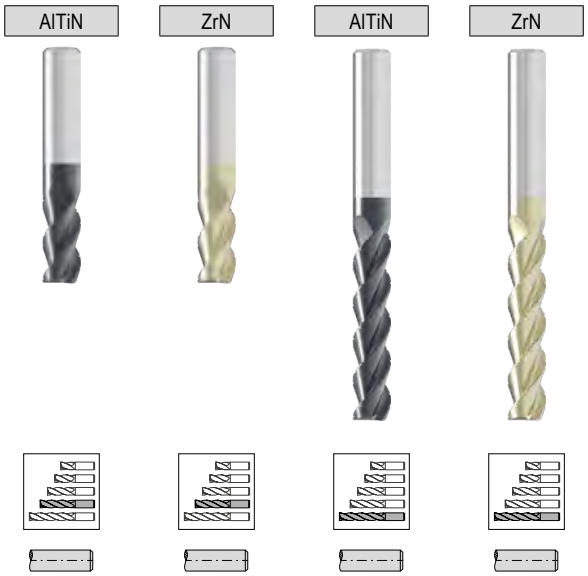
CoreLine – End mills with corner radius – AL

▲ With chip breaker

P119 AL λ_s=40° γ_s=15°







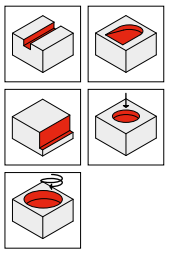
DC +0.000/-0.002 inch	RE ±0.001 inch	APMX inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 029 ...	SM 59 030 ...	SM 59 029 ...	SM 59 030 ...
1/8	0.010	1/2	1 1/2	1/8	3	12540	12540		
5/32	0.010	1/2	2	3/16	3	15632	15632		
3/16	0.010	5/8	2	3/16	3	18833	18833		
7/32	0.020	3/4	2 1/2	1/4	3	21934	21934		
1/4	0.020	3/4	2 1/2	1/4	3	25030	25030		
1/4	0.020	1 1/2	3 1/2	1/4	3			25060	25060
9/32	0.020	3/4	2 1/2	5/16	3	28127	28127		
5/16	0.020	3/4	2 1/2	5/16	3	31324	31324		
11/32	0.020	7/8	2 1/2	3/8	3	34425	34425		
3/8	0.020	7/8	2 1/2	3/8	3	37523	37523		
3/8	0.020	2	4	3/8	3			37553	37553
1/2	0.020	1 1/4	3	1/2	3	50025	50025		
1/2	0.020	2	4	1/2	3			50040	50040
9/16	0.030	1 1/4	3 1/2	9/16	3	56322	56322		
5/8	0.030	1 1/4	3 1/2	5/8	3	62520	62520		
5/8	0.030	2 1/2	5	5/8	3			62540	62540
3/4	0.030	1 5/8	4	3/4	3	75022	75022		
3/4	0.030	3 1/4	6	3/4	3			75043	75043
1	0.030	1 3/4	4	1	3	99918	99918		
1	0.030	3 3/8	6	1	3			99934	99934
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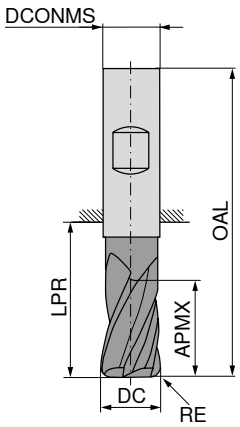
→ Find the cutting data standard values here.

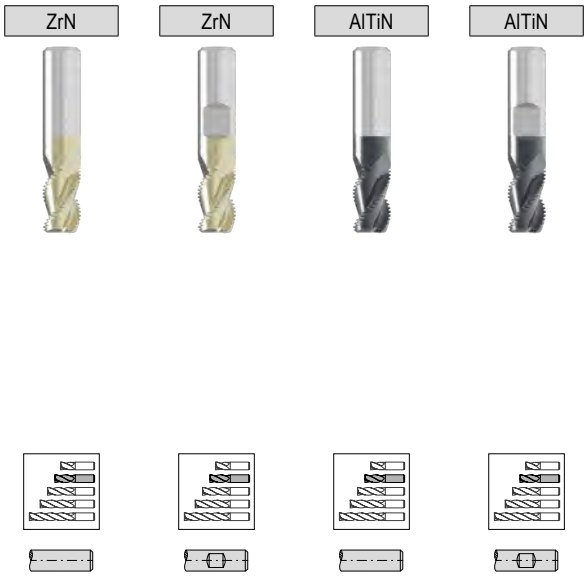
CoreLine – End mills with corner radius – AL

▲ with coarse pitch profile

P102 AL λ_s=40° γ_s=5°







DC +0.000/-0.002 inch	RE +/-0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 023 ...	SM 59 024 ...	SM 59 025 ...	SM 59 026 ...
3/16	0.030	3/8	0.898	2	3/16	3	**18820**		**18820**	
1/4	0.045	3/8	0.583	2	1/4	3	**25015**		**25015**	
5/16	0.045	1/2	0.583	2	5/16	3	**31316**		**31316**	
3/8	0.060	5/8	0.825	2	3/8	3		**37517**		**37517**
7/16	0.060	1	1.165	2 3/4	7/16	3		**43823**		**43823**
1/2	0.060	5/8	0.735	2 1/2	1/2	3		**50013**		**50013**

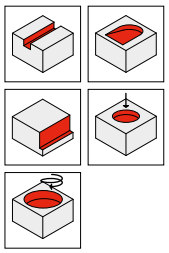
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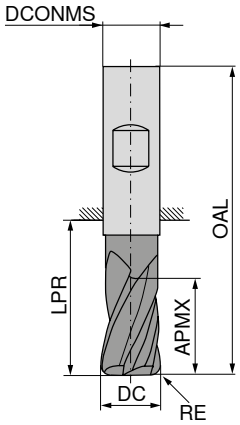
→ Find the cutting data standard values here.

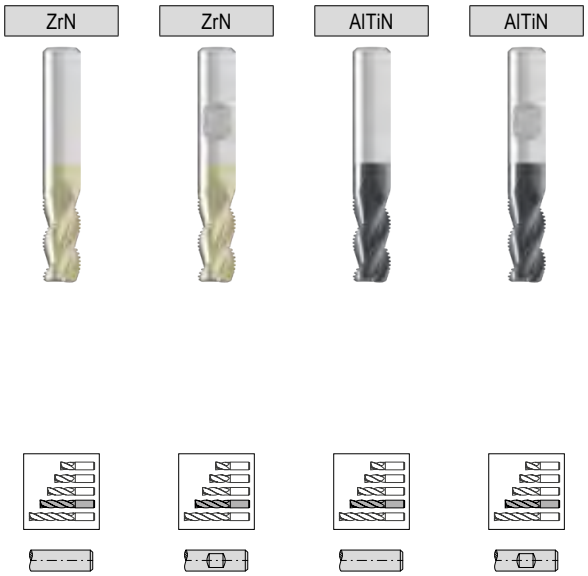
CoreLine – End mills with corner radius – AL

▲ with coarse pitch profile

P102 AL λ_s=40° γ_s=5°







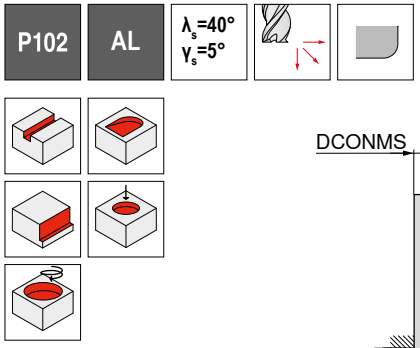
DC +0.000/-0.002 inch	RE +/-0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 023 ...	SM 59 024 ...	SM 59 025 ...	SM 59 026 ...
3/16	0.030	5/8	0.898	2	3/16	3	**18833**		**18833**	
1/4	0.045	3/4	1.083	2 1/2	1/4	3	**25030**		**25030**	
5/16	0.045	3/4	1.083	2 1/2	5/16	3	**31324**		**31324**	
3/8	0.060	7/8	0.960	2 1/2	3/8	3		**37523**		**37523**
1/2	0.060	1 1/4	1.425	3	1/2	3		**50025**		**50025**
9/16	0.060	1 1/4	1.675	3 1/2	9/16	3		**56322**		**56322**
5/8	0.060	1 1/4	1.613	3 1/2	5/8	3		**62520**		**62520**
3/4	0.060	1 5/8	1.978	4	3/4	3		**75022**		**75022**
1	0.060	1 3/4	1.795	4	1	3		**99918**		**99918**

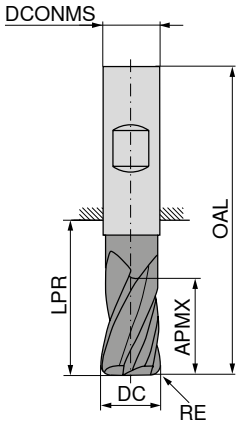
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→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – AL

▲ with coarse pitch profile







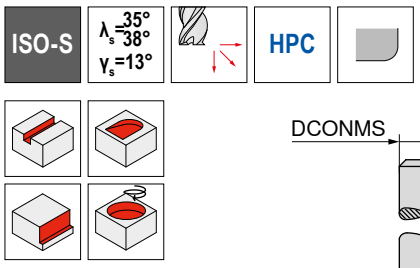
DC +0.000/-0.002 inch	RE +/-0.001 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001 / -0.0004 inch	ZEFP	SM 59 024 ...	SM 59 026 ...
1/2	0.060	1 1/2	1.735	3 1/2	1/2	3	**50030**	**50030**
3/4	0.060	2 1/4	2.978	5	3/4	3	**75030**	**75030**
1	0.060	2 5/8	2.795	5	1	3	**99926**	**99926**

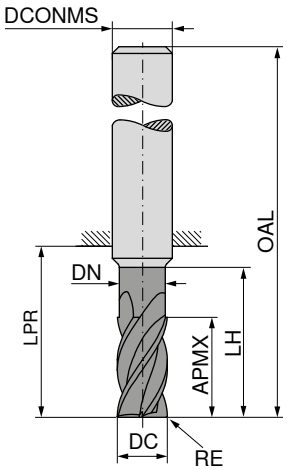
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→ Find the cutting data standard values here.

MonsterMill – End mills with corner radius – ISO-S

The specialist for machining ISO-S materials









DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	Factory standard NEW SA 53 034 ...	Factory standard NEW SA 53 035 ...	Factory standard NEW SA 53 036 ...
3	0.2	8.0	2.8	13	21	57	6	4	03002	03002	
3	0.5	8.0	2.8	13	21	57	6	4	03005	03005	
4	0.1	11.0	3.8	17	21	57	6	4	04001	04001	
4	0.1	8.5	3.8	20	26	62	6	4			04001
4	0.2	11.0	3.8	17	21	57	6	4	04002	04002	
4	0.2	8.5	3.8	20	26	62	6	4			04002
4	0.4	11.0	3.8	17	21	57	6	4	04004	04004	
4	0.5	11.0	3.8	17	21	57	6	4	04005	04005	
4	0.5	8.5	3.8	20	26	62	6	4			04005
5	0.1	13.0	4.8	19	21	57	6	4	05001	05001	
5	0.1	10.5	4.8	25	34	70	6	4			05001
5	0.2	13.0	4.8	19	21	57	6	4	05002	05002	
5	0.5	13.0	4.8	19	21	57	6	4	05005	05005	
5	1.0	13.0	4.8	19	21	57	6	4	05010	05010	
5	1.0	10.5	4.8	25	34	70	6	4			05010
6	0.1	13.0	5.8	19	21	57	6	4	06001	06001	
6	0.1	13.0	5.8	30	34	70	6	4			06001
6	0.2	13.0	5.8	19	21	57	6	4	06002	06002	
6	0.4	13.0	5.8	19	21	57	6	4	06004	06004	
6	0.5	13.0	5.8	19	21	57	6	4	06005	06005	
6	0.5	13.0	5.8	30	34	70	6	4			06005
6	0.8	13.0	5.8	19	21	57	6	4	06008	06008	
6	1.0	13.0	5.8	19	21	57	6	4	06010	06010	
6	1.0	13.0	5.8	30	34	70	6	4			06010
6	1.5	13.0	5.8	19	21	57	6	4	06015	06015	
6	1.5	13.0	5.8	30	34	70	6	4			06015
8	0.2	21.0	7.7	25	27	63	8	4	08002	08002	
8	0.2	17.0	7.7	40	44	80	8	4			08002
8	0.5	21.0	7.7	25	27	63	8	4	08005	08005	
8	0.5	17.0	7.7	40	44	80	8	4			08005
8	0.8	21.0	7.7	25	27	63	8	4	08008	08008	
8	1.0	21.0	7.7	25	27	63	8	4	08010	08010	
8	1.0	17.0	7.7	40	44	80	8	4			08010
8	1.5	21.0	7.7	25	27	63	8	4	08015	08015	

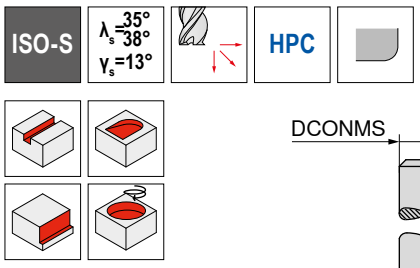
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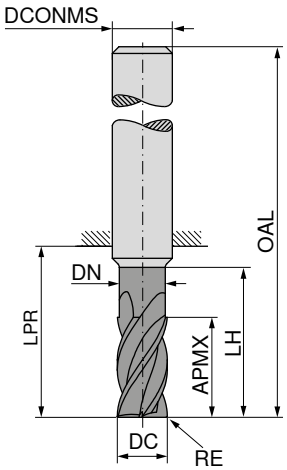
→ Find the cutting data standard values here.

Continued on next page

MonsterMill – End mills with corner radius – ISO-S

The specialist for machining ISO-S materials









Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA

DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 034 ...	53 035 ...	53 036 ...
8	1.5	17.0	7.7	40	44	80	8	4			08015
8	2.0	21.0	7.7	25	27	63	8	4	08020	08020	
8	2.0	17.0	9.7	40	44	80	8	4			08020
10	0.2	22.0	9.7	30	32	72	10	4	10002	10002	
10	0.2	21.0	9.7	50	54	94	10	4			10002
10	0.5	22.0	9.7	30	32	72	10	4	10005	10005	
10	0.5	21.0	9.7	50	54	94	10	4			10005
10	1.0	22.0	9.7	30	32	72	10	4	10010	10010	
10	1.0	21.0	9.7	50	54	94	10	4			10010
10	1.2	21.0	9.7	50	54	94	10	4			10012
10	1.5	21.0	9.7	50	54	94	10	4			10015
10	1.5	22.0	9.7	30	32	72	10	4	10015	10015	
10	2.0	21.0	9.7	50	54	94	10	4			10020
10	2.0	22.0	9.7	30	32	72	10	4	10020	10020	
12	0.2	26.0	11.6	36	38	83	12	4	12002	12002	
12	0.2	25.0	11.6	60	65	110	12	4			12002
12	0.5	26.0	11.6	36	38	83	12	4	12005	12005	
12	0.5	25.0	11.6	60	65	110	12	4			12005
12	1.0	26.0	11.6	36	38	83	12	4	12010	12010	
12	1.0	25.0	11.6	60	65	110	12	4			12010
12	1.2	26.0	11.6	36	38	83	12	4	12012	12012	
12	1.5	26.0	11.6	36	38	83	12	4	12015	12015	
12	1.5	25.0	11.6	60	65	110	12	4			12015
12	2.0	26.0	11.6	36	38	83	12	4	12020	12020	
12	2.0	25.0	11.6	60	65	110	12	4			12020
12	2.5	26.0	11.6	36	38	83	12	4	12025	12025	
12	2.5	25.0	11.6	60	65	110	12	4			12025
12	3.0	26.0	11.6	36	38	83	12	4	12030	12030	
12	3.0	25.0	11.6	60	65	110	12	4			12030
16	0.3	36.0	15.5	42	44	92	16	4	16003		
16	0.3	33.0	15.5	80	84	132	16	4			16003
16	1.0	36.0	15.5	42	44	92	16	4	16010		
16	1.0	33.0	15.5	80	84	132	16	4			16010
16	1.5	36.0	15.5	42	44	92	16	4	16015		

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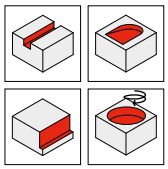
→ Find the cutting data standard values here.

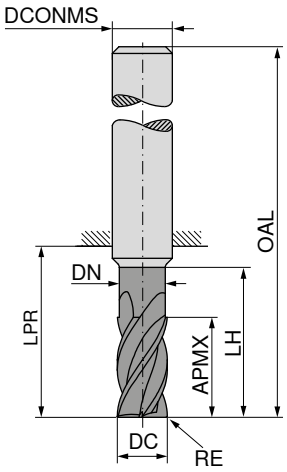
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MonsterMill – End mills with corner radius – ISO-S

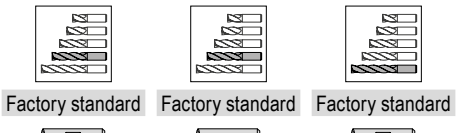
The specialist for machining ISO-S materials

ISO-S | λ_s=35° α_s=38° γ_s=13° | HPC









Factory standard | Factory standard | Factory standard



NEW | NEW | NEW

SA | SA | SA

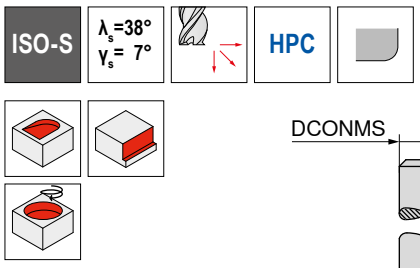
DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 034 ...	53 035 ...	53 036 ...
16	2.0	36.0	15.5	42	44	92	16	4	**16020**		
16	2.5	36.0	15.5	42	44	92	16	4	**16025**		
16	3.0	36.0	15.5	42	44	92	16	4	**16030**		
16	4.0	36.0	15.5	42	44	92	16	4	**16040**		
20	0.3	41.0	19.5	52	54	104	20	4	**20003**		
20	0.3	41.0	19.5	100	104	154	20	4			**20003**
20	1.0	41.0	19.5	52	54	104	20	4	**20010**		
20	1.0	41.0	19.5	100	104	154	20	4			**20010**
20	2.0	41.0	19.5	52	54	104	20	4	**20020**		
20	3.0	41.0	19.5	52	54	104	20	4	**20030**		
20	4.0	41.0	19.5	52	54	104	20	4	**20040**		
20	5.0	41.0	19.5	52	54	104	20	4	**20050**		

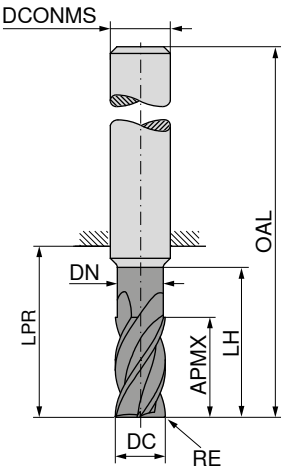
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→ Find the cutting data standard values here.

MonsterMill – End mills with corner radius – ISO-S

The specialist for machining ISO-S materials










Factory standard | Factory standard




NEW | NEW

SA | SA

DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 038 ...	53 037 ...
3	0.2	8	2.8	13	21	57	6	5	03002	03002
4	0.2	11	3.8	17	21	57	6	5	04002	04002
5	0.2	13	4.8	19	21	57	6	5	05002	05002
6	0.1	13	5.8	19	21	57	6	5	06001	06001
6	0.5	13	5.8	19	21	57	6	5	06005	06005
6	1.0	13	5.8	19	21	57	6	5	06010	06010
8	0.2	21	7.7	25	27	63	8	5	08002	08002
8	0.5	21	7.7	25	27	63	8	5	08005	08005
8	0.8	21	7.7	25	27	63	8	5	08008	08008
8	1.0	21	7.7	25	27	63	8	5	08010	08010
8	1.5	21	7.7	25	27	63	8	5	08015	08015
8	2.0	21	7.7	25	27	63	8	5	08020	08020
10	0.2	22	9.7	30	32	72	10	5	10002	10002
10	0.5	22	9.7	30	32	72	10	5	10005	10005
10	1.0	22	9.7	30	32	72	10	5	10010	10010
10	1.5	22	9.7	30	32	72	10	5	10015	10015
10	2.0	22	9.7	30	32	72	10	5	10020	10020
12	0.2	26	11.6	36	38	83	12	5	12002	12002
12	0.5	26	11.6	36	38	83	12	5	12005	12005
12	1.0	26	11.6	36	38	83	12	5	12010	12010
12	1.2	26	11.6	36	38	83	12	5	12012	12012
12	1.5	26	11.6	36	38	83	12	5	12015	12015
12	2.0	26	11.6	36	38	83	12	5	12020	12020
12	2.5	26	11.6	36	38	83	12	5	12025	12025
12	3.0	26	11.6	36	38	83	12	5	12030	12030
16	0.3	36	15.5	42	44	92	16	5	16003	16003
16	1.0	36	15.5	42	44	92	16	5	16010	16010
16	2.5	36	15.5	42	44	92	16	5	16025	16025
16	3.0	36	15.5	42	44	92	16	5	16030	16030

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→ Find the cutting data standard values here.

MonsterMill – Finishing milling cutters with corner radius – ISO-S

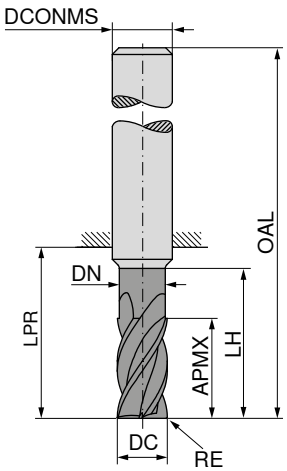
The specialist for machining ISO-S materials

▲ Cutting depth: 3 x DC

ISO-S | λ_s=48° γ_s=49° γ_s=13° | HPC

DPX22S

DRAGONSKIN





Factory standard

NEW

SA

DC h10 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	53 039 ...
6	0.2	19	5.8	25	27	63	6	6	06002
6	0.5	19	5.8	25	27	63	6	6	06005
6	1.0	19	5.8	25	27	63	6	6	06010
8	0.2	25	7.8	33	35	71	8	6	08002
8	0.5	25	7.8	33	35	71	8	6	08005
8	1.0	25	7.8	33	35	71	8	6	08010
10	0.2	31	9.8	41	43	83	10	6	10002
10	0.5	31	9.8	41	43	83	10	6	10005
10	1.0	31	9.8	41	43	83	10	6	10010
12	0.2	37	11.8	47	49	94	12	6	12002
12	0.5	37	11.8	47	49	94	12	6	12005
12	1.0	37	11.8	47	49	94	12	6	12010
16	0.5	49	15.8	61	63	111	16	8	16005
16	1.0	49	15.8	61	63	111	16	8	16010
16	2.0	49	15.8	61	63	111	16	8	16020

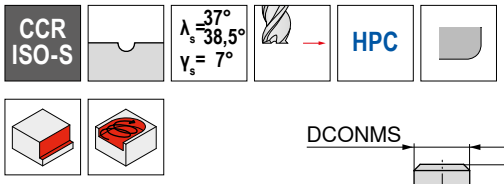
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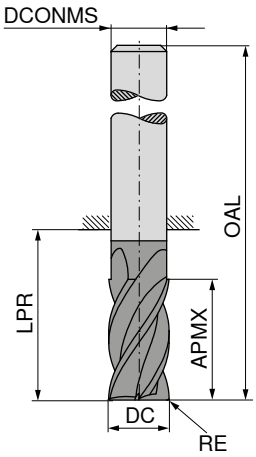
→ Find the cutting data standard values here.

MonsterMill – End mills with corner radius – CCR-ISO-S

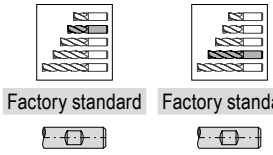
The specialist for machining ISO-S materials

- Optimized for trochoidal machining
- With chip breaker
- 53040... Short version: cutting depth 2xDC
- 53040... Long version: cutting depth 3xDC









DC h10 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	NEW SA 53 040 ...	SA 53 040 ...
6	0.2	13	21	57	6	6	06102	
6	0.2	19	27	63	6	6		06002
6	1.0	13	21	57	6	6	06110	
6	1.0	19	27	63	6	6		06010
8	0.2	19	27	63	8	6	08102	
8	0.2	25	35	71	8	6		08002
8	1.0	19	27	63	8	6	08110	
8	1.0	25	35	71	8	6		08010
10	0.2	22	32	72	10	6	10102	
10	0.2	31	43	83	10	6		10002
10	1.0	22	32	72	10	6	10110	
10	1.0	31	43	83	10	6		10010
12	0.2	26	38	83	12	6	12102	
12	0.2	37	49	94	12	6		12002
12	1.0	26	38	83	12	6	12110	
12	1.0	37	49	94	12	6		12010
12	1.5	26	38	83	12	6	12115	
12	1.5	37	49	94	12	6		12015
12	2.0	26	38	83	12	6	12120	
12	2.0	37	49	94	12	6		12020
16	0.2	36	44	92	16	6	16102	
16	0.2	49	63	111	16	6		16002
16	1.0	36	44	92	16	6	16110	
16	1.0	49	63	111	16	6		16010
16	1.5	36	44	92	16	6	16115	

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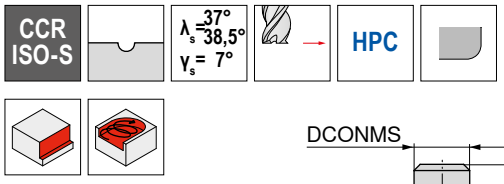
→ Find the cutting data standard values here.

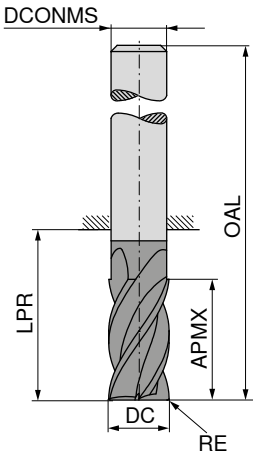
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MonsterMill – End mills with corner radius – CCR-ISO-S

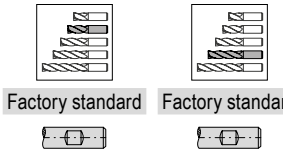
The specialist for machining ISO-S materials

- Optimized for trochoidal machining
- With chip breaker
- 53040... Short version: cutting depth 2xDC
- 53040... Long version: cutting depth 3xDC









DC h10 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	NEW SA 53 040 ...	SA 53 040 ...
16	1.5	49	63	111	16	6		16015
16	2.0	36	44	92	16	6	16120	
16	2.0	49	63	111	16	6		16020
20	0.2	41	54	104	20	6	20102	
20	0.2	61	77	127	20	6		20002
20	1.0	41	54	104	20	6	20110	
20	1.0	61	77	127	20	6		20010
20	1.5	41	54	104	20	6	20115	
20	1.5	61	77	127	20	6		20015
20	2.0	41	54	104	20	6	20120	
20	2.0	61	77	127	20	6		20020

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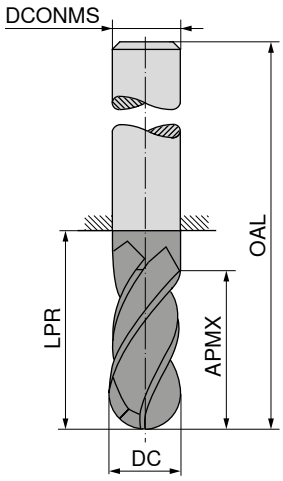
→ Find the cutting data standard values here.

MonsterMill – Ball-nosed end mills – ISO-S

The specialist for machining ISO-S materials

ISO-S

λ_s = 35°
38°
γ_s = 7°





Factory standard

Factory standard

DC ±0,01 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 53 032 ...	SA 53 033 ...
2	4	18	54	6	4	**02210**	
2	4	44	80	6	4		**02410**
3	5	18	54	6	4	**03215**	
3	5	44	80	6	4		**03415**
4	8	18	54	6	4	**04220**	
4	8	44	80	6	4		**04420**
5	9	18	54	6	4	**05225**	
5	9	44	80	6	4		**05425**
6	10	18	54	6	4	**06230**	
6	10	44	80	6	4		**06430**
8	12	22	58	8	4	**08240**	
8	12	64	100	8	4		**08440**
10	14	26	66	10	4	**10250**	
10	14	60	100	10	4		**10450**
12	16	28	73	12	4	**12260**	
12	16	55	100	12	4		**12460**
16	20	34	82	16	4	**16280**	
16	20	52	100	16	4		**16480**

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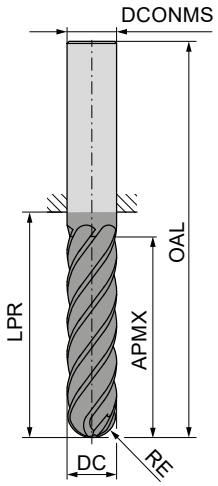
→ Find the cutting data standard values here.

MonsterMill – Ball-nosed end mills – ISO-S

The versatile tool for universal application

▲ Radius accuracy: +0.000 / -0.0004
▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers

ISO-S | λ_s=37° γ_s= 7° | HPC







Factory standard | Factory standard | Factory standard | Factory standard



NEW | NEW | NEW | NEW

SA | SA | SA | SA

DC +0.000/-0.002 inch	APMX inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 359 ...	50 359 ...	50 359 ...	50 359 ...
1/4	0.375	2.000	0.250	6	25001			
1/4	0.500	2.500	0.250	6		25002		
1/4	0.750	2.500	0.250	6			25003	
1/4	1.250	3.000	0.250	6				25004
5/16	0.750	2.500	0.313	6			31301	
5/16	1.000	3.000	0.313	6				31302
3/8	0.500	2.000	0.375	6	37501			
3/8	1.000	2.500	0.375	6		37502		
3/8	1.250	3.000	0.375	6			37503	
3/8	1.500	3.500	0.375	6				37504
1/2	0.625	2.500	0.500	6	50001			
1/2	1.000	3.000	0.500	6		50002		
1/2	1.250	3.000	0.500	6			50003	
1/2	1.500	4.000	0.500	6			50004	
1/2	2.000	4.000	0.500	6				50005
5/8	0.750	3.000	0.625	6	62501			
5/8	1.250	3.500	0.625	6		62502		
5/8	1.625	4.000	0.625	6			62503	
5/8	2.000	5.000	0.625	6				62504
3/4	1.000	3.000	0.750	6	75001			
3/4	1.250	4.000	0.750	6		75002		
3/4	1.625	5.000	0.750	6			75003	
3/4	2.250	5.000	0.750	6				75004
3/4	3.250	6.000	0.750	6				75005
1	2.000	4.500	1.000	6		99901		
1	2.500	5.000	1.000	6			99902	
1	3.250	6.000	1.000	6				99903

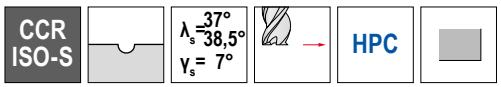
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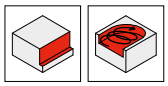
→ Find the cutting data standard values here.

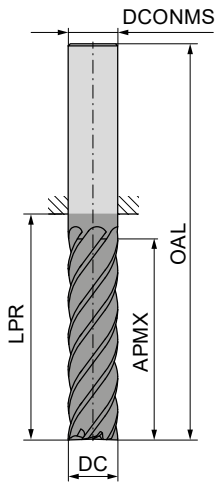
MonsterMill – End mill – CCR-ISO-S

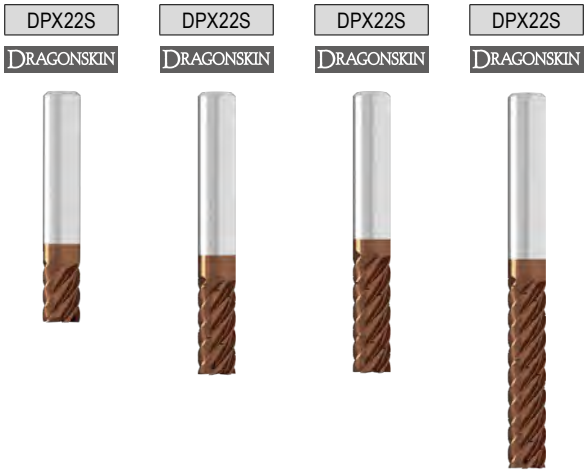
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers











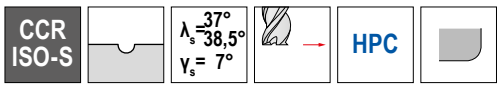
						Factory standard	Factory standard	Factory standard	Factory standard
						NEW	NEW	NEW	NEW
						SA	SA	SA	SA
DC +0.000/-0.002 inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 365 ...	50 365 ...	50 365 ...	50 365 ...
1/4	0.375	0.583	2.000	0.250	6	25001			
1/4	0.500	1.083	2.500	0.250	6		25002		
1/4	0.750	1.083	2.500	0.250	6			25003	
1/4	1.250	1.583	3.000	0.250	6				25004
5/16	0.750	1.083	2.500	0.313	6		31301		
5/16	1.000	1.583	3.000	0.313	6			31302	
3/8	0.500	0.825	2.000	0.375	6	37501			
3/8	1.000	1.083	2.500	0.375	6		37502		
3/8	1.250	1.583	3.000	0.375	6			37503	
3/8	1.500	1.925	3.500	0.375	6				37504
1/2	0.625	0.835	2.500	0.500	6	50001			
1/2	1.000	1.235	3.000	0.500	6		50002		
1/2	1.250	1.425	3.000	0.500	6			50003	
1/2	1.500	1.625	4.000	0.500	6			50004	
1/2	2.000	2.235	4.000	0.500	6				50005
5/8	0.750	1.110	3.000	0.625	6	62501			
5/8	1.250	1.613	3.500	0.625	6		62502		
5/8	1.625	2.228	4.000	0.625	6			62503	
5/8	2.000	3.032	5.000	0.625	6				62504
3/4	1.000	1.228	3.000	0.750	6	75001			
3/4	1.250	2.032	4.000	0.750	6		75002		
3/4	1.625	3.032	5.000	0.750	6			75003	
3/4	2.250	3.032	5.000	0.750	6			75004	
3/4	3.250	4.032	6.000	0.750	6				75005
1	2.000	2.295	4.500	1.000	6	99901			
1	2.500	3.032	5.000	1.000	6		99902		
1	3.250	3.795	6.000	1.000	6				99903
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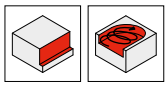
→ Find the cutting data standard values here.

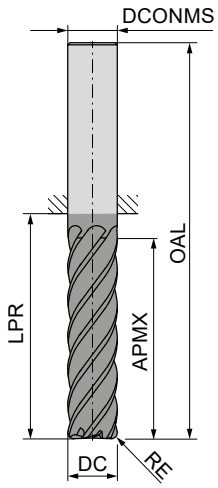
MonsterMill – End mills with corner radius – CCR-ISO-S

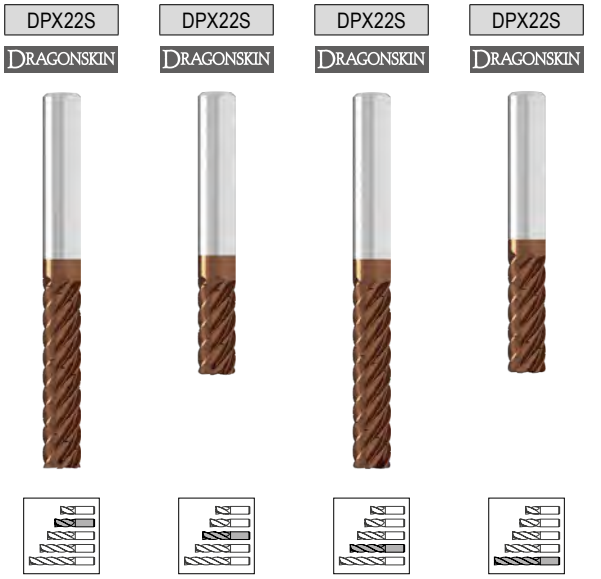
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard | Factory standard

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 367 ...	NEW SA 50 367 ...	NEW SA 50 367 ...	NEW SA 50 367 ...
1/4	0.015	0.375	0.583	2.000	0.250	6	25001			
1/4	0.030	0.375	0.583	2.000	0.250	6	25005			
1/4	0.015	0.500	1.083	2.500	0.250	6		25002		
1/4	0.015	0.750	1.083	2.500	0.250	6			25003	
1/4	0.030	0.500	1.083	2.500	0.250	6		25006		
1/4	0.030	0.750	1.083	2.500	0.250	6			25007	
1/4	0.015	1.250	1.583	3.000	0.250	6				25004
1/4	0.030	1.250	1.583	3.000	0.250	6				25008
5/16	0.015	0.750	1.083	2.500	0.313	6		31301		
5/16	0.030	0.750	1.083	2.500	0.313	6		31303		
5/16	0.015	1.000	1.583	3.000	0.313	6			31302	
5/16	0.030	1.000	1.583	3.000	0.313	6			31304	
5/16	0.060	1.000	3.032	3.000	0.313	6			31305	
3/8	0.015	0.500	0.825	2.000	0.375	6	37501			
3/8	0.030	0.500	0.825	2.000	0.375	6	37505			
3/8	0.060	0.500	0.825	2.000	0.375	6	37509			
3/8	0.015	1.000	1.083	2.500	0.375	6		37502		
3/8	0.030	1.000	1.083	2.500	0.375	6		37506		
3/8	0.060	1.000	1.083	2.500	0.375	6		37510		
3/8	0.015	1.250	1.583	3.000	0.375	6			37503	
3/8	0.030	1.250	1.583	3.000	0.375	6			37507	
3/8	0.060	1.250	1.583	3.000	0.375	6			37511	
3/8	0.015	1.500	1.925	3.500	0.375	6				37504
3/8	0.030	1.500	1.925	3.500	0.375	6				37508
3/8	0.060	1.500	1.925	3.500	0.375	6				37512
1/2	0.015	0.625	0.728	2.500	0.500	6	50001			
1/2	0.030	0.625	0.728	2.500	0.500	6	50006			
1/2	0.060	0.625	0.728	2.500	0.500	6	50011			
1/2	0.090	0.625	0.728	2.500	0.500	6	50016			
1/2	0.120	0.625	0.735	2.500	0.500	6	50021			
1/2	0.015	1.000	1.228	3.000	0.500	6		50002		
1/2	0.015	1.250	1.425	3.000	0.500	6			50003	
1/2	0.030	1.000	1.228	3.000	0.500	6		50007		

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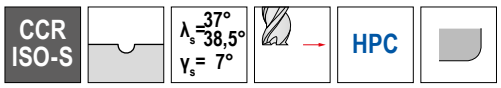
→ Find the cutting data standard values here.

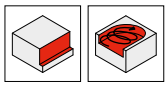
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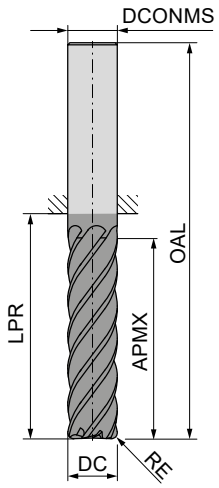
MonsterMill – End mills with corner radius – CCR-ISO-S

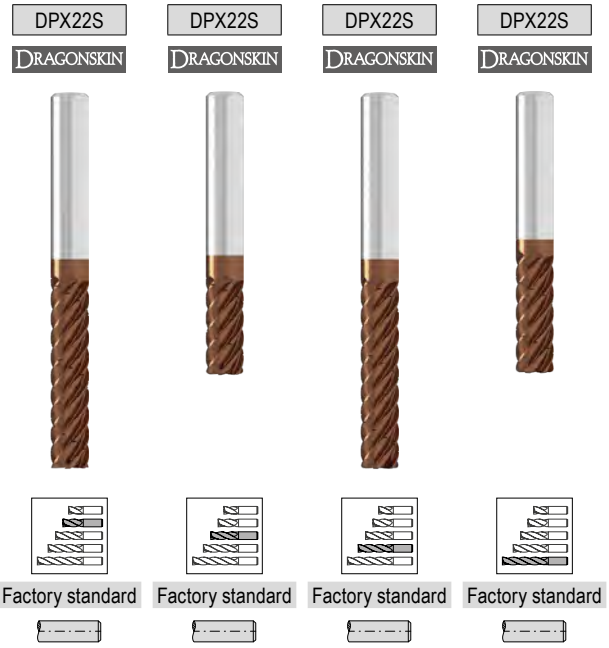
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard | Factory standard

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	NEW SA 50 367 ...	NEW SA 50 367 ...	NEW SA 50 367 ...	NEW SA 50 367 ...
1/2	0.030	1.250	1.425	3.000	0.500	6			50008	
1/2	0.060	1.000	1.228	3.000	0.500	6		50012		
1/2	0.060	1.250	1.425	3.000	0.500	6			50013	
1/2	0.090	1.000	1.228	3.000	0.500	6		50017		
1/2	0.090	1.250	1.425	3.000	0.500	6			50018	
1/2	0.120	1.000	1.228	3.000	0.500	6		50022		
1/2	0.120	1.250	1.425	3.000	0.500	6			50023	
1/2	0.015	1.500	1.625	4.000	0.500	6			50004	
1/2	0.015	2.000	2.228	4.000	0.500	6				50005
1/2	0.030	1.500	1.625	4.000	0.500	6			50009	
1/2	0.030	2.000	2.228	4.000	0.500	6				50010
1/2	0.060	1.500	1.625	4.000	0.500	6			50014	
1/2	0.060	2.000	2.228	4.000	0.500	6				50015
1/2	0.090	1.500	1.625	4.000	0.500	6			50019	
1/2	0.090	2.000	2.228	4.000	0.500	6				50020
1/2	0.120	1.500	1.625	4.000	0.500	6			50024	
1/2	0.120	2.000	2.228	4.000	0.500	6				50025
5/8	0.030	0.750	1.122	3.000	0.625	6	62501			
5/8	0.060	0.750	1.122	3.000	0.625	6	62505			
5/8	0.090	0.750	1.122	3.000	0.625	6	62509			
5/8	0.120	0.750	1.110	3.000	0.625	6	62513			
5/8	0.030	1.250	1.610	3.500	0.625	6		62502		
5/8	0.060	1.250	1.610	3.500	0.625	6		62506		
5/8	0.090	1.250	1.610	3.500	0.625	6		62510		
5/8	0.120	1.250	1.610	3.500	0.625	6		62514		
5/8	0.030	1.625	2.228	4.000	0.625	6			62503	
5/8	0.060	1.625	2.228	4.000	0.625	6			62507	
5/8	0.090	1.625	2.228	4.000	0.625	6			62511	
5/8	0.120	1.625	2.228	4.000	0.625	6			62515	
5/8	0.030	2.000	3.032	5.000	0.625	6				62504
5/8	0.060	2.000	3.032	5.000	0.625	6				62508
5/8	0.090	2.000	3.032	5.000	0.625	6				62512
5/8	0.120	2.000	3.032	5.000	0.625	6				62516

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→ Find the cutting data standard values here.

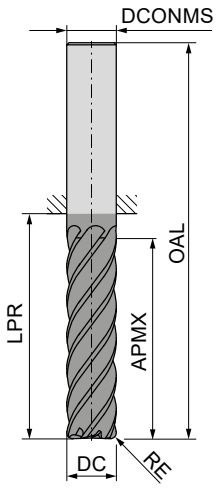
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MonsterMill – End mills with corner radius – CCR-ISO-S

The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers

CCR ISO-S | λ_s=37° γ_s= 7° | HPC







Factory standard | Factory standard | Factory standard | Factory standard



NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 367 ...	50 367 ...	50 367 ...	50 367 ...
3/4	0.030	1.000	1.228	3.000	0.750	6	75001			
3/4	0.060	1.000	1.228	3.000	0.750	6	75006			
3/4	0.090	1.000	1.228	3.000	0.750	6	75011			
3/4	0.120	1.000	1.228	3.000	0.750	6	75016			
3/4	0.160	1.000	1.228	3.000	0.750	6	75021			
3/4	0.190	1.000	1.228	3.000	0.750	6	75026			
3/4	0.250	1.000	1.228	3.000	0.750	6	75031			
3/4	0.030	1.250	2.032	4.000	0.750	6		75002		
3/4	0.060	1.250	2.032	4.000	0.750	6		75007		
3/4	0.090	1.250	2.032	4.000	0.750	6		75012		
3/4	0.120	1.250	2.032	4.000	0.750	6		75017		
3/4	0.160	1.250	2.032	4.000	0.750	6		75022		
3/4	0.190	1.250	2.032	4.000	0.750	6		75027		
3/4	0.250	1.250	2.032	4.000	0.750	6		75032		
3/4	0.030	1.625	3.032	5.000	0.750	6			75003	
3/4	0.030	2.250	3.032	5.000	0.750	6			75004	
3/4	0.060	1.625	3.032	5.000	0.750	6			75008	
3/4	0.060	2.250	3.032	5.000	0.750	6			75009	
3/4	0.090	1.625	3.032	5.000	0.750	6			75013	
3/4	0.090	2.250	3.032	5.000	0.750	6			75014	
3/4	0.120	1.625	3.032	5.000	0.750	6			75018	
3/4	0.120	2.250	3.032	5.000	0.750	6			75019	
3/4	0.160	1.625	3.032	5.000	0.750	6			75023	
3/4	0.160	2.250	3.032	5.000	0.750	6			75024	
3/4	0.190	1.625	3.032	5.000	0.750	6			75028	
3/4	0.190	2.250	3.032	5.000	0.750	6			75029	
3/4	0.250	1.625	3.032	5.000	0.750	6			75033	
3/4	0.250	2.250	3.032	5.000	0.750	6			75034	
3/4	0.030	3.250	4.032	6.000	0.750	6				75005
3/4	0.060	3.250	4.032	6.000	0.750	6				75010
3/4	0.090	3.250	4.032	6.000	0.750	6				75015
3/4	0.120	3.250	4.032	6.000	0.750	6				75020
3/4	0.160	3.250	4.032	6.000	0.750	6				75025

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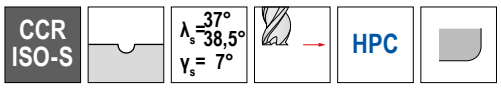
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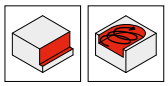
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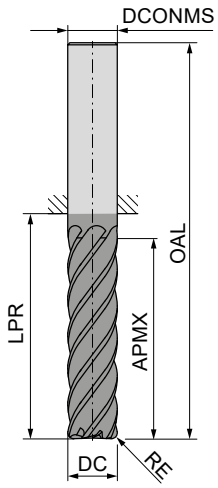
MonsterMill – End mills with corner radius – CCR-ISO-S

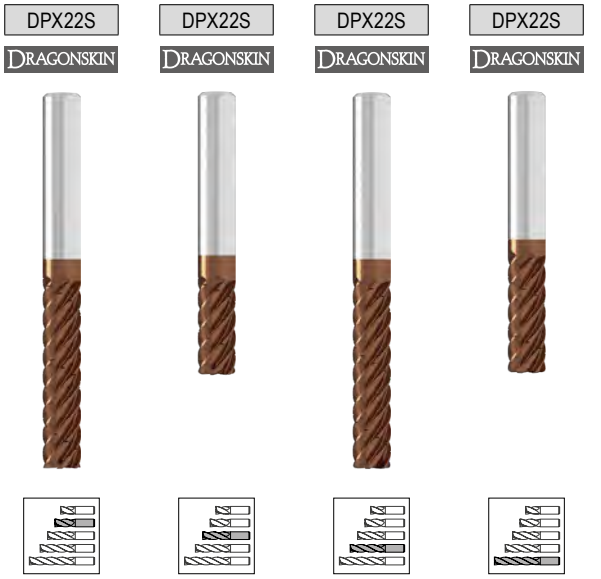
The specialist for trochoidal machining

▲ Tools with APMX ≥ 2.5xDC are equipped with chip breakers









Factory standard | Factory standard | Factory standard | Factory standard

NEW SA | NEW SA | NEW SA | NEW SA

DC +0.000/-0.002 inch	RE inch	APMX inch	LPR inch	OAL inch	DCONMS -0.0001/-0.0004 inch	ZEFP	50 367 ...	50 367 ...	50 367 ...	50 367 ...
3/4	0.190	3.250	4.032	6.000	0.750	6				75030
3/4	0.250	3.250	4.032	6.000	0.750	6				75035
1	0.030	2.000	2.295	4.500	1.000	6	99901			
1	0.060	2.000	2.295	4.500	1.000	6	99904			
1	0.090	2.000	2.295	4.500	1.000	6	99907			
1	0.120	2.000	2.295	4.500	1.000	6	99910			
1	0.160	2.000	2.295	4.500	1.000	6	99913			
1	0.190	2.000	2.295	4.500	1.000	6	99916			
1	0.250	2.000	2.295	4.500	1.000	6	99919			
1	0.030	2.500	3.032	5.000	1.000	6		99902		
1	0.060	2.500	3.032	5.000	1.000	6		99905		
1	0.090	2.500	3.032	5.000	1.000	6		99908		
1	0.120	2.500	3.032	5.000	1.000	6		99911		
1	0.160	2.500	3.032	5.000	1.000	6		99914		
1	0.190	2.500	3.032	5.000	1.000	6		99917		
1	0.250	2.500	3.032	5.000	1.000	6		99920		
1	0.030	3.250	3.795	6.000	1.000	6				99903
1	0.060	3.250	3.795	6.000	1.000	6				99906
1	0.090	3.250	3.795	6.000	1.000	6				99909
1	0.120	3.250	3.795	6.000	1.000	6				99912
1	0.160	3.250	3.795	6.000	1.000	6				99915
1	0.190	3.250	3.795	6.000	1.000	6				99918
1	0.250	3.250	3.795	6.000	1.000	6				99921

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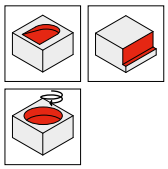
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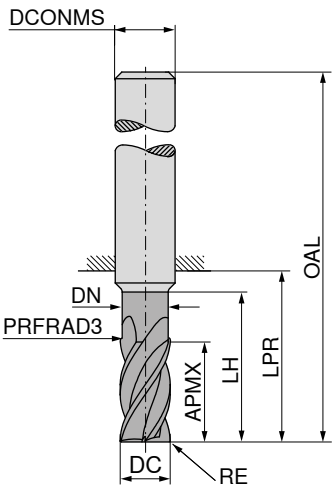
MonsterMill – End mills with corner radius – TCR

The specialist for machining titanium and titanium alloys

▲ PRFRAD3 = 1 mm







DPX52S DRAGONSKIN



DPX52S DRAGONSKIN





Factory standard





Factory standard



DC e8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 52 504 ...	SA 52 506 ...
4	0.1	11		14	21	57	6	4	**04000**	
4	0.1	11	3.8	17	21	57	6	5		**04000** [1]
5	0.1	13		16	21	57	6	4	**05000**	
5	0.1	13	4.8	19	21	57	6	5		**05000** [1]
6	0.1	13			21	57	6	4	**06000**	
6	0.1	13	5.8	19	21	57	6	5		**06000** [1]
8	0.2	21			27	63	8	4	**08000**	
8	0.2	21	7.7	25	27	63	8	5		**08000** [1]
10	0.2	22			32	72	10	4	**10000**	
10	0.2	22	9.7	30	32	72	10	5		**10000** [1]
12	0.2	26			38	83	12	4	**12000**	
12	0.2	26	11.6	36	38	83	12	5		**12000** [1]
16	0.3	36			44	92	16	4	**16000**	
16	0.3	36	15.5	42	44	92	16	5		**16000** [1]
20	0.3	41			54	104	20	4	**20000**	
20	0.3	41	19.5	52	54	104	20	5		**20000** [1]

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1) Cutter not suitable for full slot milling, only for trochoidal slot milling and profiling!

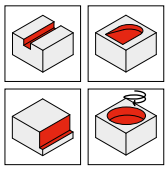
→ Find the cutting data standard values here.

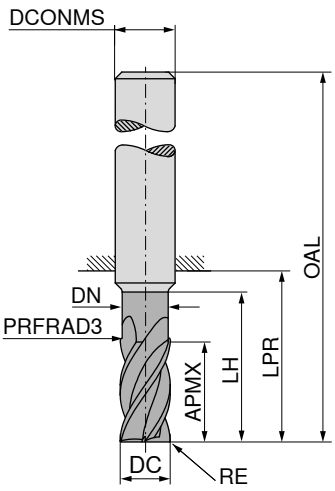
MonsterMill – End mills with corner radius – TCR

The specialist for machining titanium and titanium alloys

▲ PRFRAD3 = 1 mm

TCR | λ_s=40° γ_s=10° | HPC











Factory standard | Factory standard





DC $_{e8}$ mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS $_{h5}$ mm	ZEFP	SA 52 508 ...	SA 52 508 ...
4	0.2	11.0		14	21	57	6	4	**04002**	
4	0.4	11.0		14	21	57	6	4	**04004**	
4	0.4	8.5	3.8	20	26	62	6	4		**04104**
4	0.5	11.0		14	21	57	6	4	**04005**	
4	0.5	8.5	3.8	20	26	62	6	4		**04105**
4	0.8	8.5	3.8	20	26	62	6	4		**04108**
5	0.5	13.0		16	21	57	6	4	**05005**	
5	0.5	10.5	4.8	25	34	70	6	4		**05105**
5	0.8	10.5	4.8	25	34	70	6	4		**05108**
5	1.0	13.0		16	21	57	6	4	**05010**	
6	0.4	13.0			21	57	6	4	**06004**	
6	0.5	13.0			21	57	6	4	**06005**	
6	0.6	13.0			21	57	6	4	**06006**	
6	0.6	13.0	5.8	30	34	70	6	4		**06106**
6	0.8	13.0			21	57	6	4	**06008**	
6	0.8	13.0	5.8	30	34	70	6	4		**06108**
6	1.0	13.0			21	57	6	4	**06010**	
6	1.0	13.0	5.8	30	34	70	6	4		**06110**
6	1.5	13.0			21	57	6	4	**06015**	
8	0.5	21.0			27	63	8	4	**08005**	
8	0.8	21.0			27	63	8	4	**08008**	
8	0.8	17.0	7.7	40	44	80	8	4		**08108**
8	1.0	21.0			27	63	8	4	**08010**	
8	1.0	17.0	7.7	40	44	80	8	4		**08110**
8	1.2	21.0			27	63	8	4	**08012**	
8	1.5	21.0			27	63	8	4	**08015**	
8	1.5	17.0	7.7	40	44	80	8	4		**08115**
8	2.0	21.0			27	63	8	4	**08020**	
8	2.0	17.0	7.7	40	44	80	8	4		**08120**

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→ Find the cutting data standard values here.

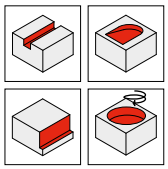
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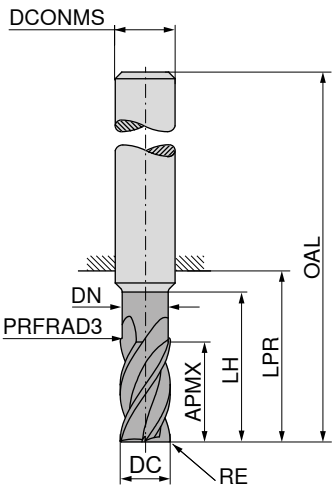
MonsterMill – End mills with corner radius – TCR

The specialist for machining titanium and titanium alloys

▲ PRFRAD3 = 1 mm

TCR | λ_s=40° γ_s=10° | HPC










Factory standard | Factory standard




DC e8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 52 508 ...	SA 52 508 ...
10	0.5	22.0			32	72	10	4	**10005**	
10	0.5	21.0	9.7	50	54	94	10	4		**10105**
10	1.0	22.0			32	72	10	4	**10010**	
10	1.0	21.0	9.7	50	54	94	10	4		**10110**
10	1.2	22.0			32	72	10	4	**10012**	
10	1.5	22.0			32	72	10	4	**10015**	
10	1.5	21.0	9.7	50	54	94	10	4		**10115**
10	2.0	22.0			32	72	10	4	**10020**	
10	2.0	21.0	9.7	50	54	94	10	4		**10120**
12	0.5	26.0			38	83	12	4	**12005**	
12	0.5	25.0	11.6	60	65	110	12	4		**12105**
12	1.0	26.0			38	83	12	4	**12010**	
12	1.0	25.0	11.6	60	65	110	12	4		**12110**
12	1.2	26.0			38	83	12	4	**12012**	
12	1.5	26.0			38	83	12	4	**12015**	
12	1.5	25.0	11.6	60	65	110	12	4		**12115**
12	1.6	26.0			38	83	12	4	**12016**	
12	2.0	26.0			38	83	12	4	**12020**	
12	2.0	25.0	11.6	60	65	110	12	4		**12120**
12	2.5	26.0			38	83	12	4	**12025**	
12	3.0	26.0			38	83	12	4	**12030**	
12	3.0	25.0	11.6	60	65	110	12	4		**12130**
12	4.0	25.0	11.6	60	65	110	12	4		**12140**
14	1.0	29.0	13.6	70	75	120	14	4		**14110**
14	2.0	29.0	13.6	70	75	120	14	4		**14120**
14	3.0	29.0	13.6	70	75	120	14	4		**14130**
14	4.0	29.0	13.6	70	75	120	14	4		**14140**
16	1.0	36.0			44	92	16	4	**16010**	
16	1.0	33.0	15.5	80	84	132	16	4		**16110**

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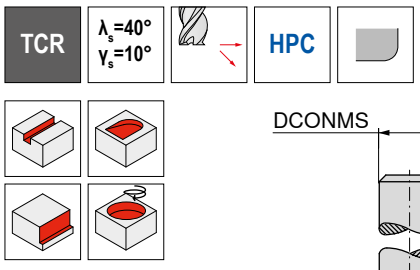
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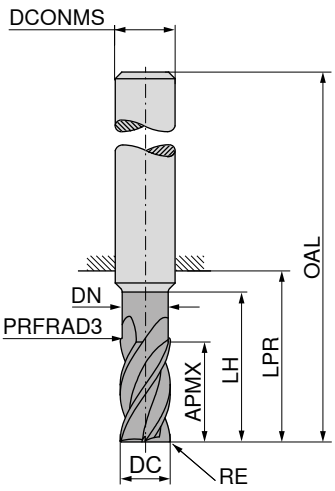
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MonsterMill – End mills with corner radius – TCR

The specialist for machining titanium and titanium alloys

▲ PRFRAD3 = 1 mm













Factory standard

Factory standard





DC e8 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 52 508 ...	SA 52 508 ...
16	1.6	36.0			44	92	16	4	**16016**	
16	2.0	36.0			44	92	16	4	**16020**	
16	2.0	33.0	15.5	80	84	132	16	4		**16120**
16	2.5	36.0			44	92	16	4	**16025**	
16	3.0	36.0			44	92	16	4	**16030**	
16	3.0	33.0	15.5	80	84	132	16	4		**16130**
16	3.2	36.0			44	92	16	4	**16032**	
16	4.0	36.0			44	92	16	4	**16040**	
16	4.0	33.0	15.5	80	84	132	16	4		**16140**
20	1.0	42.0	19.5	100	104	154	20	4		**20110**
20	3.0	41.0			54	104	20	4	**20030**	
20	3.0	42.0	19.5	100	104	154	20	4		**20130**
20	5.0	41.0			54	104	20	4	**20050**	

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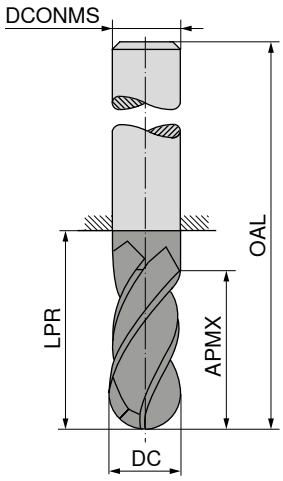


→ Find the cutting data standard values here.

MonsterMill – Ball-nosed end mills – TCR

The specialist for machining titanium and titanium alloys

TCR | λ_s=40° γ_s=10°





Factory standard | Factory standard

DC e8 mm	APMX mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SA 52 514 ...	SA 52 514 ...
2	4	18	54	6	4	**02000**	
2	4	44	80	6	4		**02100**
3	5	18	54	6	4	**03000**	
3	5	44	80	6	4		**03100**
4	8	18	54	6	4	**04000**	
4	8	44	80	6	4		**04100**
5	9	18	54	6	4	**05000**	
5	9	44	80	6	4		**05100**
6	10	18	54	6	4	**06000**	
6	10	44	80	6	4		**06100**
8	12	22	58	8	4	**08000**	
8	12	64	100	8	4		**08100**
10	14	26	66	10	4	**10000**	
10	14	60	100	10	4		**10100**
12	16	28	73	12	4	**12000**	
12	16	55	100	12	4		**12100**
16	20	34	82	16	4	**16000**	
16	20	52	100	16	4		**16100**

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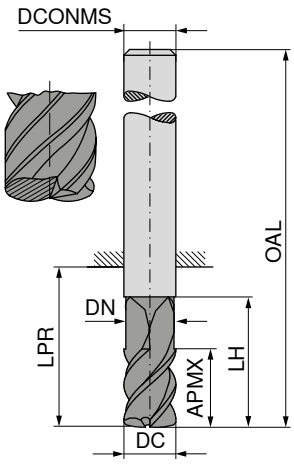
→ Find the cutting data standard values here.

MonsterMill – Torus face cutters – TCR

The specialist for machining titanium and titanium alloys

▲ r_{3D} = corner radius to be programmed
▲ APMX does not correspond to the maximum cutting depth

TCR | λ_s=15° γ_s=10° | HFC | HPC




DPX52S DRAGONSKIN


DPX52S DRAGONSKIN


DIN 6527


DIN 6527


SA


SA

DC e8 mm	r_{3D} mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	52 512 ...	52 512 ...
2	0.3	1.5	1.7	13	18	54	6	2	**02000**	
2	0.3	1.5	1.7	18	39	75	6	2		**02100**
3	0.3	1.5	2.7	15	18	54	6	2	**03000**	
3	0.3	1.5	2.7	20	39	75	6	2		**03100**
4	0.5	2.5	3.6	16	22	58	6	2	**04000**	
4	0.5	2.5	3.6	24	49	85	6	2		**04100**
5	0.5	3.5	4.6	18	29	65	6	4	**05000**	
5	0.5	3.5	4.6	28	64	100	6	4		**05100**
6	1.0	3.5	5.2	20	29	65	6	4	**06000**	
6	1.0	3.5	5.2	28	64	100	6	4		**06100**
8	1.5	4.8	7.0	24	34	70	8	5	**08000**	
8	1.5	4.8	7.0	40	64	100	8	5		**08100**
10	2.0	5.8	9.0	26	45	85	10	5	**10000**	
10	2.0	5.8	9.0	48	60	100	10	5		**10100**
12	2.0	6.8	11.0	30	48	93	12	5	**12000**	
12	2.0	6.8	11.0	56	75	120	12	5		**12100**
16	2.5	8.8	14.5	35	52	100	16	5	**16000**	
16	2.5	8.8	14.5	65	102	150	16	5		**16100**

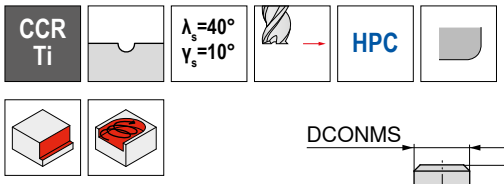
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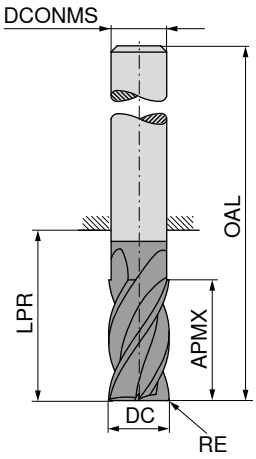
→ Find the cutting data standard values here.

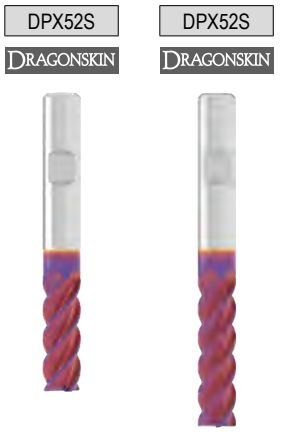
MonsterMill – End mills with corner radius – CCR-TI

The specialist for machining titanium and titanium alloys

- ▲ Chip breaker 0.9 x DC
- ▲ Long cutting depth type: 3 x DC
- ▲ Extra-long cutting depth type: 4 x DC











							Factory standard	Factory standard
							SA	SA
DC e8	RE ±0,01	APMX	LPR	OAL	DCONMS h5	ZEFP	52 510 ...	52 510 ...
mm	mm	mm	mm	mm	mm			
6	0.1	18	29	65	6	5	06000	
6	0.1	24	31	67	6	5		06100
8	0.2	24	34	70	8	5	08000	
8	0.2	32	44	80	8	5		08100
10	0.2	30	40	80	10	5	10000	
10	0.2	40	50	90	10	5		10100
12	0.2	36	50	95	12	5	12000	
12	0.2	48	55	100	12	5		12100
16	0.2	48	62	110	16	5	16000	
16	0.3	64	72	120	16	5		16100
20	0.3	60	75	125	20	5	20000	
20	0.3	80	90	140	20	5		20100
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→ Find the cutting data standard values here.

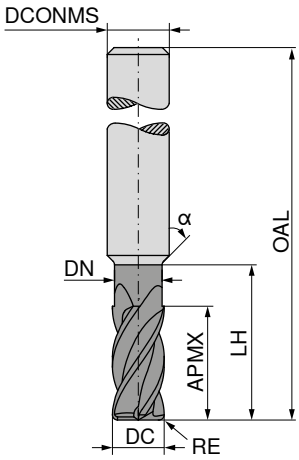
MonsterMill – Finishing milling cutters with corner radius – HCR

The specialist for finish machining hardened steels up to 70 HRC

- Radius accuracy ± 0.005 mm
- T_x = maximum depth of cut
- DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC



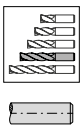


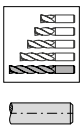
DPX62U DRAGONSKIN



DPX62U DRAGONSKIN







DC mm	RE mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 603 ...	SA 53 604 ...
0.2	0.05	0.5		0.5	30	48	4	2,5 x DC	2	**30205**	
0.2	0.05	0.5	0.18	1.0	30	48	4	5 x DC	2	**40205**	
0.3	0.05	0.6	0.27	1.0	30	48	4	3,3 x DC	2	**30305**	
0.3	0.05	0.6	0.27	2.0	30	48	4	6,7 x DC	2	**40305**	
0.4	0.05	0.7	0.35	1.0	30	48	4	2,5 x DC	2	**30405**	
0.4	0.05	0.7	0.35	2.0	30	48	4	5 x DC	2	**40405**	
0.4	0.05	0.7	0.35	3.0	30	48	4	7,5 x DC	2	**50405**	
0.5	0.05	0.7	0.45	1.0	30	48	4	2 x DC	2	**30505**	
0.5	0.05	0.7	0.45	2.0	30	48	4	4 x DC	2	**40505**	
0.5	0.05	0.7	0.45	2.5	30	48	4	5 x DC	2	**50505**	
0.5	0.05	0.7	0.45	3.0	30	48	4	6 x DC	2	**60505**	
0.5	0.05	0.7	0.45	4.0	30	48	4	8 x DC	2	**70505**	
0.6	0.05	0.8	0.55	2.0	30	48	4	3,3 x DC	2	**30605**	
0.6	0.05	0.8	0.55	3.0	30	48	4	5 x DC	2	**40605**	
0.6	0.05	0.8	0.55	4.5	30	48	4	7,5 x DC	2	**50605**	
0.6	0.05	0.8	0.55	6.0	30	48	4	10 x DC	2		**30605**
0.8	0.05	1.0	0.75	2.0	30	48	4	2,5 x DC	2	**30805**	
0.8	0.05	1.0	0.75	4.0	30	48	4	5 x DC	2	**40805**	
0.8	0.05	1.0	0.75	6.0	30	48	4	7,5 x DC	2	**50805**	
0.8	0.05	1.0	0.75	8.0	30	48	4	10 x DC	2		**30805**
0.8	0.05	1.0	0.75	10.0	30	48	4	12,5 x DC	2		**40805**
1.0	0.10	1.5	0.95	2.0	30	48	4	2 x DC	4	**31001**	
1.0	0.10	1.5	0.95	4.0	30	48	4	4 x DC	4	**41001**	
1.0	0.10	1.5	0.95	6.0	30	48	4	6 x DC	4	**51001**	
1.0	0.10	1.5	0.95	8.0	30	48	4	8 x DC	4	**61001**	
1.0	0.10	1.5	0.95	10.0	30	48	4	10 x DC	4		**31001**
1.0	0.10	1.5	0.95	14.0	30	48	4	14 x DC	4		**41001**
1.5	0.10	2.0	1.45	4.0	30	48	4	2,7 x DC	4	**31501**	
1.5	0.10	2.0	1.45	6.0	30	48	4	4 x DC	4	**41501**	
1.5	0.10	2.0	1.45	10.0	30	48	4	6,7 x DC	4	**51501**	
1.5	0.10	2.0	1.45	12.0	30	48	4	8 x DC	4	**61501**	

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→ Find the cutting data standard values here.

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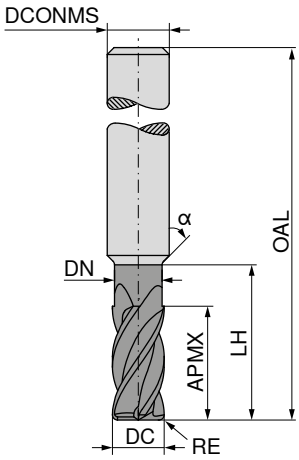
MonsterMill – Finishing milling cutters with corner radius – HCR

The specialist for finish machining hardened steels up to 70 HRC

- Radius accuracy ± 0.005 mm
- T_x = maximum depth of cut
- DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC



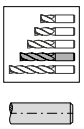


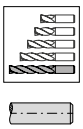
DPX62U DRAGONSKIN



DPX62U DRAGONSKIN







DC	RE	APMX	DN	LH	α°	OAL	DCONMS $_{h5}$	T_x	ZEFP	SA 53 603 ...	SA 53 604 ...
mm	mm	mm	mm	mm		mm	mm				
1.5	0.10	2.0	1.45	15.0	30	60	4	10 x DC	4		**31501**
1.5	0.10	2.0	1.45	20.0	30	60	4	13,3 x DC	4		**41501**
2.0	0.20	2.5	1.90	4.0	30	48	4	2 x DC	4	**32002**	
2.0	0.20	2.5	1.90	6.0	30	48	4	3 x DC	4	**42002**	
2.0	0.20	2.5	1.90	8.0	30	48	4	4 x DC	4	**52002**	
2.0	0.20	2.5	1.90	10.0	30	48	4	5 x DC	4	**62002**	
2.0	0.20	2.5	1.90	12.0	30	48	4	6 x DC	4	**72002**	
2.0	0.20	2.5	1.90	16.0	30	60	4	8 x DC	4	**82002**	
2.0	0.20	2.5	1.90	20.0	30	60	4	10 x DC	4		**32002**
2.0	0.20	2.5	1.90	25.0	30	60	4	12,5 x DC	4		**42002**
3.0	0.20	3.5	2.90	8.0	30	60	6	2,7 x DC	4	**33002**	
3.0	0.20	3.5	2.90	12.0	30	60	6	4 x DC	4	**43002**	
3.0	0.20	3.5	2.90	16.0	30	60	6	5,3 x DC	4	**53002**	
3.0	0.20	3.5	2.90	20.0	30	70	6	6,7 x DC	4	**63002**	
3.0	0.20	3.5	2.90	24.0	30	70	6	8 x DC	4	**73002**	
4.0	0.20	4.5	3.90	8.0	30	60	6	2 x DC	4	**34002**	
4.0	0.20	4.5	3.90	12.0	30	60	6	3 x DC	4	**44002**	
4.0	0.20	4.5	3.90	16.0	30	60	6	4 x DC	4	**54002**	
4.0	0.20	4.5	3.90	20.0	30	70	6	5 x DC	4	**64002**	
4.0	0.20	4.5	3.90	24.0	30	70	6	6 x DC	4	**74002**	
4.0	0.20	4.5	3.90	28.0	30	70	6	7 x DC	4	**84002**	
4.0	0.50	4.5	3.90	8.0	30	60	6	2 x DC	4	**34005**	
4.0	0.50	4.5	3.90	12.0	30	60	6	3 x DC	4	**44005**	
4.0	0.50	4.5	3.90	16.0	30	60	6	4 x DC	4	**54005**	
4.0	0.50	4.5	3.90	20.0	30	70	6	5 x DC	4	**64005**	
4.0	0.50	4.5	3.90	24.0	30	70	6	6 x DC	4	**74005**	
4.0	0.50	4.5	3.90	28.0	30	70	6	7 x DC	4	**84005**	
4.0	1.00	4.5	3.90	8.0	30	60	6	2 x DC	4	**34010**	
4.0	1.00	4.5	3.90	12.0	30	60	6	3 x DC	4	**44010**	
4.0	1.00	4.5	3.90	16.0	30	60	6	4 x DC	4	**54010**	
4.0	1.00	4.5	3.90	20.0	30	70	6	5 x DC	4	**64010**	

	SA 53 603 ...	SA 53 604 ...
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→ Find the cutting data standard values here.

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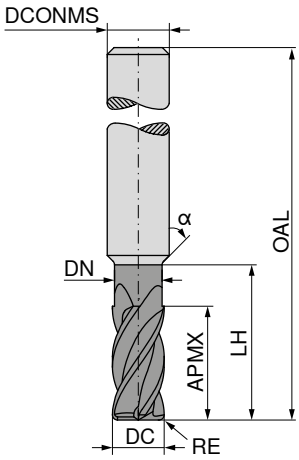
MonsterMill – Finishing milling cutters with corner radius – HCR

The specialist for finish machining hardened steels up to 70 HRC

- Radius accuracy ± 0.005 mm
- T_x = maximum depth of cut
- DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC



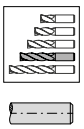


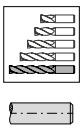
DPX62U DRAGONSKIN



DPX62U DRAGONSKIN







DC mm	RE mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 603 ...	SA 53 604 ...
4.0	1.00	4.5	3.90	24.0	30	70	6	6 x DC	4	**74010**	
4.0	1.00	4.5	3.90	28.0	30	70	6	7 x DC	4	**84010**	
6.0	0.20	6.5	5.90	12.0		60	6	2 x DC	4	**36002**	
6.0	0.20	6.5	5.90	16.0		60	6	2,7 x DC	4	**46002**	
6.0	0.20	6.5	5.90	20.0		60	6	3,3 x DC	4	**56002**	
6.0	0.50	6.5	5.90	12.0		60	6	2 x DC	4	**36005**	
6.0	0.50	6.5	5.90	16.0		60	6	2,7 x DC	4	**46005**	
6.0	0.50	6.5	5.90	20.0		60	6	3,3 x DC	4	**56005**	
6.0	1.00	6.5	5.90	12.0		60	6	2 x DC	4	**36010**	
6.0	1.00	6.5	5.90	16.0		60	6	2,7 x DC	4	**46010**	
6.0	1.00	6.5	5.90	20.0		60	6	3,3 x DC	4	**56010**	
8.0	0.50	8.5	7.90	16.0		60	8	2 x DC	4	**38005**	
8.0	0.50	8.5	7.90	40.0		80	8	5 x DC	4	**48005**	
8.0	1.00	8.5	7.90	16.0		60	8	2 x DC	4	**38010**	
8.0	1.00	8.5	7.90	40.0		80	8	5 x DC	4	**48010**	
10.0	0.50	10.5	9.90	20.0		70	10	2 x DC	4	**10005**	
10.0	0.50	10.5	9.90	40.0		90	10	4 x DC	4	**10105**	
10.0	1.00	10.5	9.90	20.0		70	10	2 x DC	4	**10010**	
10.0	1.00	10.5	9.90	40.0		90	10	4 x DC	4	**10110**	
12.0	1.00	12.5	11.90	24.0		70	12	2 x DC	4	**12010**	
12.0	1.00	12.5	11.90	40.0		90	12	3,3 x DC	4	**12110**	
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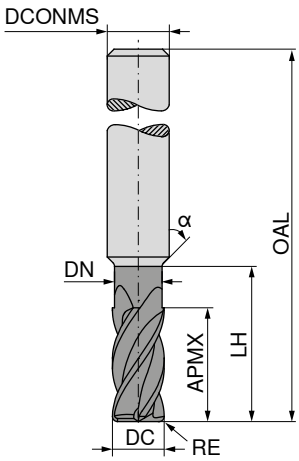
MonsterMill – Finishing milling cutters with corner radius – HCR

The specialist for finish machining hardened steels up to 70 HRC

- ▲ Radius accuracy ± 0.005 mm
- ▲ T_x = maximum depth of cut
- ▲ DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s = 50° γ_s = –15° | 54–70 HRC













Factory standard | Factory standard





DC mm	RE mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 605 ...	SA 53 606 ...
1	0.03	2			30	48	4	2 x DC	4	410	
1	0.03	3	0.95	4	30	48	4	3 x DC	4		410
2	0.03	4			30	48	4	2 x DC	4	420	
2	0.03	6	1.90	8	30	48	4	3 x DC	4		420
3	0.03	6			30	60	6	2 x DC	4	030	
3	0.03	9	2.90	12	30	60	6	3 x DC	4		030
4	0.05	8			30	60	6	2 x DC	4	040	
4	0.05	12	3.90	16	30	60	6	3 x DC	4		040
6	0.05	12				60	6	2 x DC	4	060	
6	0.05	18	5.90	24		60	6	3 x DC	4		060
8	0.05	16				60	8	2 x DC	4	080	
8	0.05	24	7.90	32		70	8	3 x DC	4		080
10	0.05	20				70	10	2 x DC	4	100	
10	0.05	30	9.90	40		80	10	3 x DC	4		100
12	0.05	24				70	12	2 x DC	4	120	
12	0.05	36	11.90	44		90	12	3 x DC	4		120

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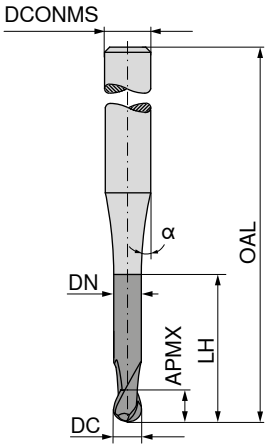
→ Find the cutting data standard values here.

MonsterMill – Ball-nosed end mills – HCR

The specialist for finish machining hardened steels up to 70 HRC

- ▲ Radius accuracy: ± 0.005 mm
- ▲ T_x = maximum depth of cut
- ▲ DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC





Factory standard | Factory standard

DC mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 600 ...	SA 53 601 ...
0.2	0.5		0.5	15	48	4	2,5 x DC	2	**302**	
0.2	0.5	0.18	1.0	15	48	4	5 x DC	2	**402**	
0.3	0.5	0.27	1.0	15	48	4	3,3 x DC	2	**303**	
0.3	0.5	0.27	2.0	15	48	4	6,7 x DC	2	**403**	
0.4	0.5	0.35	1.0	15	48	4	2,5 x DC	2	**304**	
0.4	0.5	0.35	2.0	15	48	4	5 x DC	2	**404**	
0.4	0.5	0.35	3.0	15	48	4	7,5 x DC	2	**504**	
0.5	0.5	0.45	1.0	15	48	4	2 x DC	2	**305**	
0.5	0.5	0.45	2.0	15	48	4	4 x DC	2	**405**	
0.5	0.5	0.45	2.5	15	48	4	5 x DC	2	**505**	
0.5	0.5	0.45	3.0	15	48	4	6 x DC	2	**605**	
0.5	0.5	0.45	4.0	15	48	4	8 x DC	2	**705**	
0.6	0.6	0.55	2.0	15	48	4	3,3 x DC	2	**306**	
0.6	0.6	0.55	3.0	15	48	4	5 x DC	2	**406**	
0.6	0.6	0.55	4.5	15	48	4	7,5 x DC	2	**506**	
0.6	0.6	0.55	6.0	15	48	4	10 x DC	2		**306**
0.8	1.0	0.75	2.0	15	48	4	2,5 x DC	2	**308**	
0.8	1.0	0.75	4.0	15	48	4	5 x DC	2	**408**	
0.8	1.0	0.75	6.0	15	48	4	7,5 x DC	2	**508**	
0.8	1.0	0.75	8.0	15	48	4	10 x DC	2		**308**
0.8	1.0	0.75	10.0	15	48	4	12,5 x DC	2		**408**
1.0	1.5	0.95	2.0	15	48	4	2 x DC	2	**310**	
1.0	1.5	0.95	4.0	15	48	4	4 x DC	2	**410**	
1.0	1.5	0.95	6.0	15	48	4	6 x DC	2	**510**	
1.0	1.5	0.95	8.0	15	48	4	8 x DC	2	**610**	

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→ Find the cutting data standard values here.

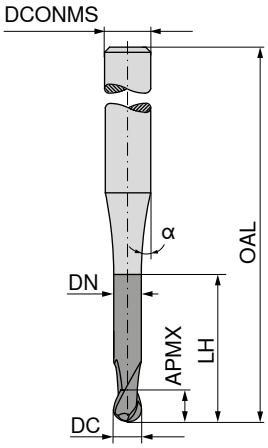
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MonsterMill – Ball-nosed end mills – HCR

The specialist for finish machining hardened steels up to 70 HRC

- ▲ Radius accuracy: ± 0.005 mm
- ▲ T_x = maximum depth of cut
- ▲ DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC









Factory standard



Factory standard





DC mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 600 ...	SA 53 601 ...
1.0	1.5	0.95	10.0	15	48	4	10 x DC	2		**310**
1.0	1.5	0.95	14.0	15	48	4	14 x DC	2		**410**
1.5	1.5	1.45	4.0	15	48	4	2,7 x DC	2	**315**	
1.5	1.5	1.45	6.0	15	48	4	4 x DC	2	**415**	
1.5	1.5	1.45	8.0	15	48	4	5,3 x DC	2	**515**	
1.5	1.5	1.45	10.0	15	48	4	6,7 x DC	2	**615**	
1.5	1.5	1.45	15.0	15	60	4	10 x DC	2		**315**
1.5	1.5	1.45	20.0	15	60	4	13,3 x DC	2		**415**
2.0	2.5	1.90	4.0	15	48	4	2 x DC	2	**320**	
2.0	2.5	1.90	6.0	15	48	4	3 x DC	2	**420**	
2.0	2.5	1.90	8.0	15	48	4	4 x DC	2	**520**	
2.0	2.5	1.90	10.0	15	48	4	5 x DC	2	**620**	
2.0	2.5	1.90	12.0	15	48	4	6 x DC	2	**720**	
2.0	2.5	1.90	16.0	15	60	4	8 x DC	2	**820**	
2.0	2.5	1.90	20.0	15	60	4	10 x DC	2		**320**
2.0	2.5	1.90	25.0	15	60	4	12,5 x DC	2		**420**
3.0	3.5	2.90	8.0	15	60	6	2,7 x DC	2	**330**	
3.0	3.5	2.90	12.0	15	60	6	4 x DC	2	**430**	
3.0	3.5	2.90	16.0	15	60	6	5,3 x DC	2	**530**	
3.0	3.5	2.90	20.0	15	70	6	6,7 x DC	2	**630**	
3.0	3.5	2.90	24.0	15	70	6	8 x DC	2	**730**	
4.0	4.5	3.90	8.0	15	60	6	2 x DC	2	**340**	
4.0	4.5	3.90	12.0	15	60	6	3 x DC	2	**440**	
4.0	4.5	3.90	16.0	15	60	6	4 x DC	2	**540**	
4.0	4.5	3.90	20.0	15	70	6	5 x DC	2	**640**	

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→ Find the cutting data standard values here.

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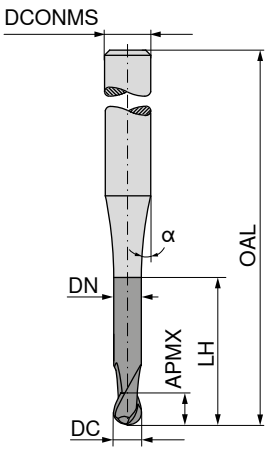
MonsterMill – Ball-nosed end mills – HCR

The specialist for finish machining hardened steels up to 70 HRC

- ▲ Radius accuracy: ± 0.005 mm
- ▲ T_x = maximum depth of cut
- ▲ DC tolerance
  up to Ø 6 mm: 0/ -0.01 mm
  from Ø 6 mm: 0/ -0.02 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC





DPX62U DRAGONSKIN





Factory standard



DPX62U DRAGONSKIN





Factory standard



DC mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_x	ZEFP	SA 53 600 ...	SA 53 601 ...
4.0	4.5	3.90	24.0	15	70	6	6 x DC	2	**740**	
4.0	4.5	3.90	28.0	15	70	6	7 x DC	2	**840**	
6.0	6.5	5.90	12.0		60	6	2 x DC	2	**360**	
6.0	6.5	5.90	16.0		60	6	2,7 x DC	2	**460**	
6.0	6.5	5.90	20.0		60	6	3,3 x DC	2	**560**	
8.0	8.5	7.90	16.0		60	8	2 x DC	2	**380**	
8.0	8.5	7.90	40.0		80	8	5 x DC	2	**480**	
10.0	10.5	9.90	20.0	15	70	10	2 x DC	2	**100**	
10.0	10.5	9.90	40.0		90	10	4 x DC	2	**101**	
12.0	12.5	11.90	24.0		75	12	2 x DC	2	**120**	
12.0	12.5	11.90	40.0		90	12	3,3 x DC	2	**121**	

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→ Find the cutting data standard values here.

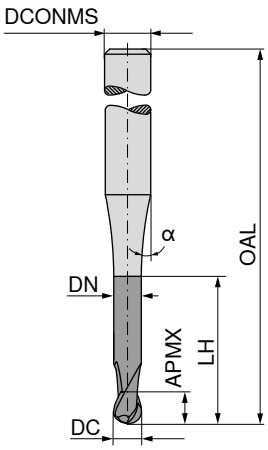
MonsterMill – Ball-nosed end mills – HCR

The specialist for finish machining hardened steels up to 70 HRC

▲ Radius accuracy: ± 0.01 mm

HCR | λ_s=30° γ_s=–3° | 54–70 HRC





DPX62U

DRAGONSKIN





Factory standard



DC mm	APMX mm	DN mm	LH mm	α°	OAL mm	DCONMS $_{h5}$ mm	T_X	ZEFP	SA 53 602 ...
3	3.5	2.9	8	15	60	6	2,7 x DC	4	330
3	3.5	2.9	12	15	60	6	4 x DC	4	430
3	3.5	2.9	16	15	60	6	5,3 x DC	4	530
3	3.5	2.9	20	15	70	6	6,7 x DC	4	630
3	3.5	2.9	24	15	70	6	8 x DC	4	730
4	4.5	3.9	8	15	60	6	2 x DC	4	340
4	4.5	3.9	12	15	60	6	3 x DC	4	440
4	4.5	3.9	16	15	60	6	4 x DC	4	540
4	4.5	3.9	20	15	70	6	5 x DC	4	640
4	4.5	3.9	24	15	70	6	6 x DC	4	740
4	4.5	3.9	28	15	70	6	7 x DC	4	840
6	6.5	5.9	12		60	6	2 x DC	4	360
6	6.5	5.9	16		60	6	2,7 x DC	4	460
6	6.5	5.9	20		60	6	3,3 x DC	4	560
8	8.5	7.9	16		60	8	2 x DC	4	380
8	8.5	7.9	40		80	8	5 x DC	4	480
10	10.5	9.9	20		70	10	2 x DC	4	100
10	10.5	9.9	40		90	10	4 x DC	4	101
12	12.5	11.9	24		75	12	2 x DC	4	120
12	12.5	11.9	40		90	12	3,3 x DC	4	121

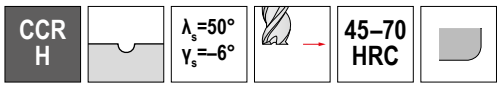
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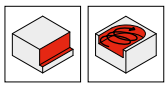
→ Find the cutting data standard values here.

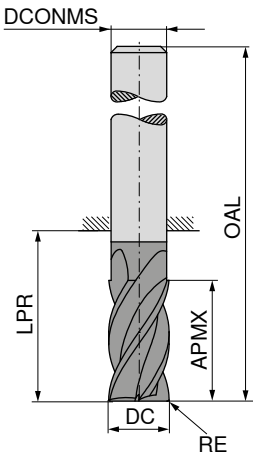
MonsterMill – End mills with corner radius – CCR-H

The specialist for trochoidal machining

- ▲ Chip breaker 0.9 x DC
- ▲ Cutting depth: 3 x DC







DPX62S

DRAGONSKIN





Factory standard



DC e8 mm	RE ±0,05 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	SA 53 596 ...
6	0.2	19	24	60	6	6	**06002**
6	1.0	19	24	60	6	6	**06010**
8	0.2	25	31	67	8	6	**08002**
8	1.0	25	31	67	8	6	**08010**
10	0.2	31	37	77	10	6	**10002**
10	1.0	31	37	77	10	6	**10010**
10	1.5	31	37	77	10	6	**10015**
12	0.2	37	43	88	12	6	**12002**
12	1.0	37	43	88	12	6	**12010**
12	1.5	37	43	88	12	6	**12015**
12	2.0	37	43	88	12	6	**12020**
12	3.0	37	43	88	12	6	**12030**
16	0.2	49	56	104	16	6	**16002**
16	1.0	49	56	104	16	6	**16010**
16	1.5	49	56	104	16	6	**16015**
16	2.0	49	56	104	16	6	**16020**
20	0.2	61	68	118	20	6	**20002**
20	1.0	61	68	118	20	6	**20010**
20	1.5	61	68	118	20	6	**20015**
20	2.0	61	68	118	20	6	**20020**

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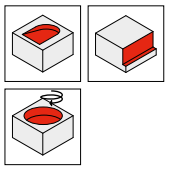
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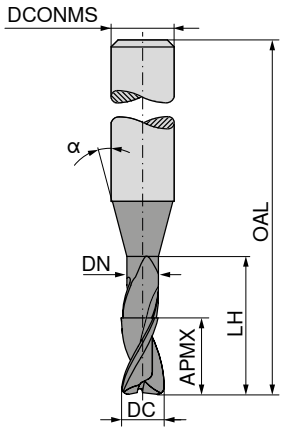
CoreLine – Micro end mills – BlueLine H

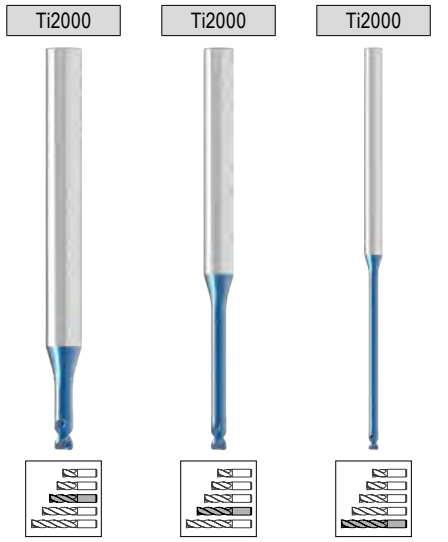
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







Factory standard | Factory standard | Factory standard

DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 345 ...	SM 52 346 ...	SM 52 347 ...
0.2	0.3	0.18	0.5	45	16	4	2,5 x DC	2	**302**		
0.2	0.3	0.18	1.0	45	16	4	5 x DC	2	**402**		
0.2	0.3	0.18	1.5	45	16	4	7,5 x DC	2	**502**		
0.3	0.4	0.28	1.0	45	16	4	3,3 x DC	2	**303**		
0.3	0.4	0.28	2.0	45	16	4	6,6 x DC	2	**403**		
0.3	0.4	0.28	3.0	45	16	4	10 x DC	2		**303**	
0.3	0.4	0.28	6.0	45	16	4	20 x DC	2		**403**	
0.3	0.4	0.28	9.0	45	16	4	30 x DC	2			**303**
0.4	0.6	0.38	2.0	45	16	4	5 x DC	2	**304**		
0.4	0.6	0.38	3.0	45	16	4	7,5 x DC	2	**404**		
0.4	0.6	0.38	4.0	45	16	4	10 x DC	2		**304**	
0.4	0.6	0.38	5.0	45	16	4	12,5 x DC	2		**404**	
0.4	0.6	0.38	8.0	45	16	4	20 x DC	2			**304**
0.4	0.6	0.38	12.0	45	16	4	30 x DC	2			**404**
0.5	0.7	0.48	2.0	45	16	4	4 x DC	2	**305**		
0.5	0.7	0.48	4.0	45	16	4	8 x DC	2	**405**		
0.5	0.7	0.48	6.0	45	16	4	12 x DC	2		**305**	
0.5	0.7	0.48	8.0	45	16	4	16 x DC	2		**405**	
0.5	0.7	0.48	10.0	50	16	4	20 x DC	2			**305**
0.5	0.7	0.48	15.0	50	16	4	30 x DC	2			**405**
0.6	0.9	0.58	2.0	45	16	4	3,3 x DC	2	**306**		
0.6	0.9	0.58	4.0	45	16	4	6,6 x DC	2	**406**		
0.6	0.9	0.58	6.0	45	16	4	10 x DC	2		**306**	
0.6	0.9	0.58	8.0	45	16	4	13,3 x DC	2		**406**	
0.6	0.9	0.58	10.0	45	16	4	16,6 x DC	2		**506**	
0.6	0.9	0.58	12.0	50	16	4	20 x DC	2			**306**
0.6	0.9	0.58	18.0	50	16	4	30 x DC	2			**406**
0.7	1.0	0.68	2.0	45	16	4	2,8 x DC	2	**307**		
0.7	1.0	0.68	4.0	45	16	4	5,7 x DC	2	**407**		
0.7	1.0	0.68	6.0	45	16	4	8,5 x DC	2	**507**		

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→ Find the cutting data standard values here.

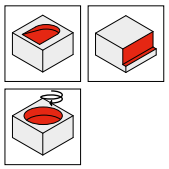
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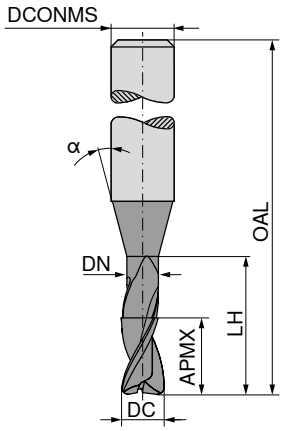
CoreLine – Micro end mills – BlueLine H

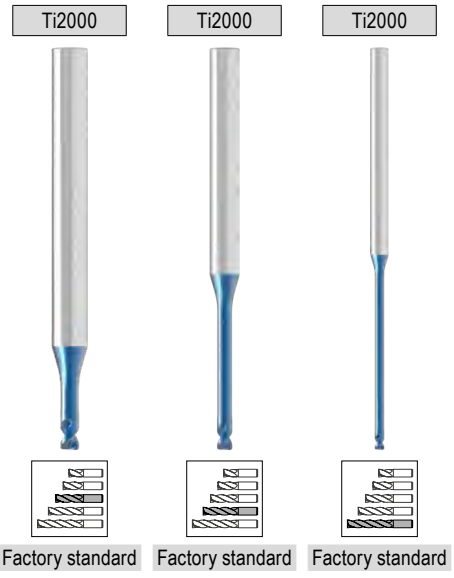
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	T_x	ZEFP	SM 52 345 ...	SM 52 346 ...	SM 52 347 ...
0.7	1.0	0.68	8.0	45	16	4	11,4 x DC	2		**307**	
0.7	1.0	0.68	10.0	50	16	4	14,2 x DC	2		**407**	
0.8	1.2	0.78	4.0	45	16	4	5 x DC	2	**308**		
0.8	1.2	0.78	6.0	45	16	4	7,5 x DC	2	**408**		
0.8	1.2	0.78	8.0	45	16	4	10 x DC	2		**308**	
0.8	1.2	0.78	10.0	50	16	4	12,5 x DC	2		**408**	
0.8	1.2	0.78	12.0	50	16	4	15 x DC	2		**508**	
0.8	1.2	0.78	16.0	50	16	4	20 x DC	2			**308**
0.8	1.2	0.78	24.0	60	16	4	30 x DC	2			**408**
0.9	1.3	0.88	4.0	45	16	4	4,4 x DC	2	**309**		
0.9	1.3	0.88	6.0	45	16	4	6,6 x DC	2	**409**		
0.9	1.3	0.88	8.0	45	16	4	8,8 x DC	2	**509**		
0.9	1.3	0.88	10.0	45	16	4	11 x DC	2		**309**	
0.9	1.3	0.88	15.0	50	16	4	16,6 x DC	2		**409**	
1.0	1.5	0.95	4.0	45	16	4	4 x DC	2	**310**		
1.0	1.5	0.95	6.0	45	16	4	6 x DC	2	**410**		
1.0	1.5	0.95	8.0	45	16	4	8 x DC	2	**510**		
1.0	1.5	0.95	10.0	45	16	4	10 x DC	2		**310**	
1.0	1.5	0.95	12.0	45	16	4	12 x DC	2		**410**	
1.0	1.5	0.95	14.0	45	16	4	14 x DC	2		**510**	
1.0	1.5	0.95	16.0	50	16	4	16 x DC	2		**610**	
1.0	1.5	0.95	20.0	54	16	4	20 x DC	2			**310**
1.0	1.5	0.95	25.0	70	16	4	25 x DC	2			**410**
1.0	1.5	0.95	30.0	70	16	4	30 x DC	2			**510**
1.2	1.8	1.14	6.0	45	16	4	5 x DC	2	**312**		
1.2	1.8	1.14	8.0	45	16	4	6,6 x DC	2	**412**		
1.2	1.8	1.14	10.0	45	16	4	8,3 x DC	2	**512**		
1.2	1.8	1.14	12.0	45	16	4	10 x DC	2		**312**	
1.2	1.8	1.14	16.0	50	16	4	13,3 x DC	2		**412**	
1.2	1.8	1.14	20.0	60	16	4	16,6 x DC	2		**512**	

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→ Find the cutting data standard values here.

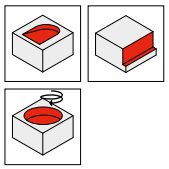
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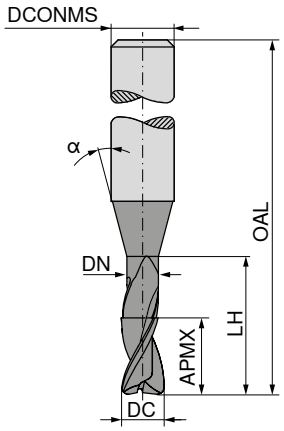
CoreLine – Micro end mills – BlueLine H

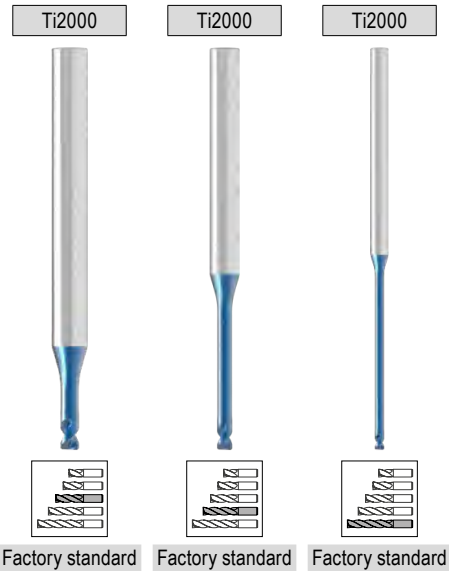
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 345 ...	SM 52 346 ...	SM 52 347 ...
1.4	2.1	1.34	6.0	45	16	4	4,2 x DC	2	**314**		
1.4	2.1	1.34	8.0	45	16	4	5,7 x DC	2	**414**		
1.4	2.1	1.34	10.0	45	16	4	7,1 x DC	2	**514**		
1.4	2.1	1.34	12.0	45	16	4	8,5 x DC	2	**614**		
1.4	2.1	1.34	14.0	45	16	4	10 x DC	2		**314**	
1.4	2.1	1.34	16.0	50	16	4	11,4 x DC	2		**414**	
1.4	2.1	1.34	22.0	54	16	4	15,7 x DC	2		**514**	
1.5	2.3	1.44	6.0	45	16	4	4 x DC	2	**315**		
1.5	2.3	1.44	8.0	45	16	4	5,3 x DC	2	**415**		
1.5	2.3	1.44	10.0	45	16	4	6,6 x DC	2	**515**		
1.5	2.3	1.44	12.0	45	16	4	8 x DC	2	**615**		
1.5	2.3	1.44	14.0	50	16	4	9,3 x DC	2	**715**		
1.5	2.3	1.44	16.0	50	16	4	10,6 x DC	2		**315**	
1.5	2.3	1.44	18.0	54	16	4	12 x DC	2		**415**	
1.5	2.3	1.44	20.0	54	16	4	13,3 x DC	2		**515**	
1.5	2.3	1.44	25.0	70	16	4	16,6 x DC	2		**615**	
1.5	2.3	1.44	30.0	70	16	4	20 x DC	2		**715**	
1.5	2.3	1.44	35.0	70	16	4	23,3 x DC	2			**315**
1.5	2.3	1.44	40.0	80	16	4	26,6 x DC	2			**415**
1.5	2.3	1.44	45.0	80	16	4	30 x DC	2			**515**
1.6	2.4	1.51	6.0	45	16	4	3,7 x DC	2	**316**		
1.6	2.4	1.51	8.0	45	16	4	5 x DC	2	**416**		
1.6	2.4	1.51	10.0	45	16	4	6,2 x DC	2	**516**		
1.6	2.4	1.51	12.0	45	16	4	7,5 x DC	2	**616**		
1.6	2.4	1.51	14.0	50	16	4	8,75 x DC	2	**716**		
1.6	2.4	1.51	16.0	50	16	4	10 x DC	2		**316**	
1.6	2.4	1.51	18.0	54	16	4	11,25 x DC	2		**416**	
1.6	2.4	1.51	20.0	54	16	4	12,5 x DC	2		**516**	
1.6	2.4	1.51	26.0	60	16	4	16,2 x DC	2		**616**	
1.8	2.7	1.71	6.0	45	16	4	3,3 x DC	2	**318**		

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→ Find the cutting data standard values here.

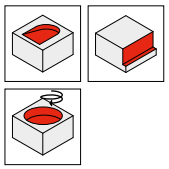
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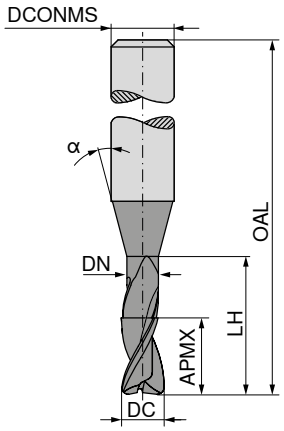
CoreLine – Micro end mills – BlueLine H

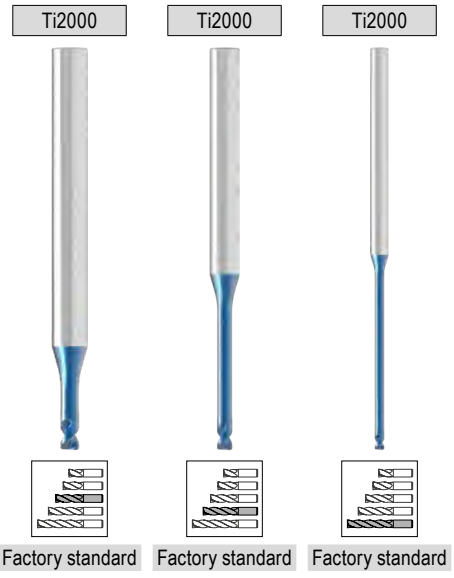
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 345 ...	SM 52 346 ...	SM 52 347 ...
1.8	2.7	1.71	8.0	45	16	4	4,4 x DC	2	**418**		
1.8	2.7	1.71	10.0	45	16	4	5,5 x DC	2	**518**		
1.8	2.7	1.71	12.0	45	16	4	6,6 x DC	2	**618**		
1.8	2.7	1.71	14.0	50	16	4	7,7 x DC	2	**718**		
1.8	2.7	1.71	16.0	50	16	4	8,8 x DC	2	**818**		
1.8	2.7	1.71	18.0	54	16	4	10 x DC	2		**318**	
1.8	2.7	1.71	20.0	54	16	4	11 x DC	2		**418**	
1.8	2.7	1.71	25.0	60	16	4	13,8 x DC	2		**518**	
2.0	3.0	1.91	6.0	45	16	4	3 x DC	2	**320**		
2.0	3.0	1.91	8.0	45	16	4	4 x DC	2	**420**		
2.0	3.0	1.91	10.0	45	16	4	5 x DC	2	**520**		
2.0	3.0	1.91	12.0	45	16	4	6 x DC	2	**620**		
2.0	3.0	1.91	14.0	50	16	4	7 x DC	2	**720**		
2.0	3.0	1.91	16.0	50	16	4	8 x DC	2	**820**		
2.0	3.0	1.91	18.0	54	16	4	9 x DC	2	**920**		
2.0	3.0	1.91	20.0	54	16	4	10 x DC	2		**320**	
2.0	3.0	1.91	25.0	60	16	4	12,5 x DC	2		**420**	
2.0	3.0	1.91	30.0	70	16	4	15 x DC	2		**520**	
2.0	3.0	1.91	35.0	80	16	4	17,5 x DC	2		**620**	
2.0	3.0	1.91	40.0	90	16	4	20 x DC	2			**320**
2.0	3.0	1.91	50.0	100	16	4	25 x DC	2			**420**
2.0	3.0	1.91	60.0	110	16	4	30 x DC	2			**520**
2.5	3.7	2.41	8.0	45	16	4	3,2 x DC	2	**325**		
2.5	3.7	2.41	10.0	45	16	4	4 x DC	2	**425**		
2.5	3.7	2.41	12.0	45	16	4	4,8 x DC	2	**525**		
2.5	3.7	2.41	14.0	50	16	4	5,6 x DC	2	**625**		
2.5	3.7	2.41	16.0	50	16	4	6,4 x DC	2	**725**		
2.5	3.7	2.41	18.0	54	16	4	7,2 x DC	2	**825**		
2.5	3.7	2.41	20.0	54	16	4	8 x DC	2	**925**		
2.5	3.7	2.41	25.0	60	16	4	10 x DC	2		**325**	

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→ Find the cutting data standard values here.

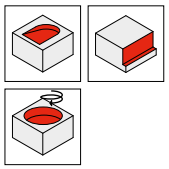
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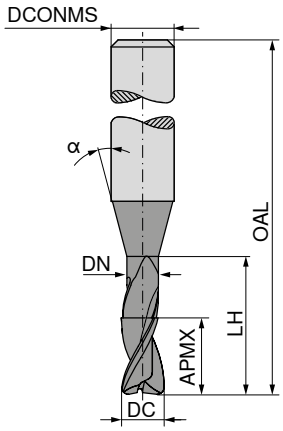
CoreLine – Micro end mills – BlueLine H

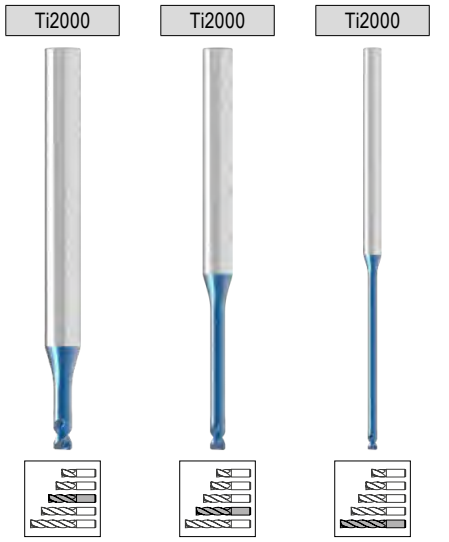
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 345 ...	SM 52 346 ...	SM 52 347 ...
2.5	3.7	2.41	30.0	70	16	4	12 x DC	2		**425**	
2.5	3.7	2.41	40.0	90	16	4	16 x DC	2		**525**	
2.5	3.7	2.41	50.0	100	16	4	20 x DC	2			**325**
3.0	4.5	2.92	8.0	45	16	4	2,6 x DC	2	**330**		
3.0	4.5	2.92	12.0	45	16	4	4 x DC	2	**430**		
3.0	4.5	2.92	16.0	50	16	4	5,3 x DC	2	**530**		
3.0	4.5	2.92	20.0	54	16	4	6,6 x DC	2	**630**		

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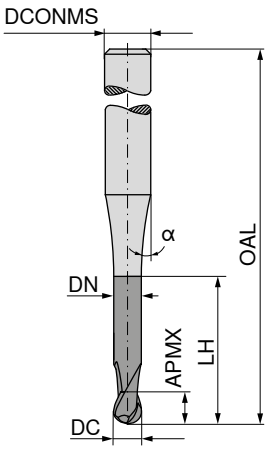
→ Find the cutting data standard values here.

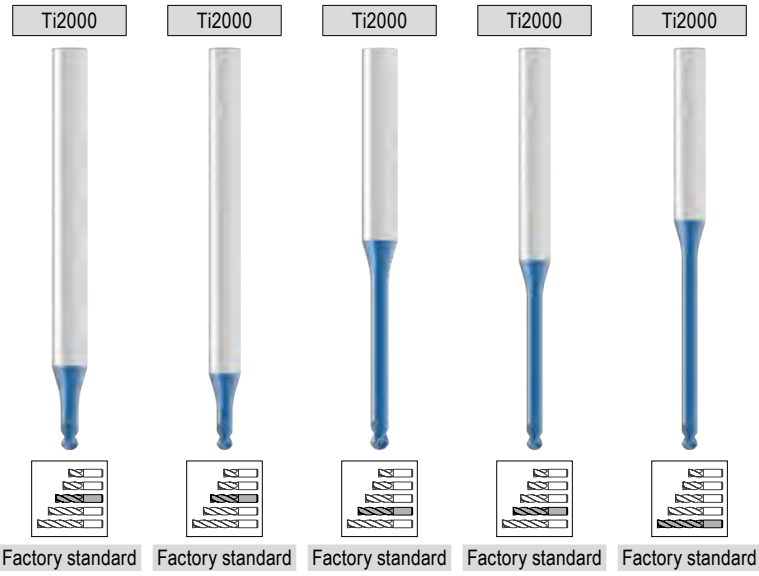
CoreLine – Micro radius cutters – BlueLine H

An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Factory standard | Factory standard | Factory standard | Factory standard | Factory standard

SM | SM | SM | SM | SM

DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	52 356 ...	52 358 ...	52 357 ...	52 359 ...	52 360 ...
0.2	0.16	0.17	0.30	45	16	4	1,5 x DC	2	**302**				
0.2	0.16	0.17	0.50	45	16	4	2,5 x DC	2	**402**				
0.2	0.16	0.17	0.75	45	16	4	3,75 x DC	2	**502**				
0.2	0.16	0.17	1.00	45	16	4	5 x DC	2	**602**				
0.2	0.16	0.17	1.25	45	16	4	6,2 x DC	2	**702**				
0.2	0.16	0.17	1.50	45	16	4	7,5 x DC	2	**802**				
0.2	0.16	0.17	1.75	45	16	4	8,7 x DC	2	**902**				
0.2	0.16	0.17	2.00	45	16	4	10 x DC	2			**302**		
0.2	0.16	0.17	2.50	45	16	4	12,5 x DC	2			**402**		
0.2	0.16	0.17	3.00	45	16	4	15 x DC	2			**502**		
0.3	0.24	0.27	0.50	45	16	4	1,6 x DC	2	**303**				
0.3	0.24	0.27	0.75	45	16	4	2,5 x DC	2	**403**				
0.3	0.24	0.27	1.00	45	16	4	3,3 x DC	2	**503**				
0.3	0.24	0.27	1.25	45	16	4	4,1 x DC	2	**603**				
0.3	0.24	0.27	1.50	45	16	4	5 x DC	2	**703**				
0.3	0.24	0.27	1.75	50	16	4	5,8 x DC	2		**303**			
0.3	0.24	0.27	2.00	50	16	4	6,6 x DC	2		**403**			
0.3	0.24	0.27	2.25	50	16	4	7,5 x DC	2		**503**			
0.3	0.24	0.27	2.50	50	16	4	8,3 x DC	2		**603**			
0.3	0.24	0.27	2.75	50	16	4	9,1 x DC	2		**703**			
0.3	0.24	0.27	3.00	50	16	4	10 x DC	2				**303**	
0.3	0.24	0.27	3.50	50	16	4	11,6 x DC	2				**403**	
0.3	0.24	0.27	4.00	50	16	4	13,3 x DC	2				**503**	
0.3	0.24	0.27	4.50	50	16	4	15 x DC	2				**603**	
0.4	0.32	0.34	0.50	45	16	4	1,2 x DC	2	**304**				
0.4	0.32	0.34	1.00	45	16	4	2,5 x DC	2	**404**				
0.4	0.32	0.34	1.50	45	16	4	3,75 x DC	2	**504**				
0.4	0.32	0.34	2.00	45	16	4	5 x DC	2	**604**				
0.4	0.32	0.34	2.50	45	16	4	6,2 x DC	2	**704**				
0.4	0.32	0.34	3.00	45	16	4	7,5 x DC	2	**804**				

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→ Find the cutting data standard values here.

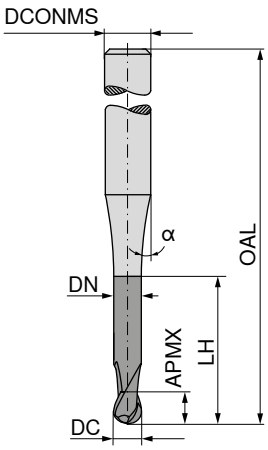
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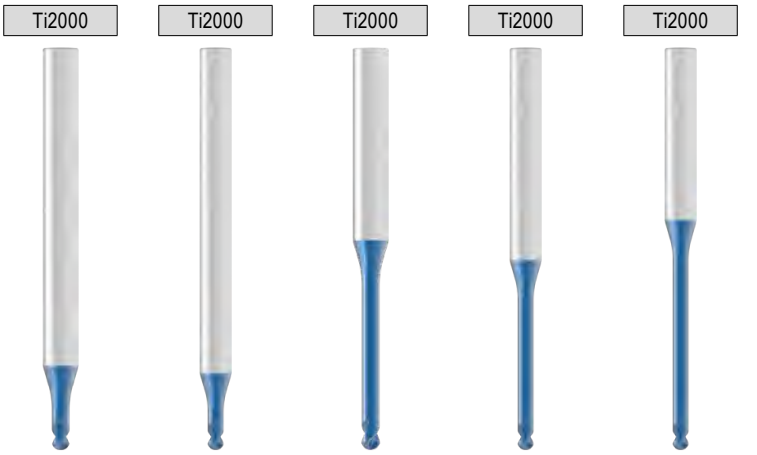
CoreLine – Micro radius cutters – BlueLine H

An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	T_x	ZEFP	Factory standard	Factory standard	Factory standard	Factory standard	Factory standard
									SM	SM	SM	SM	SM
									52 356 ...	**52 358 ...**	**52 357 ...**	**52 359 ...**	**52 360 ...**
0.4	0.32	0.34	3.50	45	16	4	8,7 x DC	2	**904**				
0.4	0.32	0.34	4.00	45	16	4	10 x DC	2			**304**		
0.4	0.32	0.34	4.50	45	16	4	11,2 x DC	2			**404**		
0.4	0.32	0.34	5.00	45	16	4	12,5 x DC	2			**504**		
0.4	0.32	0.34	5.50	45	16	4	13,7 x DC	2			**604**		
0.4	0.32	0.34	6.00	45	16	4	15 x DC	2			**704**		
0.5	0.40	0.47	1.50	45	16	4	3 x DC	2	**305**				
0.5	0.40	0.47	2.00	45	16	4	4 x DC	2	**405**				
0.5	0.40	0.47	2.50	45	16	4	5 x DC	2	**505**				
0.5	0.40	0.47	3.00	45	16	4	6 x DC	2	**605**				
0.5	0.40	0.47	3.50	45	16	4	7 x DC	2	**705**				
0.5	0.40	0.47	4.00	45	16	4	8 x DC	2	**805**				
0.5	0.40	0.47	4.50	45	16	4	9 x DC	2	**905**				
0.5	0.40	0.47	5.00	45	16	4	10 x DC	2			**305**		
0.5	0.40	0.47	5.50	45	16	4	11 x DC	2			**405**		
0.5	0.40	0.47	6.00	45	16	4	12 x DC	2			**505**		
0.5	0.40	0.47	7.00	45	16	4	14 x DC	2			**605**		
0.5	0.40	0.47	8.00	45	16	4	16 x DC	2			**705**		
0.5	0.40	0.47	9.00	45	16	4	18 x DC	2			**805**		
0.5	0.40	0.47	10.00	50	16	4	20 x DC	2					**305**
0.6	0.40	0.57	12.00	50	16	4	20 x DC	2					**306**
0.6	0.48	0.57	1.00	45	16	4	1,6 x DC	2	**306**				
0.6	0.48	0.57	2.00	45	16	4	3,3 x DC	2	**406**				
0.6	0.48	0.57	3.00	45	16	4	5 x DC	2	**506**				
0.6	0.48	0.57	4.00	45	16	4	6,6 x DC	2	**606**				
0.6	0.48	0.57	5.00	45	16	4	8,3 x DC	2	**706**				
0.6	0.48	0.57	6.00	45	16	4	10 x DC	2			**306**		
0.6	0.48	0.57	8.00	45	16	4	13,3 x DC	2			**406**		
0.6	0.48	0.57	10.00	50	16	4	16,6 x DC	2				**306**	
0.8	0.64	0.77	2.00	45	16	4	2,5 x DC	2	**308**				

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→ Find the cutting data standard values here.

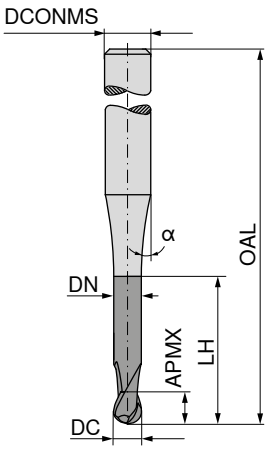
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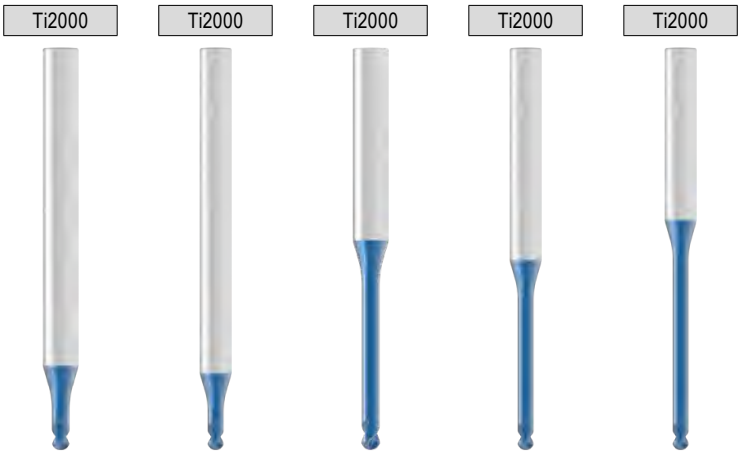
CoreLine – Micro radius cutters – BlueLine H

An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Factory standard | Factory standard | Factory standard | Factory standard | Factory standard

SM | SM | SM | SM | SM

DC -0,01 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	T_x	ZEFP	52 356 ...	52 358 ...	52 357 ...	52 359 ...	52 360 ...
0.8	0.64	0.77	3.00	45	16	4	3,75 x DC	2	**408**				
0.8	0.64	0.77	4.00	45	16	4	5 x DC	2	**508**				
0.8	0.64	0.77	5.00	45	16	4	6,2 x DC	2	**608**				
0.8	0.64	0.77	6.00	45	16	4	7,5 x DC	2	**708**				
0.8	0.64	0.77	7.00	45	16	4	8,7 x DC	2	**808**				
0.8	0.64	0.77	8.00	45	16	4	10 x DC	2			**308**		
0.8	0.64	0.77	9.00	45	16	4	11,2 x DC	2			**408**		
0.8	0.64	0.77	10.00	50	16	4	12,5 x DC	2				**308**	
1.0	0.80	0.96	3.00	45	16	4	3 x DC	2	**310**				
1.0	0.80	0.96	4.00	45	16	4	4 x DC	2	**410**				
1.0	0.80	0.96	5.00	45	16	4	5 x DC	2	**510**				
1.0	0.80	0.96	6.00	45	16	4	6 x DC	2	**610**				
1.0	0.80	0.96	7.00	45	16	4	7 x DC	2	**710**				
1.0	0.80	0.96	8.00	45	16	4	8 x DC	2	**810**				
1.0	0.80	0.96	9.00	45	16	4	9 x DC	2	**910**				
1.0	0.80	0.96	10.00	45	16	4	10 x DC	2			**310**		
1.0	0.80	0.96	12.00	45	16	4	12 x DC	2			**410**		
1.0	0.80	0.96	14.00	50	16	4	14 x DC	2				**310**	
1.0	0.80	0.96	16.00	50	16	4	16 x DC	2				**410**	
1.2	0.96	1.16	6.00	45	16	4	5 x DC	2	**312**				
1.2	0.96	1.16	8.00	45	16	4	6,6 x DC	2	**412**				
1.2	0.96	1.16	10.00	45	16	4	8,3 x DC	2	**512**				
1.2	0.96	1.16	12.00	45	16	4	10 x DC	2			**312**		
1.2	0.96	1.16	14.00	50	16	4	11,6 x DC	2				**312**	
1.2	0.96	1.16	16.00	50	16	4	13,3 x DC	2				**412**	
1.4	1.12	1.34	8.00	45	16	4	5,7 x DC	2	**314**				
1.4	1.12	1.34	12.00	45	16	4	8,5 x DC	2	**414**				
1.4	1.12	1.34	16.00	50	16	4	11,4 x DC	2				**314**	
1.5	1.20	1.44	3.00	45	16	4	2 x DC	2	**315**				
1.5	1.20	1.44	4.00	45	16	4	2,6 x DC	2	**415**				

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→ Find the cutting data standard values here.

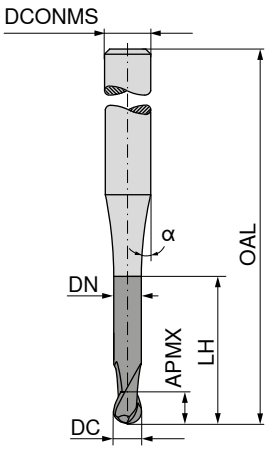
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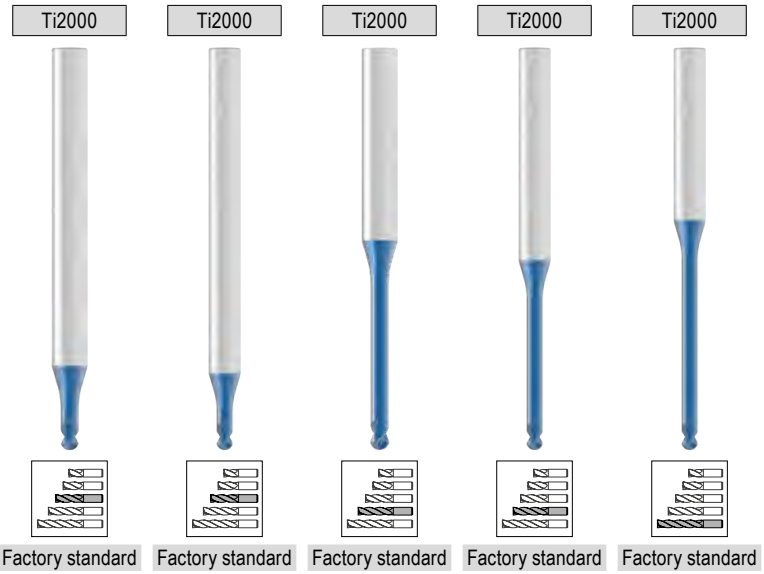
CoreLine – Micro radius cutters – BlueLine H

An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Factory standard | Factory standard | Factory standard | Factory standard | Factory standard

DC $_{-0,01}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 356 ...	SM 52 358 ...	SM 52 357 ...	SM 52 359 ...	SM 52 360 ...
1.5	1.20	1.44	6.00	45	16	4	4 x DC	2	**515**				
1.5	1.20	1.44	8.00	45	16	4	5,3 x DC	2	**615**				
1.5	1.20	1.44	10.00	45	16	4	6,6 x DC	2	**715**				
1.5	1.20	1.44	12.00	45	16	4	8 x DC	2	**815**				
1.5	1.20	1.44	14.00	50	16	4	9,3 x DC	2		**315**			
1.5	1.20	1.44	16.00	50	16	4	10,6 x DC	2				**315**	
1.6	1.28	1.54	8.00	45	16	4	5 x DC	2	**316**				
1.6	1.28	1.54	12.00	45	16	4	7,5 x DC	2	**416**				
1.6	1.28	1.54	16.00	50	16	4	10 x DC	2				**316**	
1.8	1.44	1.74	8.00	45	16	4	4,4 x DC	2	**318**				
1.8	1.44	1.74	12.00	45	16	4	6,6 x DC	2	**418**				
1.8	1.44	1.74	16.00	50	16	4	8,8 x DC	2		**318**			
2.0	1.60	1.94	3.00	45	16	4	1,5 x DC	2	**320**				
2.0	1.60	1.94	4.00	45	16	4	2 x DC	2	**420**				
2.0	1.60	1.94	6.00	45	16	4	3 x DC	2	**520**				
2.0	1.60	1.94	8.00	45	16	4	4 x DC	2	**620**				
2.0	1.60	1.94	10.00	45	16	4	5 x DC	2	**720**				
2.0	1.60	1.94	12.00	45	16	4	6 x DC	2	**820**				
2.0	1.60	1.94	14.00	50	16	4	7 x DC	2		**320**			
2.0	1.60	1.94	16.00	50	16	4	8 x DC	2		**420**			
2.5	2.00	2.41	10.00	45	16	4	4 x DC	2	**325**				
2.5	2.00	2.41	15.00	50	16	4	6 x DC	2		**325**			
3.0	3.50	2.92	8.00	45	16	4	2,6 x DC	2	**330**				
3.0	3.50	2.92	10.00	45	16	4	3,3 x DC	2	**430**				
3.0	3.50	2.92	12.00	45	16	4	4 x DC	2	**530**				
3.0	3.50	2.92	16.00	45	16	4	5,3 x DC	2	**630**				
3.0	3.50	2.92	16.00	50	16	4	5,3 x DC	2		**330**			

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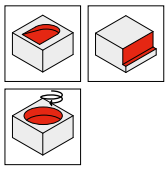
→ Find the cutting data standard values here.

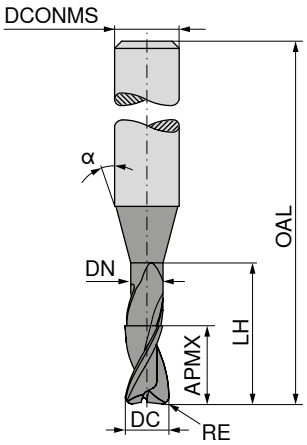
CoreLine – Micro torus cutters – BlueLine H

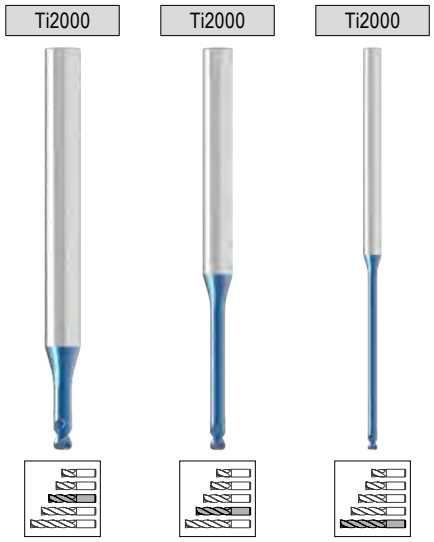
An all-around choice for machining hardened steels

▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC -0,012 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	T_x	ZEFP	SM 52 349 ...	SM 52 350 ...	SM 52 351 ...
0.4	0.1	0.4	0.38	1.0	50	16	4	2,5 x DC	2	**30401**		
0.4	0.1	0.4	0.38	1.5	50	16	4	3,75 x DC	2	**40401**		
0.4	0.1	0.4	0.38	2.0	50	16	4	5 x DC	2	**50401**		
0.4	0.1	0.4	0.38	3.0	50	16	4	7,5 x DC	2	**60401**		
0.4	0.1	0.4	0.38	4.0	50	16	4	10 x DC	2		**30401**	
0.5	0.1	0.5	0.48	1.0	50	16	4	2 x DC	2	**30501**		
0.5	0.1	0.5	0.48	2.0	50	16	4	4 x DC	2	**40501**		
0.5	0.1	0.5	0.48	3.0	50	16	4	6 x DC	2	**50501**		
0.5	0.1	0.5	0.48	4.0	50	16	4	8 x DC	2	**60501**		
0.5	0.1	0.5	0.48	5.0	50	16	4	10 x DC	2		**30501**	
0.5	0.1	0.5	0.48	6.0	50	16	4	12 x DC	2		**40501**	
0.6	0.1	0.6	0.58	2.0	50	16	4	3,3 x DC	2	**30601**		
0.6	0.1	0.6	0.58	3.0	50	16	4	5 x DC	2	**40601**		
0.6	0.1	0.6	0.58	4.0	50	16	4	6,6 x DC	2	**50601**		
0.6	0.1	0.6	0.58	6.0	50	16	4	10 x DC	2		**30601**	
0.6	0.1	0.6	0.58	8.0	50	16	4	13,3 x DC	2		**40601**	
0.7	0.1	0.7	0.68	4.0	50	16	4	5,7 x DC	2	**30701**		
0.7	0.1	0.7	0.68	6.0	50	16	4	8,5 x DC	2	**40701**		
0.8	0.1	0.8	0.78	4.0	50	16	4	5 x DC	2	**30801**		
0.8	0.1	0.8	0.78	6.0	50	16	4	7,5 x DC	2	**40801**		
0.8	0.2	0.8	0.78	4.0	50	16	4	5 x DC	2	**30802**		
0.8	0.2	0.8	0.78	6.0	50	16	4	7,5 x DC	2	**40802**		
1.0	0.1	1.0	0.95	2.0	50	16	4	2 x DC	2	**31001**		
1.0	0.1	1.0	0.95	4.0	50	16	4	4 x DC	2	**41001**		
1.0	0.1	1.0	0.95	6.0	50	16	4	6 x DC	2	**51001**		
1.0	0.1	1.0	0.95	8.0	50	16	4	8 x DC	2	**61001**		
1.0	0.1	1.0	0.95	10.0	50	16	4	10 x DC	2		**31001**	
1.0	0.1	1.0	0.95	12.0	54	16	4	12 x DC	2		**41001**	
1.0	0.1	1.0	0.95	16.0	60	16	4	16 x DC	2		**51001**	
1.0	0.1	1.0	0.95	20.0	60	16	4	20 x DC	2			**31001**

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→ Find the cutting data standard values here.

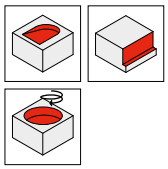
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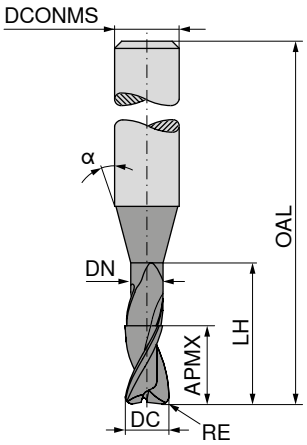
CoreLine – Micro torus cutters – BlueLine H

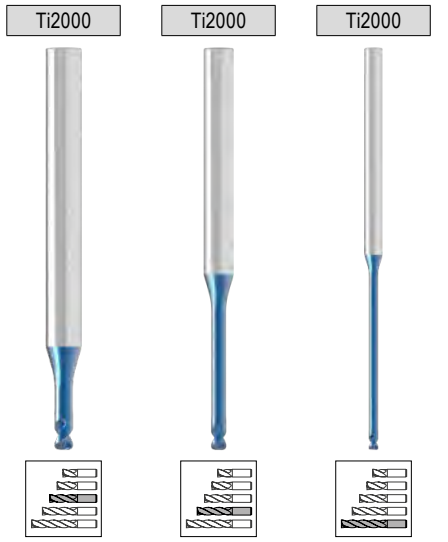
An all-around choice for machining hardened steels

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BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC $_{-0,012}$ mm	RE $_{\pm 0,005}$ mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	T_x	ZEFP	SM 52 349 ...	SM 52 350 ...	SM 52 351 ...
1.0	0.2	1.0	0.95	2.0	50	16	4	2 x DC	2	**31002**		
1.0	0.2	1.0	0.95	4.0	50	16	4	4 x DC	2	**41002**		
1.0	0.2	1.0	0.95	6.0	50	16	4	6 x DC	2	**51002**		
1.0	0.2	1.0	0.95	8.0	50	16	4	8 x DC	2	**61002**		
1.0	0.2	1.0	0.95	10.0	50	16	4	10 x DC	2		**31002**	
1.0	0.2	1.0	0.95	12.0	54	16	4	12 x DC	2		**41002**	
1.0	0.2	1.0	0.95	16.0	60	16	4	16 x DC	2		**51002**	
1.0	0.2	1.0	0.95	20.0	60	16	4	20 x DC	2			**31002**
1.0	0.3	1.0	0.95	2.0	50	16	4	2 x DC	2	**31003**		
1.0	0.3	1.0	0.95	4.0	50	16	4	4 x DC	2	**41003**		
1.0	0.3	1.0	0.95	6.0	50	16	4	6 x DC	2	**51003**		
1.0	0.3	1.0	0.95	8.0	50	16	4	8 x DC	2	**61003**		
1.0	0.3	1.0	0.95	10.0	50	16	4	10 x DC	2		**31003**	
1.0	0.3	1.0	0.95	12.0	54	16	4	12 x DC	2		**41003**	
1.0	0.3	1.0	0.95	16.0	60	16	4	16 x DC	2		**51003**	
1.0	0.3	1.0	0.95	20.0	60	16	4	20 x DC	2			**31003**
1.2	0.2	1.2	1.14	6.0	50	16	4	5 x DC	2	**31202**		
1.2	0.2	1.2	1.14	12.0	54	16	4	10 x DC	2		**31202**	
1.2	0.2	1.2	1.14	20.0	60	16	4	16,6 x DC	2		**41202**	
1.2	0.3	1.2	1.14	6.0	50	16	4	5 x DC	2	**31203**		
1.2	0.3	1.2	1.14	12.0	54	16	4	10 x DC	2		**31203**	
1.2	0.3	1.2	1.14	20.0	60	16	4	16,6 x DC	2		**41203**	
1.5	0.2	1.5	1.44	4.0	50	16	4	2,6 x DC	2	**31502**		
1.5	0.2	1.5	1.44	6.0	50	16	4	4 x DC	2	**41502**		
1.5	0.2	1.5	1.44	8.0	50	16	4	5,3 x DC	2	**51502**		
1.5	0.2	1.5	1.44	10.0	50	16	4	6,6 x DC	2	**61502**		
1.5	0.2	1.5	1.44	12.0	54	16	4	8 x DC	2	**71502**		
1.5	0.2	1.5	1.44	16.0	54	16	4	10,6 x DC	2		**31502**	
1.5	0.2	1.5	1.44	20.0	60	16	4	13,3 x DC	2		**41502**	
1.5	0.3	1.5	1.44	4.0	50	16	4	2,6 x DC	2	**31503**		

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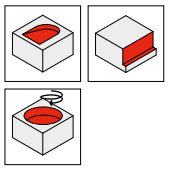
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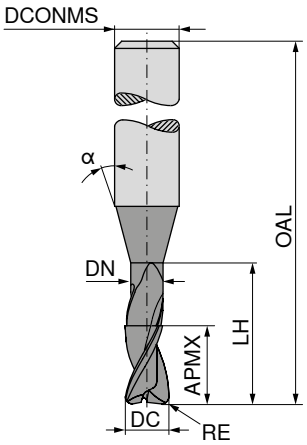
CoreLine – Micro torus cutters – BlueLine H

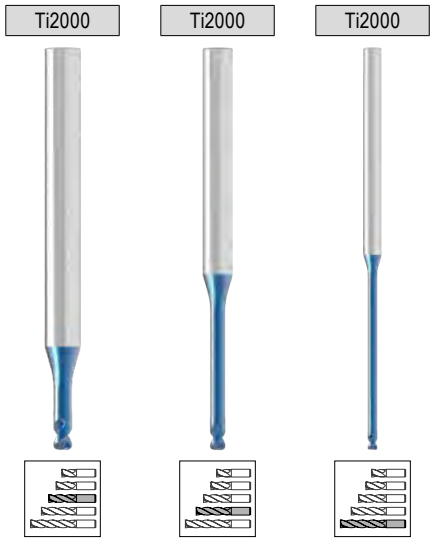
An all-around choice for machining hardened steels

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BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC $_{-0,012}$	RE $_{\pm 0,005}$	APMX	DN	LH	OAL	α°	DCONMS $_{h5}$	T_x	ZEFP	SM	SM	SM
mm	mm	mm	mm	mm	mm		mm			52 349 ...	52 350 ...	52 351 ...
1.5	0.3	1.5	1.44	6.0	50	16	4	4 x DC	2	41503		
1.5	0.3	1.5	1.44	8.0	50	16	4	5,3 x DC	2	51503		
1.5	0.3	1.5	1.44	10.0	50	16	4	6,6 x DC	2	61503		
1.5	0.3	1.5	1.44	12.0	54	16	4	8 x DC	2	71503		
1.5	0.3	1.5	1.44	16.0	54	16	4	10,6 x DC	2		31503	
1.5	0.3	1.5	1.44	20.0	60	16	4	13,3 x DC	2		41503	
1.5	0.5	1.5	1.44	4.0	50	16	4	2,6 x DC	2	31505		
1.5	0.5	1.5	1.44	6.0	50	16	4	4 x DC	2	41505		
1.5	0.5	1.5	1.44	8.0	50	16	4	5,3 x DC	2	51505		
1.5	0.5	1.5	1.44	10.0	50	16	4	6,6 x DC	2	61505		
1.5	0.5	1.5	1.44	12.0	54	16	4	8 x DC	2	71505		
1.5	0.5	1.5	1.44	16.0	54	16	4	10,6 x DC	2		31505	
1.5	0.5	1.5	1.44	20.0	60	16	4	13,3 x DC	2		41505	
2.0	0.1	2.0	1.91	4.0	50	16	4	2 x DC	2	32001		
2.0	0.1	2.0	1.91	6.0	50	16	4	3 x DC	2	42001		
2.0	0.1	2.0	1.91	8.0	50	16	4	4 x DC	2	52001		
2.0	0.1	2.0	1.91	10.0	50	16	4	5 x DC	2	62001		
2.0	0.1	2.0	1.91	12.0	54	16	4	6 x DC	2	72001		
2.0	0.1	2.0	1.91	16.0	54	16	4	8 x DC	2	82001		
2.0	0.1	2.0	1.91	20.0	60	16	4	10 x DC	2		32001	
2.0	0.1	2.0	1.91	26.0	70	16	4	13 x DC	2		42001	
2.0	0.2	2.0	1.91	4.0	50	16	4	2 x DC	2	32002		
2.0	0.2	2.0	1.91	6.0	50	16	4	3 x DC	2	42002		
2.0	0.2	2.0	1.91	8.0	50	16	4	4 x DC	2	52002		
2.0	0.2	2.0	1.91	10.0	50	16	4	5 x DC	2	62002		
2.0	0.2	2.0	1.91	12.0	54	16	4	6 x DC	2	72002		
2.0	0.2	2.0	1.91	16.0	54	16	4	8 x DC	2	82002		
2.0	0.2	2.0	1.91	20.0	60	16	4	10 x DC	2		32002	
2.0	0.2	2.0	1.91	26.0	70	16	4	13 x DC	2		42002	
2.0	0.3	2.0	1.91	4.0	50	16	4	2 x DC	2	32003		

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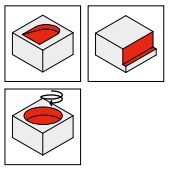
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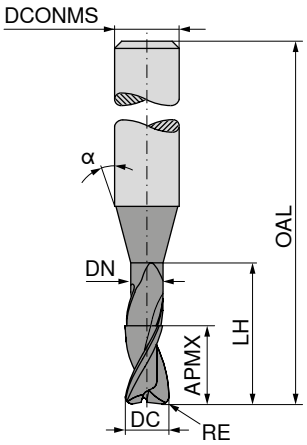
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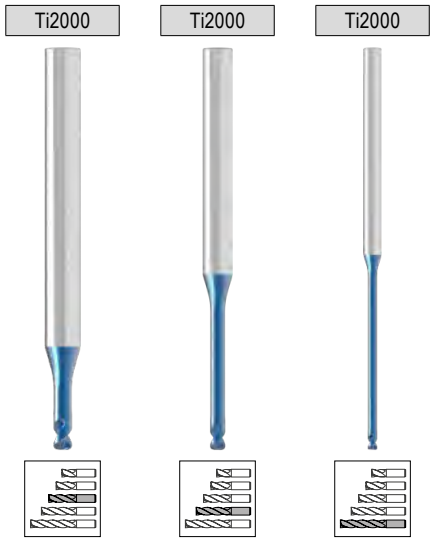
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▲ T_x = maximum depth of cut

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







DC -0,012 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	T_x	ZEFP	SM 52 349 ...	SM 52 350 ...	SM 52 351 ...
2.0	0.3	2.0	1.91	6.0	50	16	4	3 x DC	2	**42003**		
2.0	0.3	2.0	1.91	8.0	50	16	4	4 x DC	2	**52003**		
2.0	0.3	2.0	1.91	10.0	50	16	4	5 x DC	2	**62003**		
2.0	0.3	2.0	1.91	12.0	54	16	4	6 x DC	2	**72003**		
2.0	0.3	2.0	1.91	16.0	54	16	4	8 x DC	2	**82003**		
2.0	0.3	2.0	1.91	20.0	60	16	4	10 x DC	2		**32003**	
2.0	0.3	2.0	1.91	26.0	70	16	4	13 x DC	2		**42003**	
2.0	0.5	2.0	1.91	4.0	50	16	4	2 x DC	2	**32005**		
2.0	0.5	2.0	1.91	6.0	50	16	4	3 x DC	2	**42005**		
2.0	0.5	2.0	1.91	8.0	50	16	4	4 x DC	2	**52005**		
2.0	0.5	2.0	1.91	10.0	50	16	4	5 x DC	2	**62005**		
2.0	0.5	2.0	1.91	12.0	54	16	4	6 x DC	2	**72005**		
2.0	0.5	2.0	1.91	16.0	54	16	4	8 x DC	2	**82005**		
2.0	0.5	2.0	1.91	20.0	60	16	4	10 x DC	2		**32005**	
2.0	0.5	2.0	1.91	26.0	70	16	4	13 x DC	2		**42005**	
2.5	0.3	2.5	2.41	10.0	50	16	4	4 x DC	2	**32503**		
2.5	0.3	2.5	2.41	12.0	60	16	4	4,8 x DC	2	**42503**		
2.5	0.3	2.5	2.41	30.0	70	16	4	12 x DC	2		**32503**	
2.5	0.5	2.5	2.41	10.0	50	16	4	4 x DC	2	**32505**		
2.5	0.5	2.5	2.41	12.0	60	16	4	4,8 x DC	2	**42505**		
2.5	0.5	2.5	2.41	30.0	70	16	4	12 x DC	2		**32505**	
3.0	0.3	3.0	2.92	10.0	50	16	4	3,3 x DC	2	**33003**		
3.0	0.3	3.0	2.92	12.0	50	16	4	4 x DC	2	**43003**		
3.0	0.3	3.0	2.92	30.0	70	16	4	10 x DC	2		**33003**	
3.0	0.5	3.0	2.92	10.0	50	16	4	3,3 x DC	2	**33005**		
3.0	0.5	3.0	2.92	12.0	50	16	4	4 x DC	2	**43005**		
3.0	0.5	3.0	2.92	30.0	70	16	4	10 x DC	2		**33005**	

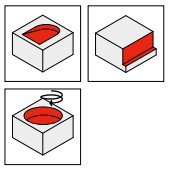
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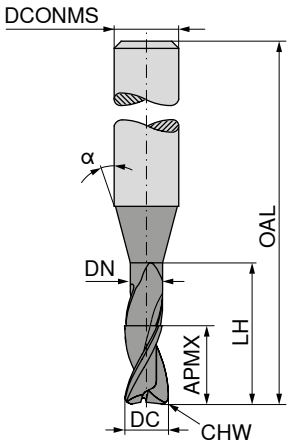
→ Find the cutting data standard values here.

CoreLine – End mill – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Ti2000



Factory standard

SM

DC e8 mm	APMX mm	DN mm	LH mm	OAL mm	α°	DCONMS h5 mm	CHW mm	ZEFP	52 344 ...
0.5	1.5			58	12	6	0.02	2	**905**
1.0	3.0			58	12	6	0.02	2	**010**
1.5	4.0			58	12	6	0.03	2	**015**
2.0	5.0	1.8	12	58	20	6	0.03	2	**020**
2.5	6.0	2.3	13	58	20	6	0.04	2	**025**
3.0	8.0	2.8	15	58	20	6	0.04	2	**030**
3.5	8.0	3.3	15	58	20	6	0.05	2	**035**
4.0	11.0	3.8	15	58	20	6	0.05	2	**040**
5.0	13.0	4.8	21	58	20	6	0.06	2	**050**
6.0	16.0	5.8	24	58		6	0.07	2	**060**
8.0	19.0	7.8	27	64		8	0.08	2	**080**
10.0	22.0	9.8	32	73		10	0.10	2	**100**
12.0	26.0	11.8	38	84		12	0.13	2	**120**
16.0	32.0	15.7	44	93		16	0.18	2	**160**
20.0	38.0	19.7	54	104		20	0.20	2	**200**

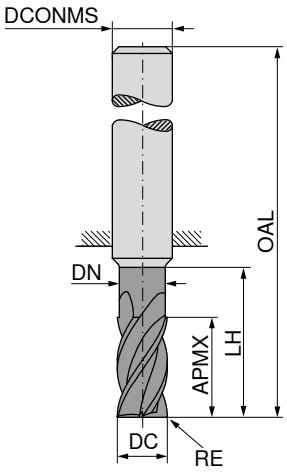
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→ Find the cutting data standard values here.

CoreLine – End mills with corner radius – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







Factory standard | Factory standard



SM | SM

DC e8 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h5 mm	ZEFP	52 353 ...	52 354 ...
1	0.10	1.5	0.85	10	50	3	4	31001	
1	0.10	1.5	0.85	20	75	3	4		31001
1	0.20	1.5	0.85	10	50	3	4	31002	
1	0.20	1.5	0.85	20	75	3	4		31002
2	0.20	2.5	1.80	12	50	3	4	32002	
2	0.20	2.5	1.80	25	75	3	4		32002
2	0.30	2.5	1.80	12	50	3	4	32003	
2	0.30	2.5	1.80	25	75	3	4		32003
2	0.50	2.5	1.80	12	50	3	4	32005	
2	0.50	2.5	1.80	25	75	3	4		32005
3	0.25	4.0	2.70	14	50	3	4	33002	
3	0.25	4.0	2.70	32	75	3	4		33002
3	0.30	4.0	2.70	14	50	3	4	33003	
3	0.30	4.0	2.70	32	75	3	4		33003
3	0.50	4.0	2.70	14	50	3	4	33005	
3	0.50	4.0	2.70	32	75	3	4		33005
3	1.00	4.0	2.70	14	50	3	4	33010	
3	1.00	4.0	2.70	32	75	3	4		33010
4	0.20	5.0	3.70	16	50	4	4	44002	
4	0.20	5.0	3.70	36	75	4	4		44002
4	0.25	5.0	3.70	16	50	4	4	44003	
4	0.25	5.0	3.70	36	75	4	4		44003
4	0.40	5.0	3.70	16	50	4	4	44004	
4	0.40	5.0	3.70	36	75	4	4		44004
4	0.50	5.0	3.70	16	50	4	4	44005	
4	0.50	5.0	3.70	36	75	4	4		44005
4	1.00	5.0	3.70	16	50	4	4	44010	
4	1.00	5.0	3.70	36	75	4	4		44010
5	0.25	6.0	4.60	18	54	5	4	55002	
5	0.25	6.0	4.60	40	75	5	4		55002
5	0.50	6.0	4.60	18	54	5	4	55005	

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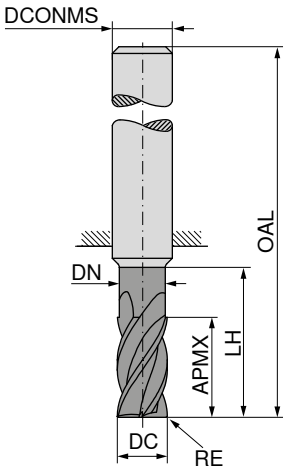
→ Find the cutting data standard values here.

Continued on next page

CoreLine – End mills with corner radius – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC







Factory standard | Factory standard



SM | SM

DC e8 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h5 mm	ZEFP	52 353 ...	52 354 ...
5	0.50	6.0	4.60	40	75	5	4		55005
5	1.00	6.0	4.60	18	54	5	4	55010	
5	1.00	6.0	4.60	40	75	5	4		55010
6	0.25	7.0	5.50	21	58	6	4	06002	
6	0.25	7.0	5.50	44	80	6	4		06002
6	0.50	7.0	5.50	21	58	6	4	06005	
6	0.50	7.0	5.50	44	80	6	4		06005
6	0.80	7.0	5.50	21	58	6	4	06008	
6	1.00	7.0	5.50	21	58	6	4	06010	
6	1.00	7.0	5.50	44	80	6	4		06010
6	1.50	7.0	5.50	21	58	6	4	06015	
6	1.50	7.0	5.50	44	80	6	4		06015
6	2.00	7.0	5.50	21	58	6	4	06020	
8	0.25	9.0	7.40	27	64	8	4	08002	
8	0.25	9.0	7.40	54	100	8	4		08002
8	0.50	9.0	7.40	27	64	8	4	08005	
8	0.50	9.0	7.40	54	100	8	4		08005
8	0.80	9.0	7.40	27	64	8	4	08008	
8	0.80	9.0	7.40	54	100	8	4		08008
8	1.00	9.0	7.40	27	64	8	4	08010	
8	1.00	9.0	7.40	54	100	8	4		08010
8	1.50	9.0	7.40	27	64	8	4	08015	
8	1.50	9.0	7.40	54	100	8	4		08015
8	2.00	9.0	7.40	27	64	8	4	08020	
8	2.00	9.0	7.40	54	100	8	4		08020
8	2.50	9.0	7.40	27	64	8	4	08025	
8	3.00	9.0	7.40	27	64	8	4	08030	
8	3.00	9.0	7.40	54	100	8	4		08030
10	0.25	11.0	9.20	32	73	10	4	10002	
10	0.25	11.0	9.20	60	100	10	4		10002
10	0.50	11.0	9.20	32	73	10	4	10005	

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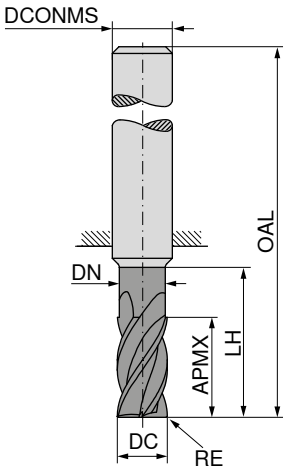
→ Find the cutting data standard values here.

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CoreLine – End mills with corner radius – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC








Factory standard | Factory standard




SM | SM

DC e8 mm	RE ±0,005 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h5 mm	ZEFP	52 353 ...	52 354 ...
10	0.50	11.0	9.20	60	100	10	4		10005
10	0.80	11.0	9.20	32	73	10	4	10008	
10	0.80	11.0	9.20	60	100	10	4		10008
10	1.00	11.0	9.20	32	73	10	4	10010	
10	1.00	11.0	9.20	60	100	10	4		10010
10	1.50	11.0	9.20	32	73	10	4	10015	
10	1.50	11.0	9.20	60	100	10	4		10015
10	2.00	11.0	9.20	32	73	10	4	10020	
10	2.00	11.0	9.20	60	100	10	4		10020
10	3.00	11.0	9.20	32	73	10	4	10030	
10	3.00	11.0	9.20	60	100	10	4		10030
10	3.50	11.0	9.20	32	73	10	4	10035	
12	0.50	12.0	11.00	38	84	12	4	12005	
12	0.50	12.0	11.00	75	120	12	4		12005
12	1.00	12.0	11.00	38	84	12	4	12010	
12	1.00	12.0	11.00	75	120	12	4		12010
12	1.50	12.0	11.00	38	84	12	4	12015	
12	1.50	12.0	11.00	75	120	12	4		12015
12	2.00	12.0	11.00	38	84	12	4	12020	
12	2.00	12.0	11.00	75	120	12	4		12020
12	3.00	12.0	11.00	38	84	12	4	12030	
12	3.00	12.0	11.00	75	120	12	4		12030
16	2.00	16.0	15.00	44	93	16	4	16020	
16	2.00	16.0	15.00	92	150	16	4		16020
16	3.00	16.0	15.00	44	93	16	4	16030	
16	3.00	16.0	15.00	92	150	16	4		16030

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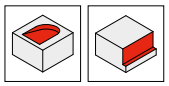
→ Find the cutting data standard values here.

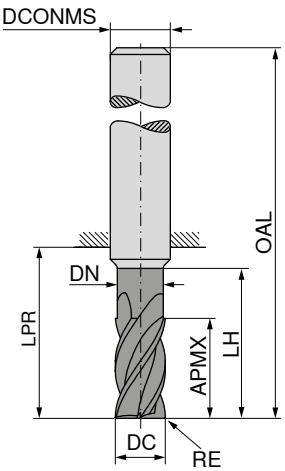
CoreLine – End mills with corner radius – BlueLine H

An all-around choice for machining hardened steels

▲ With decreasing helix angles for reduced machining noise & vibration

BlueLine H | λ_s=30° 45° γ_s=10° | 54–70 HRC











Factory standard



Factory standard





DC e8	RE ±0,01	APMX	DN	LH	LPR	OAL	DCONMS h6	ZEFP	SM	SM
mm	mm	mm	mm	mm	mm	mm	mm		52 140 ...	52 141 ...
3	0.3	4	2.7	14	22	50	3	4	031	
3	0.5	4	2.7	14	22	50	3	4	033	
3	1.0	4	2.7	14	22	50	3	4	034	
4	0.4	5	3.7	16	22	50	4	4	042	
4	0.5	5	3.7	16	22	50	4	4	043	
4	1.0	5	3.7	16	22	50	4	4	044	
5	0.5	6	4.6	18	26	54	5	4	053	
5	1.0	6	4.6	18	26	54	5	4	054	
6	0.5	7	5.5	21	21	57	6	6	063	063
6	1.0	7	5.5	21	21	57	6	6	064	064
6	1.5	7	5.5	21	21	57	6	6	065	065
8	0.5	9	7.4	27	27	63	8	6	083	083
8	1.0	9	7.4	27	27	63	8	6	084	084
8	1.5	9	7.4	27	27	63	8	6	085	085
8	2.0	9	7.4	27	27	63	8	6	086	086
10	0.5	11	9.2	32	32	72	10	6	103	103
10	1.0	11	9.2	32	32	72	10	6	104	104
10	1.5	11	9.2	32	32	72	10	6	105	105
10	2.0	11	9.2	32	32	72	10	6	106	106
12	0.5	12	11.0	38	38	83	12	6	123	123
12	1.0	12	11.0	38	38	83	12	6	124	124
12	1.5	12	11.0	38	38	83	12	6	125	125
12	2.0	12	11.0	38	38	83	12	6	126	126
16	1.0	16	15.0	44	45	93	16	6	161	161
16	2.0	16	15.0	44	45	93	16	6	163	163
20	1.0	20	18.5	50	54	104	20	6	201	201
20	2.5	20	18.5	50	54	104	20	6	204	204
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→ Find the cutting data standard values here.

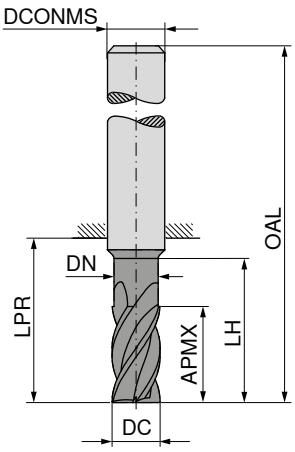
CoreLine – Finishing milling cutters – BlueLine H

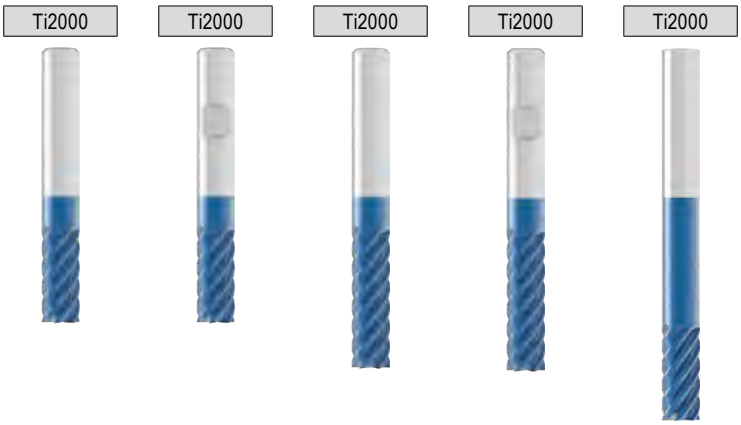
An all-around choice for machining hardened steels

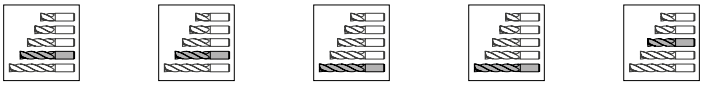
▲ With decreasing helix angles for reduced machining noise & vibration

BlueLine H | λ_s=30° 45° γ_s= 0° | 54–70 HRC











DC e8 mm	APMX mm	LPR mm	DN mm	LH mm	OAL mm	DCONMS h6 mm	ZEFP	SM 52 133 ...	SM 52 134 ...	SM 52 135 ...	SM 52 136 ...	SM 52 348 ...
2	8	22			58	6	4	020	020			
3	12	22			58	6	4	030	030			
4	13	22			58	6	4	040	040			
5	15	22			58	6	6	050	050			
6	16	22			58	6	6	060	060			
6	16	44	5.8	40	80	6	6					060
6	21	29			65	6	6			060	060	
8	19	64	7.7	50	100	8	6					080
8	22	34			70	8	6	080	080			
8	28	39			75	8	6			080	080	
10	25	33			73	10	6	100	100			
10	25	60	9.7	60	100	10	6					100
10	35	45			85	10	6			100	100	
12	28	39			84	12	6	120	120			
12	30	75	11.6	60	120	12	6					120
12	45	55			100	12	6			120	120	
14	30	39			84	14	6	140	140			
14	45	55			100	14	6			140	140	
16	35	45			93	16	8	160	160			
16	40	102	15.6	100	150	16	8					160
16	50	62			110	16	8			160	160	
16	65	77			125	16	8			161	161	
18	35	45			93	18	10	180	180			
18	54	66			114	18	10			180	180	
20	40	54			104	20	10	200	200			
20	50	100	19.6	100	150	20	10					200
20	55	76			126	20	10			200	200	
20	70	85			135	20	10			201	201	

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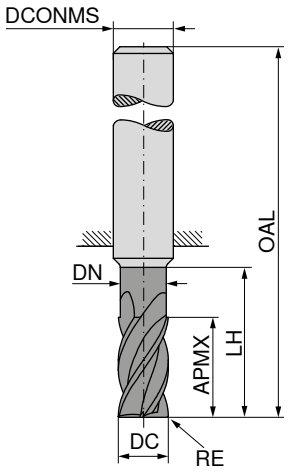
→ Find the cutting data standard values here.

CoreLine – Finishing milling cutters with corner radius – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s = 30° 45° | γ_s = 0° | 54–70 HRC













Factory standard | Factory standard





DC e8 mm	RE +/-0,005 mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS h6 mm	ZEFP	SM 52 324 ...	SM 52 325 ...
5	0.5	15	4.8	19	58	6	6	052	
5	1.0	15	4.8	19	58	6	6	053	
6	0.5	16	5.8	20	58	6	6	062	
6	0.5	21	5.8	29	65	6	6		062
6	1.0	16	5.8	20	58	6	6	063	
6	1.0	21	5.8	29	65	6	6		063
8	0.5	22	7.8	26	70	8	6	082	
8	0.5	28	7.8	39	75	8	6		082
8	1.0	22	7.8	26	70	8	6	083	
8	1.0	28	7.8	39	75	8	6		083
10	0.5	25	9.8	31	73	10	6	102	
10	0.5	35	9.8	45	85	10	6		102
10	1.0	25	9.8	31	73	10	6	103	
10	1.0	35	9.8	45	85	10	6		103
10	1.5	25	9.8	31	73	10	6	104	
10	1.5	35	9.8	45	85	10	6		104
12	0.5	28	11.8	37	84	12	6	122	
12	0.5	45	11.8	55	100	12	6		122
12	1.0	28	11.8	37	84	12	6	123	
12	1.0	45	11.8	55	100	12	6		123
12	1.5	28	11.8	37	84	12	6	124	
12	1.5	45	11.8	55	100	12	6		124
14	1.0	30	13.8	37	84	14	6	143	
14	1.0	45	13.8	55	100	14	6		143
16	1.0	35	15.8	43	93	16	8	163	
16	1.0	50	15.8	62	110	16	8		163
16	2.0	35	15.8	43	93	16	8	165	
16	2.0	50	15.8	62	110	16	8		165
18	1.0	35	17.8	43	93	18	10	183	
18	1.0	54	17.8	66	114	18	10		183
20	1.0	40	19.8	52	104	20	10	203	
20	1.0	55	19.8	76	126	20	10		203
20	2.0	40	19.8	52	104	20	10	205	
20	2.0	55	19.8	76	126	20	10		205
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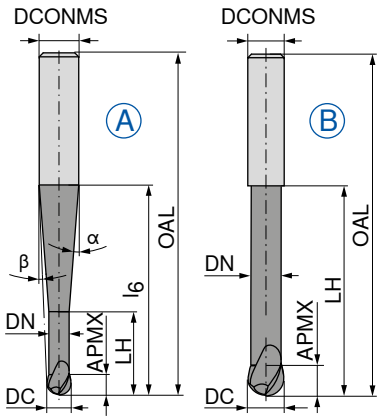
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – BlueLine H

An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC





Ti2000



Factory standard



DC mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS $_{h5}$ mm	ZEFP	Fig.	SM 52 302 ...
1.0	1.00	0.95	10	16.5	57	15	9	6	2	A	**010**
1.5	1.25	1.40	12	18.0	57	15	7,5	6	2	A	**015**
2.0	1.50	1.90	16	20.0	57	15	6	6	2	A	**020**
3.0	2.00	2.90	20	34.5	80	15	2,5	6	2	A	**030**
4.0	2.50	3.90	22	35.0	80	15	2	6	2	A	**040**
5.0	3.00	4.90	25	35.0	80	15	1	6	2	A	**050**
6.0	3.50	5.90	29		80			6	2	B	**060**

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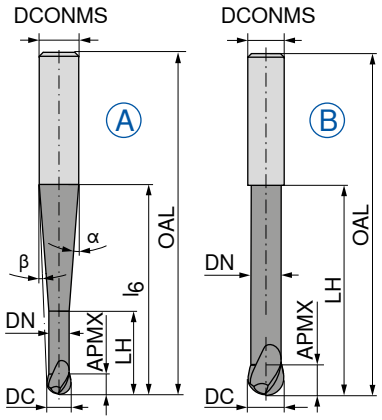
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – BlueLine H

An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm for Ø ≤ 6.0 mm / ± 0.01 mm for Ø > 6.0 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC



Ti2000





Factory standard



DC mm	DC tol.	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	β°	DCONMS $_{h5}$ mm	ZEFP	Fig.	SM 52 303 ...
0.5	±0,01	1.0	0.45	2.0	20	57	10	8,5	6	2	A	**005**
1.0	±0,01	2.0	0.95	4.0	20	57	10	8	6	2	A	**010**
1.5	±0,01	2.5	1.40	7.5	20	57	12,5	7	6	2	A	**015**
2.0	±0,01	3.0	1.80	8.0	20	57	12	6,5	6	2	A	**020**
3.0	±0,01	3.5	2.80	10.0	20	57	11,5	5	6	2	A	**030**
4.0	±0,01	4.0	3.80	12.0	20	57	11	3,5	6	2	A	**040**
5.0	±0,01	5.0	4.70	14.0	20	57	10	2	6	2	A	**050**
6.0	±0,01	6.0	5.60	20.0		57			6	2	B	**060**
8.0	±0,02	7.0	7.60	25.0		63			8	2	B	**080**
10.0	±0,02	8.0	9.60	30.0		72			10	2	B	**100**
12.0	±0,02	10.0	11.50	35.0		83			12	2	B	**120**
12.0	±0,02	10.0	11.50	35.0	40	92	35	3,5	16	2	A	**121**
16.0	±0,02	12.0	15.50	40.0		92			16	2	B	**160**

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→ Find the cutting data standard values here.

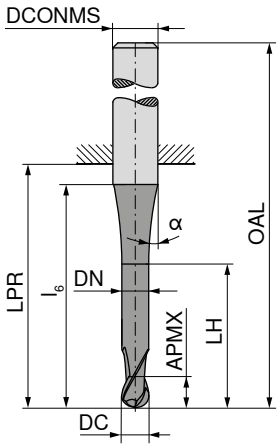
CoreLine – Ball-nosed end mills – BlueLine H

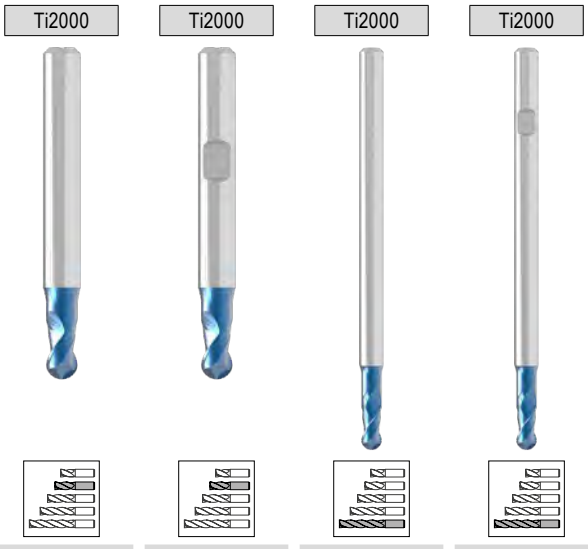
An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC







DC f8	APMX	DN	LH	l_6	LPR	OAL	DCONMS h6	α° ±0,5	ZEFP	Factory standard	Factory standard	Factory standard	Factory standard
mm	mm	mm	mm	mm	mm	mm	mm			SM	SM	SM	SM
										52 256 ...	52 257 ...	52 258 ...	52 259 ...
0.10	0.2			11	10	38	3	8	2	910			
0.15	0.3			12	10	38	3	7,5	2	915			
0.20	0.4			12	10	38	3	7	2	920			
0.25	0.5	0.20	0.8	12	10	38	3	7	2	925			
0.30	1.0	0.25	1.3	12	10	38	3	7	2	930			
0.35	1.0	0.30	1.3	12	10	38	3	7	2	935			
0.40	1.0	0.35	1.3	12	10	38	3	7	2	940			
0.50	1.5	0.40	2.0	12	10	38	3	7,5	2	950			
0.50	1.5	0.40	2.0	17	18	54	6	10,5	2	005	005		
0.50	1.5	0.40	2.0	13	47	75	3	7	2			950	
0.50	1.5	0.40	2.0	17	44	80	6	10,5	2			005	005
0.60	1.5	0.50	2.0	12	10	38	3	7	2	960			
0.70	2.0	0.60	2.5	12	10	38	3	7,5	2	970			
0.80	2.0	0.70	2.5	13	10	38	3	7,5	2	980			
0.90	2.5	0.80	3.5	13	10	38	3	7	2	990			
1.00	2.0	0.90	3.0	13	22	50	3	6	2	011			
1.00	2.0	0.90	3.0	18	18	54	6	9,5	2	106	010		
1.00	3.0	0.90	4.0	14	47	75	3	6	2			011	
1.00	3.0	0.90	4.0	19	44	80	6	9,5	2			010	010
1.10	3.0	1.00	4.0	13	22	50	3	7	2	911			
1.20	3.0	1.10	4.0	13	22	50	3	7	2	012			
1.40	3.0	1.30	4.0	14	22	50	3	5	2	014			
1.50	3.0	1.40	4.0	13	22	50	3	5,5	2	016			
1.50	3.0	1.40	4.0	18	18	54	6	9	2	156	015		
1.50	4.0	1.40	6.0	13	47	75	3	7	2			016	
1.50	4.0	1.40	6.0	19	44	80	6	10	2			015	015
1.60	4.0	1.50	5.0	13	22	50	3	5	2	916			
1.80	4.0	1.70	5.0	13	22	50	3	5	2	018			
2.00	4.0	1.90	5.5	12	22	50	3	5	2	021			
2.00	4.0	1.90	5.5	18	18	54	6	9	2	206	020		
2.00	6.0	1.90	8.0	12	47	75	3	8	2			021	
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→ Find the cutting data standard values here.

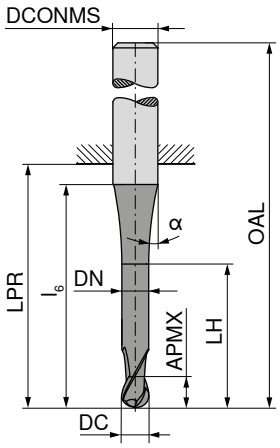
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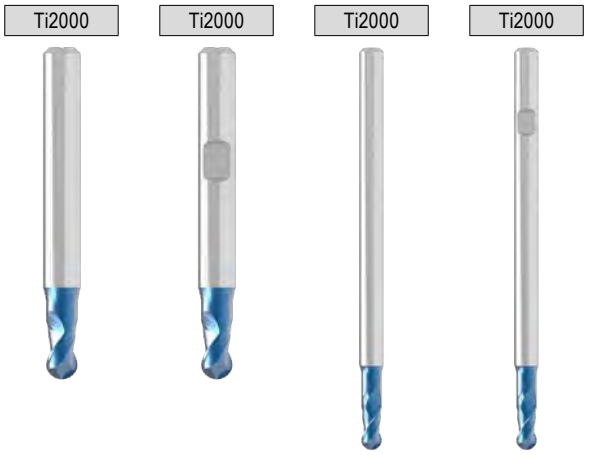
CoreLine – Ball-nosed end mills – BlueLine H

An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC





Factory standard | Factory standard | Factory standard | Factory standard

DC f8 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h6 mm	α° ±0,5	ZEFP	SM 52 256 ...	SM 52 257 ...	SM 52 258 ...	SM 52 259 ...
2.00	6.0	1.90	8.0	20	44	80	6	11	2			**020**	**020**
2.50	5.0	2.30	6.5	10	22	50	3	7	2	**025**			
2.50	5.0	2.30	6.5	17	18	54	6	10	2	**026**	**026**		
2.50	8.0	2.30	10.0	14	47	75	3	5,5	2			**026**	
2.50	8.0	2.30	10.0	20	44	80	6	10	2			**025**	**025**
3.00	6.0	2.80	8.0		22	50	3		2	**031**			
3.00	6.0	2.80	8.0	18	18	54	6	9	2	**306**	**030**		
3.00	10.0	2.80	13.0		47	75	3		2			**031**	
3.00	10.0	2.80	15.0	23	44	80	6	11	2			**030**	**030**
4.00	7.0	3.80	10.0	18	18	54	6	11	2	**406**	**040**		
4.00	7.0	3.80	10.0		26	54	4		2	**041**			
4.00	13.0	3.80	20.0		47	75	4		2			**041**	
4.00	13.0	3.80	18.0	23	44	80	6	12,5	2			**040**	**040**
5.00	8.0	4.80	11.0	15	18	54	6	8	2	**506**	**050**		
5.00	8.0	4.80	11.0		26	54	5		2	**051**			
5.00	14.0	4.80	19.0		47	75	5		2			**051**	
5.00	14.0	4.80	19.0	21	64	100	6	13	2			**050**	**050**
6.00	10.0	5.80	15.0		18	54	6		2	**061**	**060**		
6.00	16.0	5.80	25.0		64	100	6		2			**060**	**060**
8.00	12.0	7.80	17.0		23	59	8		2	**081**	**080**		
8.00	22.0	7.80	35.0		64	100	8		2			**080**	**080**
10.00	13.0	9.80	18.0		27	67	10		2	**101**	**100**		
10.00	25.0	9.80	40.0		60	100	10		2			**100**	**100**
12.00	16.0	11.90	21.0		28	73	12		2	**121**	**120**		
12.00	26.0	11.80	40.0		55	100	12		2			**120**	**120**
14.00	16.0	13.80	21.0		30	75	14		2	**141**	**140**		
14.00	26.0	13.80	40.0		55	100	14		2			**140**	**140**
16.00	20.0	15.80	25.0		35	83	16		2	**161**	**160**		
16.00	30.0	15.80	50.0		102	150	16		2			**160**	**160**
20.00	25.0	19.80	30.0		43	93	20		2	**201**	**200**		
20.00	40.0	19.80	60.0		100	150	20		2			**200**	**200**

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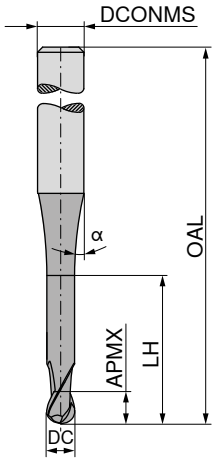
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – BlueLine H

An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Ti2000



Factory standard



DC f8 mm	APMX mm	LH mm	OAL mm	α°	DCONMS h5 mm	ZEFP	SM 52 355 ...
3	8	11	65	12	6	3	**030**
4	8	11	75	12	6	3	**040**
5	10	13	75	12	6	3	**050**
6	12		100		6	3	**060**
8	14		100		8	3	**080**
10	18		100		10	3	**100**
12	22		120		12	3	**120**

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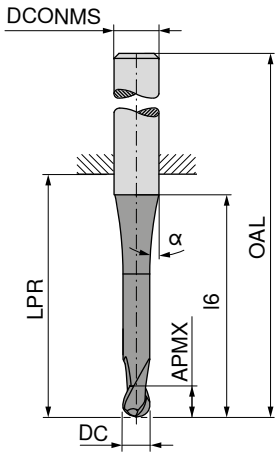
CoreLine – Ball-nosed end mills – BlueLine H

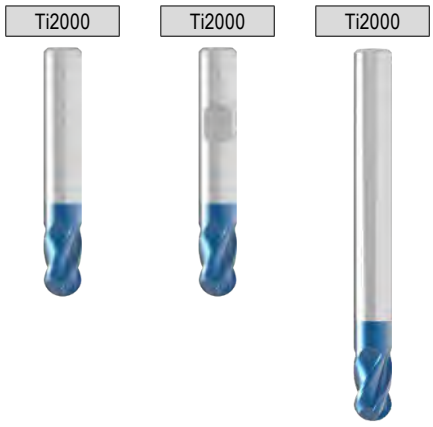
An all-around choice for machining hardened steels

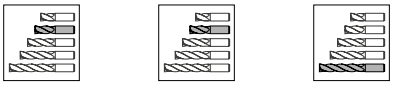
▲ Radius accuracy: ± 0.005 mm

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC









Factory standard | Factory standard | Factory standard



DC f8 mm	APMX mm	l_6 mm	LPR mm	OAL mm	α° ±1	DCONMS h6 mm	ZEFP	SM 52 404 ...	SM 52 405 ...	SM 52 404 ...
2.0	4	10.0	22	50	8	3	4	020		
2.0	4	16.0	18	54	12	6	4	021	021	
2.0	4	10.0	47	75	8	3	4			022
2.0	4	16.0	44	80	12	6	4			023
2.5	5	16.0	18	54	12	6	4	025	025	
2.5	5	16.0	44	80	12	6	4			026
3.0	5		22	50		3	4	030		
3.0	5	14.0	18	54	12	6	4	031	031	
3.0	5		47	75		3	4			032
3.0	5	14.0	44	80	12	6	4			033
4.0	8	15.0	18	54	12	6	4	041	041	
4.0	8		26	54		4	4	040		
4.0	8		47	75		4	4			042
4.0	8	15.0	44	80	12	6	4			043
5.0	9	13.5	18	54	12	6	4	051	051	
5.0	9		26	54		5	4	050		
5.0	9		47	75		5	4			052
5.0	9	13.5	64	100	12	6	4			053
6.0	10		18	54		6	4	060	060	
6.0	10		64	100		6	4			062
7.0	12	15.0	23	59	12	8	4	070	070	
8.0	12		23	59		8	4	080	080	
8.0	12		64	100		8	4			082
9.0	14	17.0	27	67	12	10	4	090	090	
10.0	14	16.0	27	67		10	4	100	100	
10.0	14		60	100		10	4			102
12.0	16		29	74		12	4	120	120	
12.0	16		55	100		12	4			122
14.0	18		30	75		14	4	140	140	
14.0	18	20.0	55	100		14	4			142
16.0	22	24.0	35	83		16	4	160	160	
16.0	22	24.0	102	150		16	4			162
20.0	26	28.0	43	93		20	4	200	200	
20.0	26	28.0	100	150		20	4			202

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→ Find the cutting data standard values here.

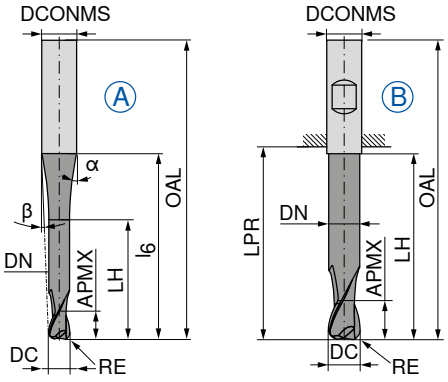
CoreLine – Torus cutters – BlueLine H

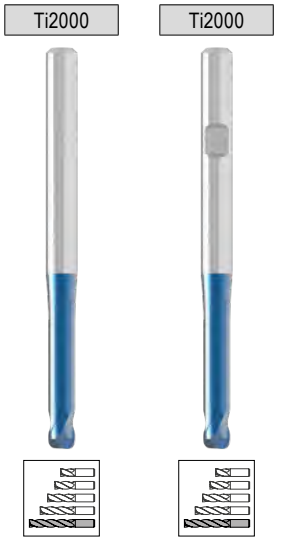
An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm for Ø ≤ 6.0 mm / ± 0.01 mm for Ø > 6.0 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC







Factory standard | Factory standard

DC ±0,01 mm	RE mm	APMX mm	DN mm	LH mm	LPR mm	l_6 mm	OAL mm	α° ±0,5	β°	DCONMS h5 mm	ZEFP	Fig.	SM 52 305 ...	SM 52 305 ...
1.0	0.2	1.00	0.95	10	21	16.5	57	23	9	6	2	A	**010**	
1.5	0.3	1.25	1.40	12	21	18.0	57	21	7,5	6	2	A	**015**	
2.0	0.4	1.50	1.90	16	21	20.0	57	25	6	6	2	A	**020**	
3.0	0.5	2.00	2.90	20	44	34.5	80	6	2,5	6	2	A	**030**	
4.0	0.6	2.50	3.90	22	44	35.0	80	4,5	2	6	2	A	**040**	
5.0	0.8	3.00	4.90	25	44	35.0	80	3,5	1	6	2	A	**050**	
6.0	1.0	3.50	5.90	29	44		80			6	2	B		**060**

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→ Find the cutting data standard values here.

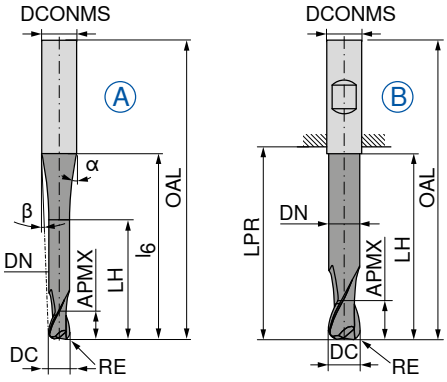
CoreLine – Torus cutters – BlueLine H

An all-around choice for machining hardened steels

▲ Radius accuracy: ± 0.005 mm for Ø ≤ 6.0 mm / ± 0.01 mm for Ø > 6.0 mm
▲ For Ø ≤ 5.0 mm, angle tolerance α and β: ± 0.5°

BlueLine H | λ_s=30° γ_s= 0° | 54–70 HRC









Factory standard | Factory standard



SM | SM

DC mm	DC tol.	RE mm	APMX mm	DN mm	LH mm	LPR mm	l_6 mm	OAL mm	α°	β°	DCONMS $_{h5}$ mm	ZEFP	Fig.	52 304 ...	52 304 ...
0.5	±0,01	0.10	1.0	0.45	2.0	21	20	57	10	8,5	6	2	A	**005**	
1.0	±0,01	0.25	2.0	0.95	4.0	21	20	57	10	8	6	2	A	**010**	
1.5	±0,01	0.30	2.5	1.40	7.5	21	20	57	12,5	7	6	2	A	**015**	
2.0	±0,01	0.50	3.0	1.80	8.0	21	20	57	12	6,5	6	2	A	**020**	
3.0	±0,01	0.50	3.5	2.80	10.0	21	20	57	11,5	5	6	2	A	**030**	
4.0	±0,01	1.00	4.0	3.80	12.0	21	20	57	11	3,5	6	2	A	**040**	
5.0	±0,01	1.50	5.0	4.70	14.0	21	20	57	10	2	6	2	A	**050**	
6.0	±0,01	2.00	6.0	5.60	20.0	21		57			6	2	B		**060**
8.0	±0,02	2.00	7.0	7.60	25.0	27		63			8	2	B		**080**
10.0	±0,02	3.00	8.0	9.60	30.0	32		72			10	2	B		**100**
12.0	±0,02	4.00	10.0	11.50	35.0	38		83			12	2	B		**120**
12.0	±0,02	4.00	10.0	11.50	35.0	44	40	92	37	3,5	16	2	A	**121**	
16.0	±0,02	5.00	12.0	15.50	40.0	44		92			16	2	B		**160**

P	○	○
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H	●	●
O		

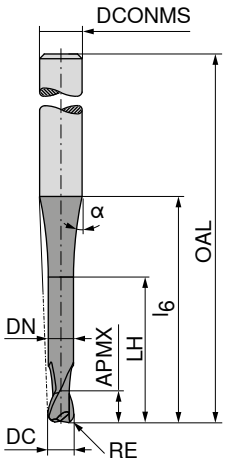


→ Find the cutting data standard values here.

CoreLine – Torus cutters – BlueLine H

An all-around choice for machining hardened steels

BlueLine H | λ_s=30° γ_s= 0° | ≤ 65 HRC





Ti2000



Factory standard



SM

DC e8 mm	RE ±0,01 mm	APMX mm	DN mm	LH mm	l_6 mm	OAL mm	α°	DCONMS h5 mm	ZEFP	52 361 ...
0.8	0.08	1.0	0.75	1.6	27	75	1,5	3	2	**90801**
1.0	0.10	1.2	0.95	2.0	27	75	1,5	3	2	**31001**
1.0	0.25	2.0	0.85	4.0	40	80	1,5	6	2	**01002**
1.2	0.12	1.4	1.15	2.4	27	75	1,5	3	2	**31201**
1.5	0.15	1.8	1.45	3.0	27	75	1,5	3	2	**31501**
2.0	0.20	2.4	1.95	4.0	27	75	1,5	3	2	**32002**
2.0	0.50	2.0	1.80	8.0	40	80	1,5	6	2	**02005**
3.0	0.30	3.6	2.95	6.0	27	75	1,5	4	2	**43003**
3.0	0.50	2.0	2.80	12.0	40	80	1,5	6	2	**03005**
3.0	1.00	2.0	2.80	12.0	40	80	1,5	6	2	**03010**
4.0	1.00	3.0	3.80	16.0	40	80	1,5	6	2	**04010**
6.0	1.00	4.0	5.80	25.0	50	100	1,5	8	2	**06010**
6.0	2.00	4.0	5.80	25.0	50	100	1,5	8	2	**06020**
8.0	1.00	4.0	7.80	32.0	60	120	1,5	10	2	**08010**
8.0	2.00	4.0	7.80	32.0	60	120	1,5	10	2	**08020**
10.0	1.50	6.0	9.80	40.0	80	160	1,5	12	2	**10015**
12.0	1.50	8.0	11.80	50.0	100	200	1,5	16	2	**12015**

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→ Find the cutting data standard values here.

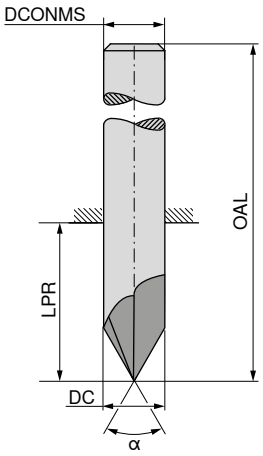
CoreLine – NC deburring cutters – BlueLine H

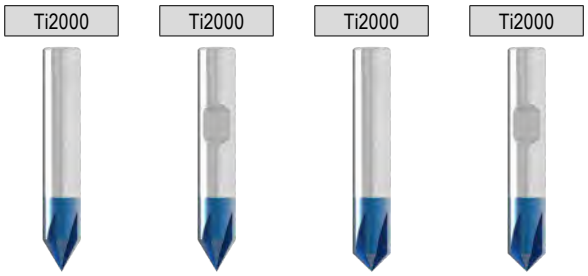
An all-around choice for machining hardened steels

▲ 52 562 ... / 52 563 ... – point angle α = 60°
▲ 52 560 ... / 52 561 ... – point angle α = 90°

BlueLine H | λ_s = 0° γ_s =-5° | → | ≤ 65 HRC







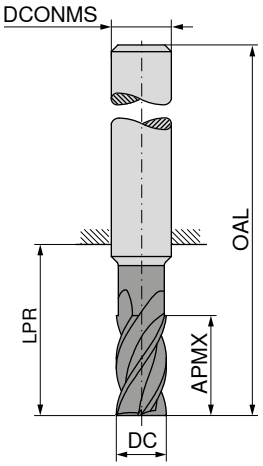
DC h5 mm	OAL mm	LPR mm	DCONMS h5 mm	ZEFP	α = 60° Factory standard SM 52 562 ...	α = 60° Factory standard SM 52 563 ...	α = 90° Factory standard SM 52 560 ...	α = 90° Factory standard SM 52 561 ...
4	50	22	4	5	**04000**		**04000**	
6	57	21	6	6	**06000**	**06000**	**06000**	**06000**
8	63	27	8	6	**08000**	**08000**	**08000**	**08000**
10	72	32	10	6	**10000**	**10000**	**10000**	**10000**
12	83	38	12	6	**12000**	**12000**	**12000**	**12000**
16	92	44	16	8	**16000**	**16000**	**16000**	**16000**
P					●	●	●	●
M								
K								
N								
S								
H					●	●	●	●
O								

→ Find the cutting data standard values here.

CoreLine – Finishing milling cutters – H

H | λ_s=50° γ_s=–5° | ≤ 68 HRC






Ti1000


Ti1000


DIN 6527


Factory standard





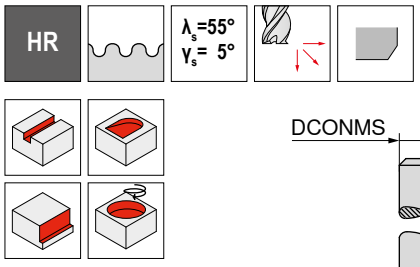
DC f8 mm	APMX mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 635 ...	SM 50 635 ...
4	11	57	6	6	040	
4	16	62	6	6		041
5	13	57	6	6	050	
5	18	62	6	6		051
6	13	57	6	6	060	
6	18	62	6	6		061
8	19	63	8	6	080	
8	24	68	8	6		081
10	22	72	10	6	100	
10	30	80	10	6		101
12	26	83	12	6	120	
12	36	93	12	6		121
16	32	92	16	8	160	
16	48	108	16	8		161
16	90	150	16	8		162
20	38	104	20	8	200	
20	60	126	20	8		201
20	75	135	20	8		202
20	95	150	20	8		203
25	75	150	25	8	250	
25	95	160	25	8		251
P					●	●
M					●	●
K					○	○
N					○	○
S					●	●
H					●	●
O					●	●

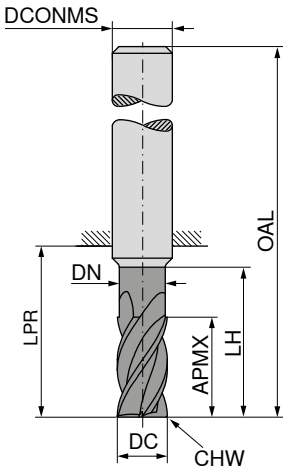


→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – HR

- With round cord profile
- With integrated chip breakers in the flutes





Ti1000





Factory standard



DC h11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 341 ...
6	16	5.8	21	22	58	6	0.15	4	**060**
8	22	7.7	27	34	70	8	0.20	4	**080**
10	25	9.7	30	33	73	10	0.20	4	**100**
12	28	11.6	38	39	84	12	0.25	4	**120**
14	30	13.6	40	39	84	14	0.30	4	**140**
16	35	15.5	45	45	93	16	0.35	5	**160**
18	35	17.5	45	45	93	18	0.40	5	**180**
20	40	19.5	55	54	104	20	0.40	5	**200**

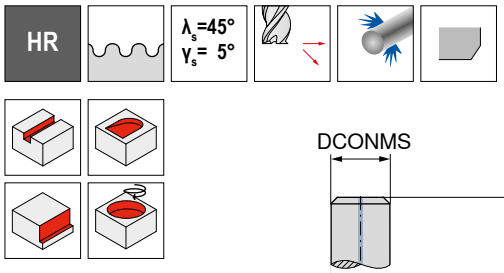
P	○
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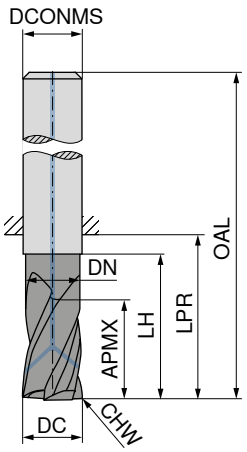


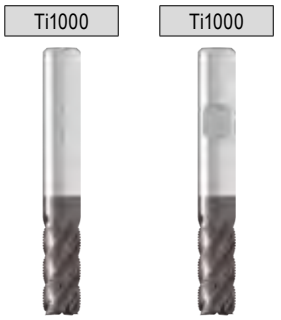
→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – HR

- With round cord profile
- With integrated chip breakers in the flutes











Factory standard | Factory standard

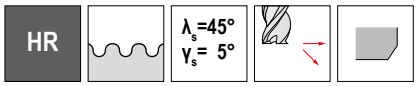


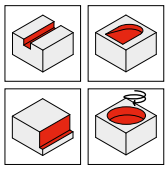
DC h11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 338 ...	SM 52 339 ...
6	16	5.8	21	22	58	6	0.15	4	**060**	**060**
8	22	7.7	27	34	70	8	0.20	4	**080**	**080**
10	25	9.7	30	33	73	10	0.20	4	**100**	**100**
12	28	11.6	38	39	84	12	0.25	4	**120**	**120**
16	35	15.5	45	45	93	16	0.35	5	**160**	**160**
20	40	19.5	55	54	104	20	0.40	5	**200**	**200**
P									●	●
M									●	●
K									●	●
N										
S										
H										
O										

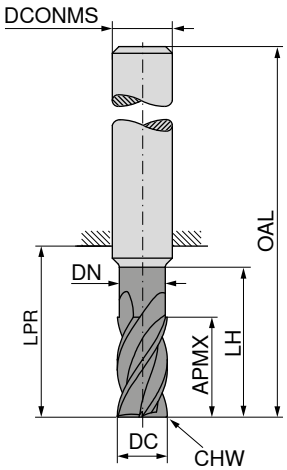
→ Find the cutting data standard values here.

CoreLine – Roughing milling cutters – HR

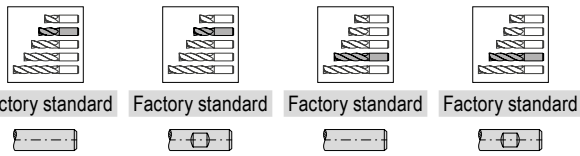
▲ With round cord profile
▲ With integrated chip breakers in the flutes











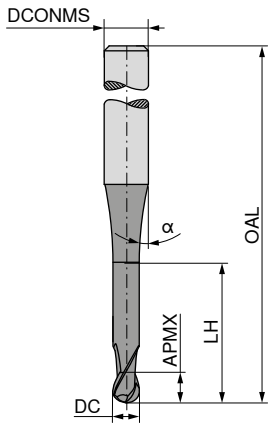
DC h11 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	SM 52 342 ...	SM 52 343 ...	SM 52 342 ...	SM 52 343 ...
6	8	6.0		18	54	6	0.15	4	**060**	**060**		
6	16	5.8	21	22	58	6	0.15	4			**061**	**061**
8	11	8.0		23	59	8	0.20	4	**080**	**080**		
8	22	7.7	27	34	70	8	0.20	4			**081**	**081**
10	13	10.0		27	67	10	0.20	4	**100**	**100**		
10	25	9.7	30	33	73	10	0.20	4			**101**	**101**
12	16	12.0		29	74	12	0.25	4	**120**	**120**		
12	28	11.6	38	39	84	12	0.25	4			**121**	**121**
14	16	14.0		30	75	14	0.25	4	**140**	**140**		
14	30	13.5	40	39	84	14	0.25	4			**141**	**141**
16	19	16.0		36	84	16	0.35	5	**160**	**160**		
16	35	15.5	45	45	93	16	0.35	5			**161**	**161**
20	19	20.0		43	93	20	0.40	5	**200**	**200**		
20	40	19.5	55	54	104	20	0.40	5			**201**	**201**
25	50	24.0	65	69	125	25	0.50	5			**251**	**251**
P									●	●	●	●
M									○	○	○	○
K									●	●	●	●
N												
S												
H												
O												

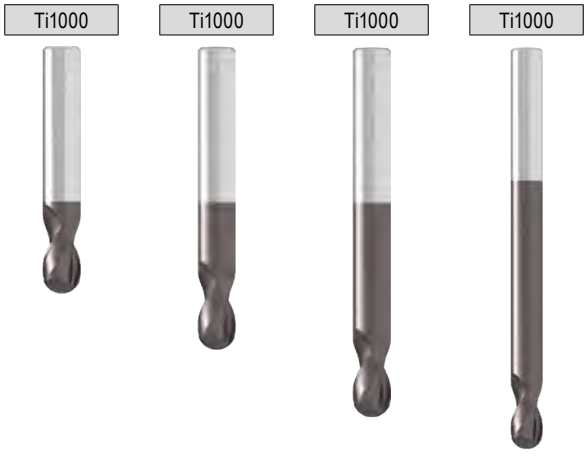
→ Find the cutting data standard values here.

CoreLine – Ball-nosed end mills – H

▲ Radius accuracy: ± 0.005 mm

H | λ_s=30° γ_s= 4° | ≤ 68 HRC





Factory standard | Factory standard | Factory standard | Factory standard

DC mm	DC tol.	APMX mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	ZEFP	SM 50 906 ...	SM 50 906 ...	SM 50 906 ...	SM 50 906 ...
0.20	0/-0,015	0.3	0.6	40	15	4	2	**002**			
0.25	0/-0,015	0.3	0.6	40	15	4	2	**925**			
0.30	0/-0,015	0.3	0.6	40	15	4	2	**003**			
0.35	0/-0,015	0.4	0.7	40	15	4	2	**935**			
0.40	0/-0,015	0.4	0.7	40	15	4	2	**004**			
0.50	0/-0,015	0.5	0.8	40	15	4	2	**005**			
0.50	0/-0,015	0.5	0.8	54	15	6	2	**951**			
0.60	0/-0,015	0.6	0.9	40	15	4	2	**006**			
0.70	0/-0,015	0.8	1.1	40	15	4	2	**007**			
0.80	0/-0,015	0.8	1.1	40	15	4	2	**008**			
0.90	0/-0,015	0.9	1.2	40	15	4	2	**009**			
1.00	0/-0,015	1.0	1.3	54		4	2			**010**	
1.00	0/-0,015	1.0	1.3	54	15	6	2	**011**			
1.00	0/-0,015	1.0	1.3	64		6	2			**012**	
1.00	0/-0,015	1.0	1.3	80		6	2				**013**
1.00	0/-0,015	1.0	1.3	100		6	2				**014**
1.20	0/-0,015	1.2	1.5	54		4	2			**112**	
1.40	0/-0,015	1.4	1.8	54		4	2			**114**	
1.50	0/-0,015	1.5	1.9	54		4	2			**115**	
1.50	0/-0,015	1.5	1.9	54	15	6	2	**215**			
1.50	0/-0,015	1.5	1.9	80		6	2				**315**
1.60	0/-0,015	1.8	2.3	54		4	2			**116**	
1.80	0/-0,015	1.8	2.3	54		4	2			**118**	
2.00	0/-0,015	2.0	2.5	54		4	2			**206**	
2.00	0/-0,015	4.0	5.0	54		6	2			**202**	
2.00	0/-0,015	4.0	5.0	64		6	2			**207**	
2.00	0/-0,015	4.0	5.0	82		6	2				**204**
2.00	0/-0,015	4.0	5.0	100		6	2				**205**
2.50	0/-0,02	5.0	6.6	54		4	2			**251**	
2.50	0/-0,02	5.0	6.3	54	15	6	2	**252**			
2.50	0/-0,02	5.0	6.3	64		6	2			**253**	
2.50	0/-0,02	5.0	6.3	82		6	2				**254**
2.50	0/-0,02	5.0	6.3	100		6	2				**255**

P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

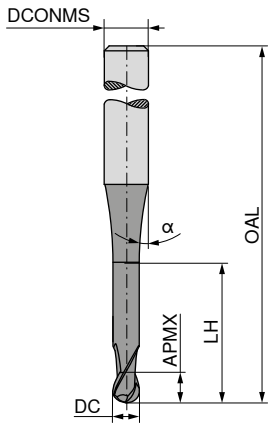
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

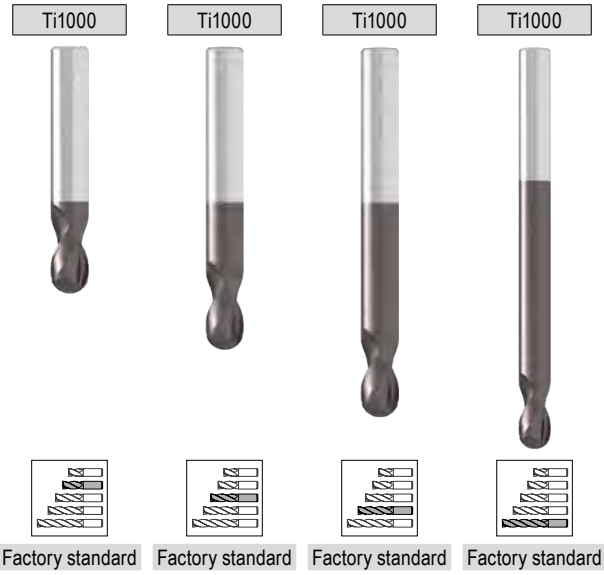
Continued on next page

CoreLine – Ball-nosed end mills – H

▲ Radius accuracy: ± 0.005 mm

H | λ_s=30° γ_s= 4° | ≤ 68 HRC





DC mm	DC tol.	APMX mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	ZEFP	SM 50 906 ...	SM 50 906 ...	SM 50 906 ...	SM 50 906 ...
3.00	0/-0,02	5.0	6.3	54		4	2			**030**	
3.00	0/-0,02	5.0	6.3	82		4	2				**032**
3.00	0/-0,02	5.0	6.3	100		4	2				**033**
3.00	0/-0,02	5.0	6.3	54	15	6	2	**035**			
3.00	0/-0,02	5.0	6.3	64		6	2			**036**	
3.00	0/-0,02	5.0	6.3	82		6	2				**037**
3.00	0/-0,02	8.0	10.0	100		6	2				**038**
4.00	0/-0,02	8.0		54	15	4	2			**040**	
4.00	0/-0,02	8.0	10.0	82	15	4	2				**042**
4.00	0/-0,02	8.0	10.0	100	15	4	2				**043**
4.00	0/-0,02	8.0	10.0	54	15	6	2	**045**			
4.00	0/-0,02	8.0	10.0	64		6	2			**046**	
4.00	0/-0,02	8.0	10.0	82		6	2				**047**
4.00	0/-0,02	8.0	10.0	100		6	2				**048**
5.00	0/-0,02	9.0		54	15	5	2			**050**	
5.00	0/-0,02	9.0		64	15	5	2			**051**	
5.00	0/-0,02	9.0	11.3	82	15	5	2				**052**
5.00	0/-0,02	9.0	11.3	100	15	5	2				**053**
5.00	0/-0,02	9.0	11.3	54	15	6	2	**055**			
5.00	0/-0,02	9.0	11.3	64		6	2			**056**	
5.00	0/-0,02	9.0	11.3	82		6	2				**057**
5.00	0/-0,02	9.0	11.3	100		6	2				**058**
6.00	0/-0,02	10.0		54	15	6	2	**060**			
6.00	0/-0,02	10.0		64	15	6	2			**061**	
6.00	0/-0,02	10.0		82	15	6	2				**062**
6.00	0/-0,02	10.0		100	15	6	2				**063**
6.00	0/-0,02	10.0		120	15	6	2				**064**
8.00	0/-0,025	12.0		64	15	8	2			**081**	
8.00	0/-0,025	12.0		82	15	8	2		**082**		
8.00	0/-0,025	12.0		100	15	8	2				**083**
8.00	0/-0,025	12.0		120	15	8	2				**084**
10.00	0/-0,025	14.0		67	15	10	2	**101**			
10.00	0/-0,025	14.0		82	15	10	2		**102**		

P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○

→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

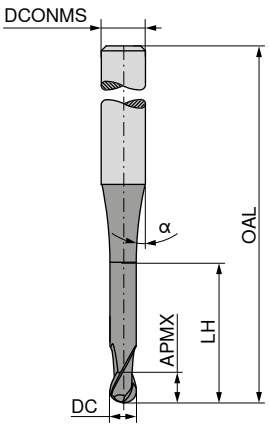
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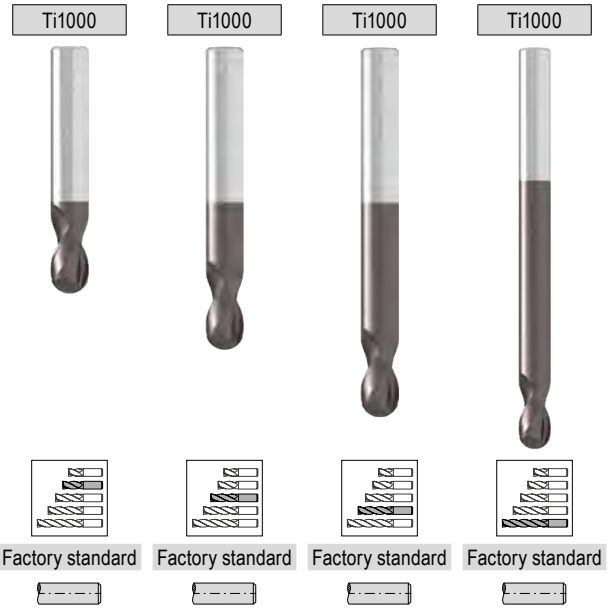
CoreLine – Ball-nosed end mills – H

▲ Radius accuracy: ± 0.005 mm

H | λ_s=30° γ_s= 4° | ≤ 68 HRC







Factory standard | Factory standard | Factory standard | Factory standard

SM | SM | SM | SM

DC mm	DC tol.	APMX mm	LH mm	OAL mm	α°	DCONMS $_{h5}$ mm	ZEFP	50 906 ...	50 906 ...	50 906 ...	50 906 ...
10.00	0/-0,025	14.0		100	15	10	2				**103**
10.00	0/-0,025	14.0		127	15	10	2				**104**
12.00	0/-0,025	16.0		75	15	12	2	**121**			
12.00	0/-0,025	16.0		100	15	12	2		**122**		
12.00	0/-0,025	16.0		150	15	12	2				**123**
14.00	0/-0,025	18.0		80	15	14	2	**141**			
14.00	0/-0,025	18.0		100	15	14	2		**142**		
14.00	0/-0,025	18.0		150	15	14	2				**143**
16.00	0/-0,025	22.0		85	15	16	2	**161**			
16.00	0/-0,025	22.0		150	15	16	2				**163**
20.00	0/-0,025	26.0		90	15	20	2	**201**			
20.00	0/-0,025	26.0		150	15	20	2				**203**

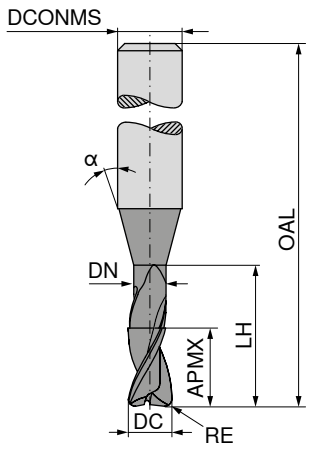
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M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○
O	○	○	○	○



→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

CoreLine – Torus cutters – H

H | λ_s=30° γ_s= 3° | ≤ 54 HRC





DC f8	RE -0.015	APMX	DN	LH	OAL	α°	DCONMS h5	ZEFP	SM	SM
mm	mm	mm	mm	mm	mm		mm		50 649 ...	50 649 ...
0.4	0.04	0.4	0.37	1.2	55	15	6	2	041	
0.4	0.04	0.4	0.37	2.0	55	15	6	2	042	
0.4	0.04	0.4	0.37	3.2	55	15	6	2	043	
0.4	0.04	0.4	0.45	4.0	55	15	6	2	044	
0.5	0.05	0.5	0.45	1.5	55	15	6	2	051	
0.5	0.05	0.5	0.45	2.5	55	15	6	2	052	
0.5	0.05	0.5	0.45	4.0	55	15	6	2	053	
0.5	0.05	0.5	0.45	5.0	55	15	6	2	054	
0.6	0.06	0.6	0.58	2.0	55	15	6	2	061	
0.6	0.06	0.6	0.58	3.0	55	15	6	2	960	
0.6	0.06	0.6	0.58	5.0	65	15	6	2		063
0.6	0.06	0.6	0.58	6.0	65	15	6	2	961	
0.8	0.08	0.8	0.77	2.5	55	15	6	2	081	
0.8	0.08	0.8	0.77	4.0	55	15	6	2	980	
0.8	0.08	0.8	0.77	6.5	65	15	6	2		083
0.8	0.08	0.8	0.77	8.0	65	15	6	2	981	
1.0	0.10	1.0	0.95	3.0	55	15	6	2	101	
1.0	0.10	1.0	0.95	5.0	55	15	6	2	010	
1.0	0.10	1.0	0.95	8.0	65	15	6	2		103
1.0	0.10	1.0	0.95	10.0	65	15	6	2		011
1.0	0.10	1.0	0.95	12.0	65	15	6	2		105
1.2	0.12	1.2	1.15	3.0	55	15	6	2	121	
1.2	0.12	1.2	1.15	6.0	55	15	6	2	012	
1.2	0.12	1.2	1.15	10.0	65	15	6	2	123	
1.2	0.12	1.2	1.15	12.0	65	15	6	2		013
1.3	0.13	1.3	1.25	4.0	55	15	6	2	131	
1.3	0.13	1.3	1.25	7.0	55	15	6	2	132	
1.3	0.13	1.3	1.25	11.0	65	15	6	2		133
1.3	0.13	1.3	1.25	13.0	65	15	6	2		134
1.5	0.15	1.5	1.44	5.0	55	15	6	2	151	
1.5	0.15	1.5	1.44	7.5	55	15	6	2	015	
1.5	0.15	1.5	1.44	12.0	65	15	6	2		153
1.5	0.15	1.5	1.44	15.0	65	15	6	2		016
1.6	0.16	1.6	1.52	5.0	55	15	6	2	161	

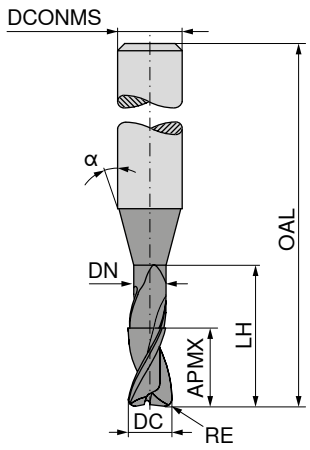
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H	○	○
O	○	○

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Torus cutters – H

H | λ_s=30° γ_s= 3° | ≤ 54 HRC





DC f8	RE -0.015	APMX	DN	LH	OAL	α°	DCONMS h5	ZEFP	SM 50 649 ...	SM 50 649 ...
mm	mm	mm	mm	mm	mm		mm			
1.6	0.16	1.6	1.52	8.0	55	15	6	2	**162**	
1.6	0.16	1.6	1.52	13.0	65	15	6	2		**163**
1.6	0.16	1.6	1.52	16.0	65	15	6	2		**164**
1.8	0.18	1.8	1.72	5.5	55	15	6	2	**181**	
1.8	0.18	1.8	1.72	9.0	55	15	6	2	**182**	
1.8	0.18	1.8	1.72	14.5	65	15	6	2		**183**
1.8	0.18	1.8	1.72	18.0	65	15	6	2		**184**
2.0	0.20	2.0	1.92	6.0	55	15	6	2	**201**	
2.0	0.20	2.0	1.92	10.0	55	15	6	2	**202**	
2.0	0.20	2.0	1.92	14.0	55	15	6	2	**020**	
2.0	0.20	2.0	1.92	16.0	65	15	6	2		**204**
2.0	0.20	2.0	1.92	20.0	65	15	6	2		**021**
2.3	0.23	2.3	2.22	7.0	55	15	6	2	**231**	
2.3	0.23	2.3	2.22	11.5	55	15	6	2	**232**	
2.3	0.23	2.3	2.22	18.5	65	15	6	2		**233**
2.3	0.23	2.3	2.22	23.0	65	15	6	2		**234**
3.0	0.30	3.0	2.90	9.0	65	15	6	2	**301**	
3.0	0.30	3.0	2.90	15.0	65	15	6	2	**302**	
3.0	0.30	3.0	2.90	24.0	100	15	6	2		**303**
3.0	0.30	3.0	2.90	30.0	100	15	6	2		**304**
4.0	0.40	4.0	3.90	12.0	65	15	6	2	**401**	
4.0	0.40	4.0	3.90	20.0	65	15	6	2	**402**	
4.0	0.40	4.0	3.90	32.0	100	15	6	2		**403**
4.0	0.40	4.0	3.90	40.0	100	15	6	2		**404**
5.0	0.50	5.0	4.90	15.0	65	15	6	2	**501**	
5.0	0.50	5.0	4.90	25.0	65	15	6	2	**502**	
5.0	0.50	5.0	4.90	40.0	100	15	6	2		**503**
5.0	0.50	5.0	4.90	50.0	100	15	6	2		**504**
6.0	0.60	6.0	5.90	18.0	65	15	6	2	**601**	
6.0	0.60	6.0	5.90	30.0	100	15	6	2		**602**
6.0	0.60	6.0	5.90	48.0	100	15	6	2		**603**
6.0	0.60	6.0	5.90	60.0	100	15	6	2		**604**

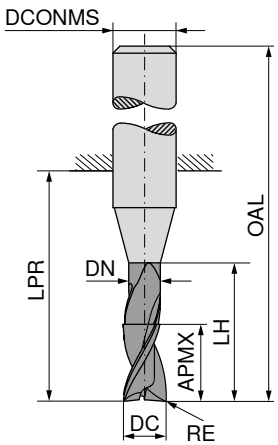
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H	○	○
O	○	○

→ Find the cutting data standard values here.

CoreLine – Torus cutters – H

H | λ_s=30° γ_s= 3° | ≤ 68 HRC







Factory standard | Factory standard | Factory standard



DC f8	RE ±0,05	APMX	DN	LH	LPR	OAL	DCONMS h5	ZEFP	SM	SM	SM
mm	mm	mm	mm	mm	mm	mm	mm		50 651 ...	50 651 ...	50 651 ...
2	0.3	2	1.8	7	14	50	6	2	020		
2	0.5	2	1.8	7	14	50	6	2	021		
2	0.3	2	1.8	7	24	60	6	2		022	
2	0.5	2	1.8	7	24	60	6	2		023	
2	0.3	2	1.8	7	49	85	6	2			024
2	0.5	2	1.8	7	49	85	6	2			025
3	0.3	2	2.8	7	14	50	6	2	030		
3	0.5	2	2.8	7	14	50	6	2	031		
3	0.3	2	2.8	12	24	60	6	2		032	
3	0.5	2	2.8	12	24	60	6	2		033	
3	0.3	2	2.8	12	49	85	6	2			034
3	0.5	2	2.8	12	49	85	6	2			035
4	0.3	3	3.8	13	18	54	6	2	040		
4	0.5	3	3.8	13	18	54	6	2	041		
4	1.0	3	3.8	13	18	54	6	2	042		
4	0.3	3	3.8	20	39	75	6	2		043	
4	0.5	3	3.8	20	39	75	6	2		044	
4	1.0	3	3.8	20	39	75	6	2		045	
4	0.3	3	3.8	20	49	85	6	2			046
4	0.5	3	3.8	20	49	85	6	2			047
4	1.0	3	3.8	20	49	85	6	2			048
5	0.5	3	4.6	13	18	54	6	2	050		
5	1.0	3	4.6	13	18	54	6	2	051		
5	1.5	3	4.6	13	18	54	6	2	052		
5	1.0	3	4.6	20	39	75	6	2		053	
5	1.5	3	4.6	20	39	75	6	2		054	
6	0.5	4	5.6	14	18	54	6	2	060		
6	1.0	4	5.6	14	18	54	6	2	061		
6	2.0	4	5.6	14	18	54	6	2	062		
6	0.5	4	5.6	45	49	85	6	2		066	
6	1.0	4	5.6	45	49	85	6	2		067	
6	2.0	4	5.6	45	49	85	6	2		068	
6	0.5	4	5.6	25	64	100	6	2			069
6	1.0	4	5.6	25	64	100	6	2			070
6	2.0	4	5.6	25	64	100	6	2			071
6	0.5	4	5.6	25	49	85	8	2		063	
6	1.0	4	5.6	25	49	85	8	2		064	
P									●	●	●
M									○	○	○
K									●	●	●
N									○	○	○
S									○	○	○
H									○	○	○
O									○	○	○

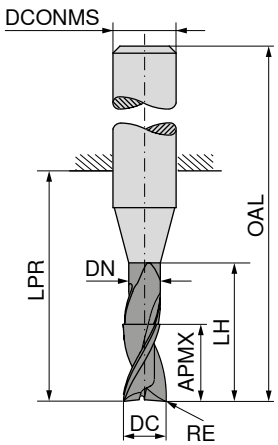


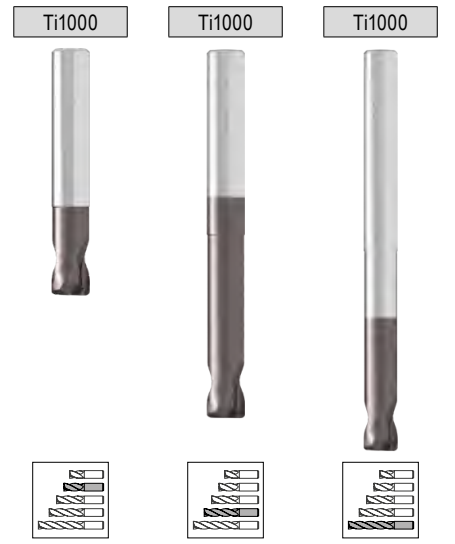
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

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CoreLine – Torus cutters – H

H | λ_s=30° γ_s= 3° | ≤ 68 HRC





Factory standard | Factory standard | Factory standard

DC f8 mm	RE ±0,05 mm	APMX mm	DN mm	LH mm	LPR mm	OAL mm	DCONMS h5 mm	ZEFP	SM 50 651 ...	SM 50 651 ...	SM 50 651 ...
6	2.0	4	5.6	25	49	85	8	2		**065**	
8	0.5	4	7.6	16	22	58	8	2	**080**		
8	1.0	4	7.6	16	22	58	8	2	**081**		
8	2.0	4	7.6	16	22	58	8	2	**082**		
8	0.5	4	7.6	50	64	100	8	2			**083**
8	2.0	4	7.6	50	64	100	8	2			**084**
8	1.0	4	7.6	30	60	100	10	2			**085**
8	2.0	4	7.6	30	60	100	10	2			**086**
10	1.0	6	9.6	18	26	66	10	2	**100**		
10	3.0	6	9.6	18	26	66	10	2	**101**		
10	1.0	6	9.6	50	60	100	10	2		**102**	
10	2.0	6	9.6	50	60	100	10	2		**103**	
10	3.0	6	9.6	50	60	100	10	2		**104**	
10	1.0	6	9.6	60	80	120	10	2			**105**
10	2.0	6	9.6	60	80	120	10	2			**106**
10	3.0	6	9.6	60	80	120	10	2			**107**
10	1.0	6	9.6	30	75	120	12	2			**108**
10	2.0	6	9.6	30	75	120	12	2			**109**
10	3.0	6	9.6	30	75	120	12	2			**110**
12	1.0	8	11.5	18	28	73	12	2	**120**		
12	2.0	8	11.5	18	28	73	12	2	**121**		
12	3.0	8	11.5	18	28	73	12	2	**122**		
12	4.0	8	11.5	18	28	73	12	2	**123**		
12	1.0	8	11.5	45	55	100	12	2		**124**	
12	2.0	8	11.5	45	55	100	12	2		**125**	
12	3.0	8	11.5	45	55	100	12	2		**126**	
12	4.0	8	11.5	45	55	100	12	2		**127**	
12	1.0	8	11.5	70	75	120	12	2			**128**
12	2.0	8	11.5	70	75	120	12	2			**129**
12	3.0	8	11.5	70	75	120	12	2			**130**
12	4.0	8	11.5	70	75	120	12	2			**131**
12	1.0	8	11.5	35	102	150	16	2			**132**
12	2.0	8	11.5	35	102	150	16	2			**133**
12	3.0	8	11.5	35	102	150	16	2			**134**
12	4.0	8	11.5	35	102	150	16	2			**135**

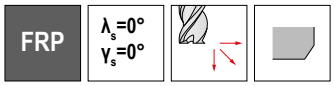
P	●	●	●
M	○	○	○
K	●	●	●
N	○	○	○
S	○	○	○
H	○	○	○
O	○	○	○

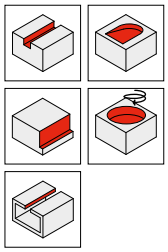
→ Find the cutting data standard values here.
→ You can find the recommended feed values here.

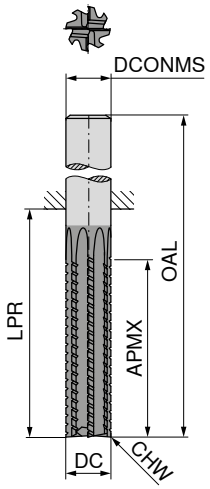
MonsterMill – Neutral-fluted end mills – FRP

The specialist for machining carbon fiber-reinforced plastics

- Optimal removal of CFRP dust
- Right-hand cutting
- Straight-fluted, neutral cut
- Four end cutting edges / two central cutting edges







DIAMOND





Factory standard



SA

DC h11 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 595 ...
6.000	25	35	70	6.000	0.1	8	**06000**
6.350	25	35	70	6.350	0.1	8	**06350**
8.000	30	40	80	8.000	0.1	8	**08000**
9.525	32	44	85	9.525	0.1	8	**09525**
10.000	32	45	85	10.000	0.1	8	**10000**
12.000	32	46	95	12.000	0.1	8	**12000**
12.700	32	46	95	12.700	0.1	8	**12700**

P	
M	
K	
N	
S	
H	
O	●



→ Find the cutting data standard values here.

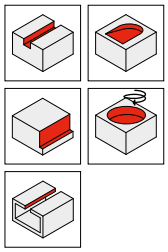
MonsterMill – Left-fluted end mills – FRP

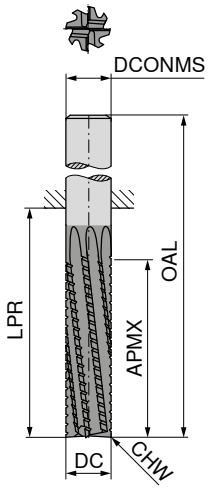
The specialist for machining carbon fiber-reinforced plastics

- Optimal removal of CFRP dust
- Right-hand cutting
- Slightly left-fluted, pushing cut
- Four end cutting edges / two central cutting edges

FRP

λ_s =–7°
γ_s = 0°





DIAMOND





Factory standard



SA

DC h11 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 596 ...
6.000	25	38	70	6.000	0.1	8	**06000**
6.350	25	39	70	6.350	0.1	8	**06350**
8.000	30	43	80	8.000	0.1	8	**08000**
9.525	32	48	85	9.525	0.1	8	**09525**
10.000	32	49	85	10.000	0.1	8	**10000**
12.000	32	53	95	12.000	0.1	8	**12000**
12.700	32	54	95	12.700	0.1	8	**12700**

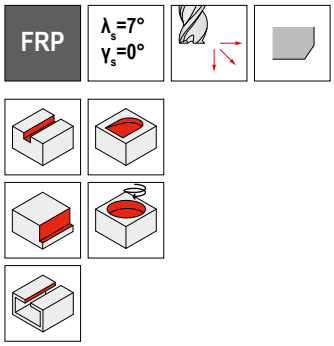
P	
M	
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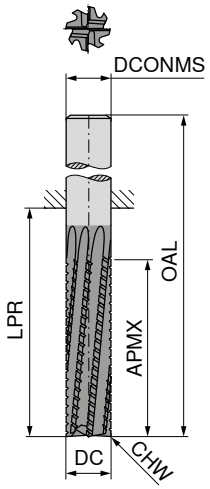
→ Find the cutting data standard values here.

MonsterMill – Right-fluted end mills – FRP

The specialist for machining carbon fiber-reinforced plastics

- Optimal removal of CFRP dust
- Right-hand cutting
- Slightly right-fluted, pulling cut
- Four end cutting edges / two central cutting edges





DIAMOND





Factory standard



SA

DC h11 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	52 597 ...
6.000	25	35	70	6.000	0.1	8	**06000**
6.350	25	35	70	6.350	0.1	8	**06350**
8.000	30	40	80	8.000	0.1	8	**08000**
9.525	32	44	85	9.525	0.1	8	**09525**
10.000	32	45	85	10.000	0.1	8	**10000**
12.000	32	49	95	12.000	0.1	8	**12000**
12.700	32	49	95	12.700	0.1	8	**12700**

P	
M	
K	
N	
S	
H	
O	●

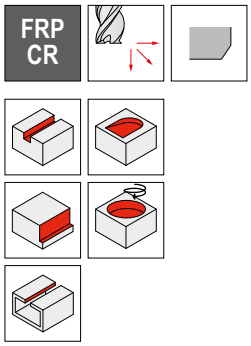


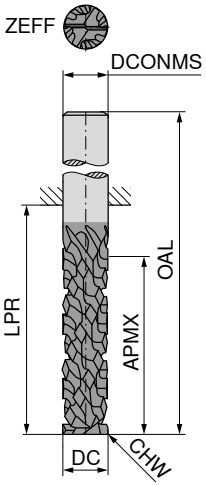
→ Find the cutting data standard values here.

MonsterMill – Fine cross-pitched end mills – FRP-CR

The specialist for machining carbon fiber-reinforced plastics

- Compression zone across the entire cutting length
- Right-hand cutting
- Fine cross-pitched version
- Two effective end cutting edges





DIAMOND





Factory standard



SA

DC h11 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFF	52 598 ...
6.000	18	23.5	60	6.000	0.1	2	**06000**
6.350	18	23.5	60	6.350	0.1	2	**06350**
8.000	26	33.0	70	8.000	0.1	2	**08000**
9.525	30	40.0	80	9.525	0.1	2	**09525**
10.000	30	40.0	80	10.000	0.1	2	**10000**
12.000	30	41.0	85	12.000	0.1	2	**12000**
12.700	30	41.0	85	12.700	0.1	2	**12700**

P	
M	
K	
N	
S	
H	
O	●



→ Find the cutting data standard values here.



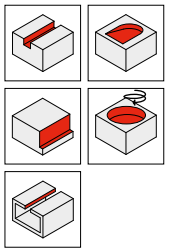
The feed must be selected in mm/rev for MonsterMill FRP CR milling cutters.

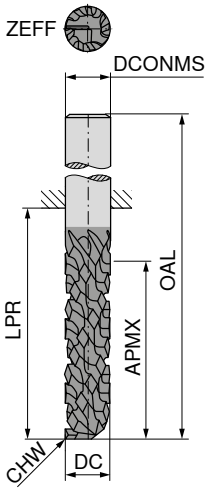
MonsterMill – Coarse cross-pitched end mills – FRP-CR

The specialist for machining carbon fiber-reinforced plastics

- Compression zone across the entire cutting length
- Right-hand cutting
- Coarse cross-pitched version
- One effective end cutting edge

FRP CR





DIAMOND





Factory standard



SA

DC h11 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFF	52 599 ...
6.000	18	23.5	60	6.000	0.1	1	**06000**
6.350	18	23.5	60	6.350	0.1	1	**06350**
8.000	26	33.0	70	8.000	0.1	1	**08000**
9.525	30	40.0	80	9.525	0.1	1	**09525**
10.000	30	40.0	80	10.000	0.1	1	**10000**
12.000	30	41.0	85	12.000	0.1	1	**12000**
12.700	30	41.0	85	12.700	0.1	1	**12700**

P	
M	
K	
N	
S	
H	
O	●

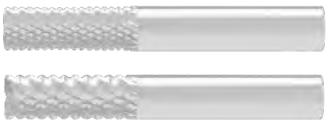
→ Find the cutting data standard values here.

The feed must be selected in mm/rev for MonsterMill FRP CR milling cutters.

Application areas for milling plastics and non-ferrous metals

Material	Tensile strength N/mm² – HB	50 983 … 50 985 …	50 610 … 50 611 …	50 948 …
Aluminum (unalloyed, low alloyed)	< 350 N/mm²		●	
Aluminum	< 500 N/mm²		●	
Aluminum alloys 0.5–10% Si	< 400 N/mm²		●	
Aluminum alloys 10–15% Si	< 400 N/mm²			●
Aluminum	< 400 N/mm²			●
Copper (unalloyed, low alloyed)	< 350 N/mm²		●	
Copper wrought alloys	< 700 N/mm²			●
Special copper alloys	< 200 HB			●
Special copper alloys	< 300 HB			●
Special copper alloys	< 300 HB			●
Short-chipping brass, bronze, red bronze	< 600 N/mm²		●	
Long-chipping brass	< 600 N/mm²		●	
Magnesium and magnesium alloys	< 850 N/mm²			●
Tungsten and tungsten alloys				●
Molybdenum and molybdenum alloys				●
Thermoplastics			●	
Duroplastics		●	●	
Fiber-reinforced plastics		●		●
Graphite		●		
Machining direction		↘	↘	↘
		①	②	③

Tips

① 

▲ To create very sharp cutting edges to prevent delamination of the component on glass fiber and carbon fiber-reinforced plastic.

② 

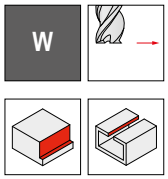
▲ For machining non-fiber-reinforced plastics and non-ferrous metals with a low silicon content (PE, PA, PVC, acrylic glass).

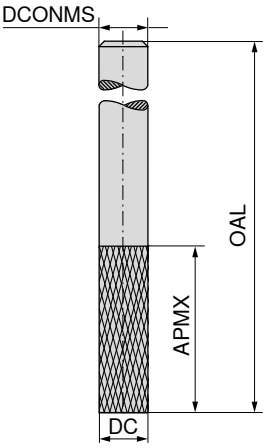
③ 

▲ For machining fiber-reinforced plastics and non-ferrous metals with a high silicon content.

CoreLine – Cutters for plastics – W

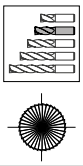
- Right-hand cutting
- Cross-pitched
- Downward chip evacuation
- 50 983 ... = fine pitch
- 50 984 ... = medium pitch





uncoated





Factory standard



DC h10 mm	APMX mm	OAL mm	DCONMS h6 mm	SM 50 983 ...
2.0	7	40	2.0	020
2.0	7	50	6.0	021
3.0	10	40	3.0	030
3.0	12	50	6.0	031
3.5	12	40	3.5	035
4.0	15	40	4.0	040
4.0	20	50	6.0	041
4.5	15	50	4.5	045
5.0	16	50	5.0	050
5.0	25	75	6.0	051
6.0	18	50	6.0	060
6.0	35	75	6.0	061
7.0	22	60	7.0	070
8.0	25	63	8.0	080
8.0	40	100	8.0	081
9.0	25	63	9.0	090
10.0	30	72	10.0	100
12.0	32	83	12.0	120
14.0	32	83	14.0	140
16.0	36	92	16.0	160
18.0	40	92	18.0	180
20.0	45	104	20.0	200

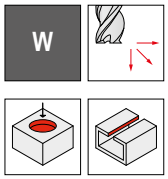
P	
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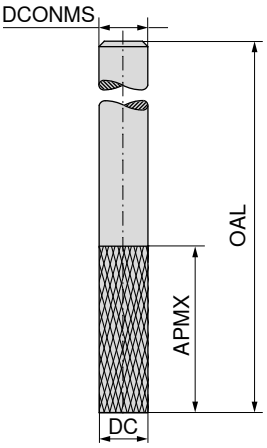


→ Find the cutting data standard values here.

CoreLine – Cutters for plastics – W

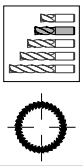
- Right-hand cutting
- Cross-pitched
- Downward chip evacuation
- 50 985 ... = fine pitch
- 50 986 ... = medium pitch





uncoated





Factory standard



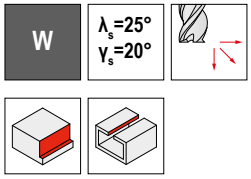
DC h10 mm	APMX mm	OAL mm	DCONMS h6 mm	SM 50 985 ...
2.0	7	40	2.0	020
2.0	7	50	6.0	021
3.0	10	40	3.0	030
3.0	12	50	6.0	031
3.5	12	40	3.5	035
4.0	15	40	4.0	040
4.0	20	50	6.0	041
4.5	15	50	4.5	045
5.0	16	50	5.0	050
5.0	25	75	6.0	051
6.0	18	50	6.0	060
6.0	35	75	6.0	061
7.0	22	60	7.0	070
8.0	25	63	8.0	080
8.0	40	100	8.0	081
9.0	25	63	9.0	090
10.0	30	72	10.0	100
12.0	32	83	12.0	120
14.0	32	83	14.0	140
16.0	36	92	16.0	160
18.0	40	92	18.0	180
20.0	45	104	20.0	200

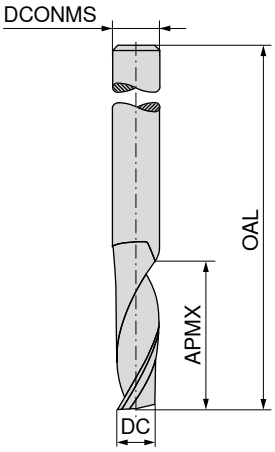
P	
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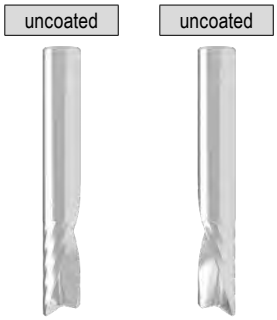
→ Find the cutting data standard values here.

CoreLine – Single flute cutters – W

▲ With polished chip spaces











Right-hand helix
Right-hand cutting

Left-hand helix
Right-hand cutting

Factory standard



Factory standard



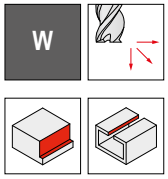
DC h10 mm	APMX mm	OAL mm	DCONMS h6 mm	ZEFP		SM 50 610 ...	SM 50 611 ...
1.5	6	40	3.0	1		015	015
2.0	10	40	2.0	1		020	020
2.0	6	40	3.0	1		019	019
2.0	10	60	6.0	1		022	022
2.0	12	60	6.0	1		024	024
2.5	6	40	2.5	1		025	025
3.0	12	60	6.0	1		034	034
3.0	12	40	3.0	1		030	030
3.0	10	40	6.0	1		032	032
3.0	15	60	6.0	1		036	036
4.0	20	75	6.0	1		044	044
4.0	15	40	4.0	1		040	040
4.0	15	60	6.0	1		042	042
5.0	16	60	6.0	1		052	052
5.0	16	50	5.0	1		050	050
5.0	28	75	6.0	1		054	054
6.0	20	60	6.0	1		060	060
6.0	30	60	6.0	1		062	062
6.0	35	75	6.0	1		064	064
8.0	22	63	8.0	1		080	080
8.0	40	100	8.0	1		084	084
10.0	55	100	10.0	1		105	105
10.0	25	72	10.0	1		100	100
12.0	30	83	12.0	1		120	120
16.0	35	92	16.0	1		160	160
					P		
					M		
					K		
					N	●	●
					S		
					H		
					O	●	●

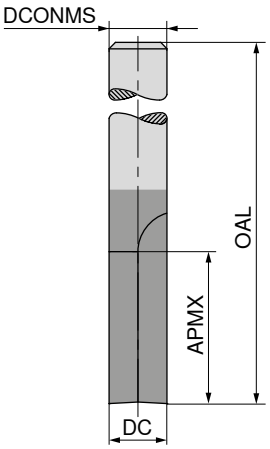


→ Find the cutting data standard values here.

CoreLine – Cutters for plastics – W

▲ With polished chip flutes





Ti28





Factory standard



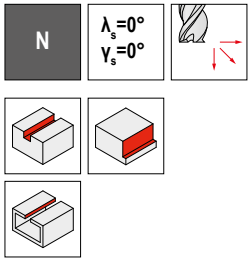
DC h10 mm	APMX mm	OAL mm	DCONMS h6 mm	ZEFP	SM 50 948 ...
2	6	40	6	2	**020**
3	12	40	3	2	**030**
3	12	50	6	2	**031**
4	14	40	6	2	**040**
5	16	50	5	2	**050**
6	18	50	6	2	**060**
8	20	63	8	2	**080**
10	25	72	10	2	**100**
12	30	83	12	2	**120**

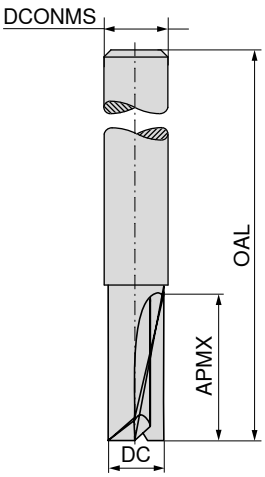
P	
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N	●
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→ Find the cutting data standard values here.

CoreLine – Slot milling cutters – N





uncoated





Factory standard



DC e8 mm	APMX mm	OAL mm	DCONMS h6 mm	ZEFP	SM 52 168 ...
2	8	50	3	2	**020**
3	12	50	3	2	**030**
4	13	60	4	2	**040**
5	14	60	5	2	**050**
6	16	58	6	2	**060**
8	20	65	8	2	**080**
10	22	70	10	2	**100**
12	25	70	12	2	**120**

P	●
M	○
K	●
N	○
S	○
H	
O	●



→ Find the cutting data standard values here.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values – SCR – End mills, short – long

Index	Emulsion	Compressed air	MMS	52 600 ..., 52 601 ..., 52 602 ..., 52 603 ..., 52 604 ..., 52 606 ..., 52 607 ..., 52 608 ..., 52 611 ..., 52 612 ...																	
				Short version	Long version	Ø DC (mm) = 3,0–3,5			4,0–4,5			Short version	Long version	Ø DC (mm) = 5,0–5,5			6,0–7,5			8,0–9,5		
						a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			$a_{p\,max.}$ x DC		f_z (mm)						$a_{p\,max.}$ x DC		f_z (mm)								
P.1.1	90	160		1,0	1,0	0,031	0,024	0,017	0,043	0,033	0,024	1,0	1,0*	0,062	0,046	0,031	0,083	0,062	0,041	0,11	0,08	0,06
P.1.2	90	150		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.3	90	150		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.4	90	140		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.5	90	140		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.1	90	140		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.2	90	140		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.3	80	120		1,0	1,0	0,025	0,019	0,014	0,035	0,027	0,020	1,0	1,0*	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
P.2.4	80	120		1,0	1,0	0,025	0,019	0,014	0,035	0,027	0,020	1,0	1,0*	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
P.3.1	90	140		1,0	1,0	0,022	0,017	0,013	0,031	0,024	0,018	1,0	1,0*	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.3.2	80	130		1,0	1,0	0,022	0,017	0,013	0,031	0,024	0,018	1,0	1,0*	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.3.3	80	110		1,0	1,0	0,022	0,017	0,013	0,031	0,024	0,018	1,0	1,0*	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.4.1	80			1,0	1,0	0,020	0,015	0,011	0,028	0,021	0,015	1,0	1,0*	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
P.4.2	80			1,0	1,0	0,020	0,015	0,011	0,028	0,021	0,015	1,0	1,0*	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.1.1	80			1,0	1,0	0,020	0,015	0,011	0,028	0,021	0,015	1,0	1,0*	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.2.1	80			1,0	1,0	0,020	0,015	0,011	0,028	0,021	0,015	1,0	1,0*	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.3.1	80			1,0	1,0	0,020	0,015	0,011	0,028	0,021	0,015	1,0	1,0*	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
K.1.1		200		1,0	1,0	0,040	0,031	0,022	0,055	0,043	0,031	1,0	1,0*	0,079	0,059	0,040	0,106	0,079	0,053	0,14	0,11	0,07
K.1.2		180		1,0	1,0	0,040	0,031	0,022	0,055	0,043	0,031	1,0	1,0*	0,079	0,059	0,040	0,106	0,079	0,053	0,14	0,11	0,07
K.2.1		200		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
K.2.2		180		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
K.3.1		140		1,0	1,0	0,028	0,022	0,016	0,040	0,031	0,022	1,0	1,0*	0,057	0,042	0,028	0,076	0,056	0,038	0,10	0,08	0,05
K.3.2		140		1,0	1,0	0,028	0,022	0,016	0,040	0,031	0,022	1,0	1,0*	0,057	0,042	0,028	0,076	0,056	0,038	0,10	0,08	0,05
N.1.1																						
N.1.2																						
N.2.1																						
N.2.2																						
N.2.3																						
N.3.1	150	280		1,0	1,0	0,031	0,024	0,017	0,043	0,033	0,024	1,0	1,0*	0,062	0,046	0,031	0,083	0,062	0,041	0,11	0,08	0,06
N.3.2	140	230		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
N.3.3	140	230		1,0	1,0	0,034	0,026	0,019	0,047	0,036	0,026	1,0	1,0*	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
N.4.1																						
S.1.1	45			0,5	0,5	0,016	0,007	0,009	0,022	0,017	0,012	0,5	0,5	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.1.2	45			0,5	0,5	0,016	0,007	0,009	0,022	0,017	0,012	0,5	0,5	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.2.1	30			0,5	0,5	0,018	0,014	0,010	0,025	0,019	0,014	0,5	0,5	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
S.2.2	30			0,5	0,5	0,016	0,007	0,009	0,022	0,017	0,012	0,5	0,5	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.2.3	30			0,5	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,5	0,5	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.3.1	80			0,5	0,5	0,025	0,019	0,014	0,035	0,027	0,020	0,5	0,5	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
S.3.2	60			0,5	0,5	0,025	0,019	0,014	0,035	0,027	0,019	0,5	0,5	0,050	0,037	0,025	0,066	0,049	0,033	0,09	0,07	0,04
S.3.3	60			0,5	0,5	0,022	0,017	0,013	0,031	0,024	0,018	0,5	0,5	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
H.1.1		80		0,3	0,3	0,018	0,014	0,010	0,025	0,019	0,014	0,3	0,3	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
H.1.2		60		0,15	0,15	0,016	0,012	0,009	0,022	0,017	0,012	0,15	0,15	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
H.1.3																						
H.1.4																						
H.2.1		120		0,5	0,5	0,020	0,016	0,011	0,028	0,022	0,016	0,5	0,5	0,041	0,030	0,020	0,054	0,040	0,027	0,07	0,05	0,04
H.3.1		80		0,3	0,3	0,018	0,014	0,010	0,025	0,019	0,014	0,3	0,3	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
O.1.1	180	300		1,0	1,0	0,067	0,052	0,038	0,094	0,073	0,053	1,0	1,0*	0,135	0,101	0,068	0,180	0,134	0,090	0,24	0,18	0,12
O.1.2																						
O.2.1																						
O.2.2																						
O.3.1																						

→ Feedrate guides for radius and torus cutters

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

SCR ball-nosed end mills: reduce f_z by 25% for full slot milling!

Plunging angle for ramping and helical milling: No. of teeth 4 = 4°/No. of teeth 6 = 1°

Cutting data standard values – SCR – End mills, short – long

Index	52 600 ..., 52 601 ..., 52 602 ..., 52 603 ..., 52 604 ..., 52 606 ..., 52 607 ..., 52 608 ..., 52 611 ..., 52 612 ...																		● 1st choice ○ Suitable		
	Ø DC (mm) =																				
	10,0–11,5			12,0			14,0–15,5			16,0–17,0			18,0–19,5			20,0					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																				
P.1.1	0,14	0,10	0,07	0,15	0,11	0,08	0,15	0,12	0,08	0,16	0,13	0,10	0,18	0,14	0,11	0,20	0,16	0,12	○	●	○
P.1.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.3	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.4	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.5	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.1	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.3	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	○	●	○
P.2.4	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	○	●	○
P.3.1	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,12	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.3.2	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,12	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.3.3	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,12	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.4.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
P.4.2	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.1.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.2.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.3.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
K.1.1	0,18	0,13	0,09	0,19	0,14	0,10	0,19	0,15	0,11	0,21	0,16	0,12	0,22	0,18	0,14	0,25	0,20	0,16		●	
K.1.2	0,18	0,13	0,09	0,19	0,14	0,10	0,19	0,15	0,11	0,21	0,16	0,12	0,22	0,18	0,14	0,25	0,20	0,16		●	
K.2.1	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14		●	
K.2.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14		●	
K.3.1	0,13	0,09	0,06	0,14	0,10	0,07	0,14	0,11	0,08	0,15	0,11	0,09	0,16	0,13	0,10	0,18	0,15	0,11		●	
K.3.2	0,13	0,09	0,06	0,14	0,10	0,07	0,14	0,11	0,08	0,15	0,11	0,09	0,16	0,13	0,10	0,18	0,15	0,11		●	
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	0,14	0,10	0,07	0,15	0,11	0,08	0,15	0,12	0,08	0,16	0,13	0,10	0,18	0,14	0,11	0,20	0,16	0,12	●		○
N.3.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	●		○
N.3.3	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,18	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	●		○
N.4.1																					
S.1.1	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.1.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.2.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,10	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07	●		
S.2.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.2.3	0,07	0,05	0,04	0,08	0,03	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.3.1	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	●		
S.3.2	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,09	0,07	0,13	0,10	0,08	0,14	0,11	0,09	0,16	0,13	0,10	●		
S.3.3	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,12	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	●		
H.1.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,10	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07		●	
H.1.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06		●	
H.1.3																					
H.1.4																					
H.2.1	0,09	0,07	0,05	0,10	0,07	0,05	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,07	0,13	0,11	0,08		●	
H.3.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,10	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07		●	
O.1.1	0,30	0,22	0,15	0,33	0,25	0,17	0,33	0,26	0,18	0,36	0,27	0,21	0,38	0,31	0,24	0,43	0,35	0,27	●		○
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

→ Feedrate guides for radius and torus cutters

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

SCR ball-nosed end mills: reduce f_z by 25% for full slot milling!

Plunging angle for ramping and helical milling: No. of teeth 4 = 4°/No. of teeth 6 = 1°

Cutting data standard values – SCR – End mills, extra long

Index	Emulsion	Compressed air	MMS	Extra-long version		52 605 ... / 52 608 ...															
						Ø DC (mm) = 3			4			5			6			8		
						a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			$a_{p\,max.}$ x DC		f_z (mm)															
P.1.1	80	110		1,0*	0,5	0,031	0,024	0,017	0,043	0,033	0,024	0,062	0,046	0,031	0,083	0,062	0,041	0,11	0,08	0,06
P.1.2	80	110		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.3	80	110		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.4	80	110		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.1.5	80	110		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.1	80	90		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.2	80	90		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
P.2.3	70	80		1,0*	0,5	0,025	0,019	0,014	0,035	0,027	0,020	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
P.2.4	70	80		1,0*	0,5	0,025	0,019	0,014	0,035	0,027	0,020	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
P.3.1	70	80		1,0*	0,5	0,022	0,017	0,013	0,031	0,024	0,018	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.3.2	70	80		1,0*	0,5	0,022	0,017	0,013	0,031	0,024	0,018	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.3.3	70	80		1,0*	0,5	0,022	0,017	0,013	0,031	0,024	0,018	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
P.4.1	70			1,0*	0,5	0,020	0,015	0,011	0,028	0,021	0,015	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
P.4.2	70			1,0*	0,5	0,020	0,015	0,011	0,028	0,021	0,015	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.1.1	70			1,0*	0,5	0,020	0,015	0,011	0,028	0,021	0,015	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.2.1	70			1,0*	0,5	0,020	0,015	0,011	0,028	0,021	0,015	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
M.3.1	70			1,0*	0,5	0,020	0,015	0,011	0,028	0,021	0,015	0,040	0,030	0,020	0,053	0,039	0,026	0,07	0,05	0,04
K.1.1		160		1,0*	0,5	0,040	0,031	0,022	0,055	0,043	0,031	0,079	0,059	0,040	0,106	0,079	0,053	0,14	0,11	0,07
K.1.2		120		1,0*	0,5	0,040	0,031	0,022	0,055	0,043	0,031	0,079	0,059	0,040	0,106	0,079	0,053	0,14	0,11	0,07
K.2.1		160		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
K.2.2		120		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
K.3.1		100		1,0*	0,5	0,028	0,022	0,016	0,040	0,031	0,022	0,057	0,042	0,028	0,076	0,056	0,038	0,10	0,08	0,05
K.3.2		100		1,0*	0,5	0,028	0,022	0,016	0,040	0,031	0,022	0,057	0,042	0,028	0,076	0,056	0,038	0,10	0,08	0,05
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	120	240		1,0*	0,5	0,031	0,024	0,017	0,043	0,033	0,024	0,062	0,046	0,031	0,083	0,062	0,041	0,11	0,08	0,06
N.3.2	100	200		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
N.3.3	100	200		1,0*	0,5	0,034	0,026	0,019	0,047	0,036	0,026	0,068	0,050	0,034	0,090	0,067	0,045	0,12	0,09	0,06
N.4.1																				
S.1.1	40			0,5*	0,25	0,016	0,007	0,009	0,022	0,017	0,012	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.1.2	40			0,5*	0,25	0,016	0,007	0,009	0,022	0,017	0,012	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.2.1	25			0,5*	0,25	0,018	0,014	0,010	0,025	0,019	0,014	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
S.2.2	25			0,5*	0,25	0,016	0,007	0,009	0,022	0,017	0,012	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.2.3	25			0,5*	0,25	0,016	0,012	0,009	0,022	0,017	0,012	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
S.3.1	60			0,5*	0,25	0,025	0,019	0,014	0,035	0,027	0,020	0,050	0,038	0,025	0,067	0,050	0,034	0,09	0,07	0,05
S.3.2	50			0,5*	0,25	0,025	0,019	0,014	0,035	0,027	0,019	0,050	0,037	0,025	0,066	0,049	0,033	0,09	0,07	0,04
S.3.3	50			0,5*	0,25	0,022	0,017	0,013	0,031	0,024	0,018	0,045	0,034	0,023	0,060	0,045	0,030	0,08	0,06	0,04
H.1.1		60		0,5*	0,3	0,018	0,014	0,010	0,025	0,019	0,014	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
H.1.2		50		0,5*	0,15	0,016	0,012	0,009	0,022	0,017	0,012	0,032	0,023	0,016	0,042	0,031	0,021	0,06	0,04	0,03
H.1.3																				
H.1.4																				
H.2.1		80		0,5*	0,5	0,020	0,016	0,011	0,028	0,022	0,016	0,041	0,030	0,020	0,054	0,040	0,027	0,07	0,05	0,04
H.3.1		60		0,5*	0,3	0,018	0,014	0,010	0,025	0,019	0,014	0,036	0,027	0,018	0,048	0,036	0,024	0,06	0,05	0,03
O.1.1	120	240		1,0*	0,5	0,067	0,052	0,038	0,094	0,073	0,053	0,135	0,101	0,068	0,180	0,134	0,090	0,24	0,18	0,12
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

* = profiling and trochoidal slot milling

Plunging angle for ramping and helical milling: No. of teeth 4 = 4°/No. of teeth 6 = 1°

Cutting data standard values – SCR – End mills, extra long

52 605 ... / 52 608 ...

● 1st choice
○ Suitable

Ø DC (mm) =

Index	10			12			14			16			18			20			Emulsion	Compressed air	MMS
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																				
P.1.1	0,14	0,10	0,07	0,15	0,11	0,08	0,15	0,12	0,08	0,15	0,13	0,10	0,18	0,14	0,11	0,20	0,16	0,12	○	●	○
P.1.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.3	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.4	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.1.5	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.1	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
P.2.3	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,12	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	○	●	○
P.2.4	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,12	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	○	●	○
P.3.1	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,11	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.3.2	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,11	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.3.3	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,11	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	○	●	○
P.4.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
P.4.2	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.1.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.2.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
M.3.1	0,09	0,07	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,10	0,08	●		
K.1.1	0,18	0,13	0,09	0,19	0,14	0,10	0,19	0,15	0,11	0,20	0,16	0,12	0,22	0,18	0,14	0,25	0,20	0,16	○	●	○
K.1.2	0,18	0,13	0,09	0,19	0,14	0,10	0,19	0,15	0,11	0,20	0,16	0,12	0,22	0,18	0,14	0,25	0,20	0,16	○	●	○
K.2.1	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
K.2.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	○	●	○
K.3.1	0,13	0,09	0,06	0,14	0,10	0,07	0,14	0,11	0,08	0,14	0,11	0,09	0,16	0,13	0,10	0,18	0,15	0,11	○	●	○
K.3.2	0,13	0,09	0,06	0,14	0,10	0,07	0,14	0,11	0,08	0,14	0,11	0,09	0,16	0,13	0,10	0,18	0,15	0,11	○	●	○
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	0,14	0,10	0,07	0,15	0,11	0,08	0,15	0,12	0,08	0,15	0,13	0,10	0,18	0,14	0,11	0,20	0,16	0,12	●		○
N.3.2	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	●		○
N.3.3	0,15	0,11	0,08	0,17	0,12	0,08	0,16	0,13	0,09	0,17	0,14	0,11	0,19	0,16	0,12	0,21	0,17	0,14	●		○
N.4.1																					
S.1.1	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.1.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.2.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,09	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07	●		
S.2.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.2.3	0,07	0,05	0,04	0,08	0,03	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06	●		
S.3.1	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,10	0,07	0,12	0,10	0,08	0,14	0,12	0,09	0,16	0,13	0,10	●		
S.3.2	0,11	0,08	0,06	0,12	0,09	0,06	0,12	0,09	0,07	0,12	0,10	0,08	0,14	0,11	0,09	0,16	0,13	0,10	●		
S.3.3	0,10	0,08	0,05	0,11	0,08	0,06	0,11	0,09	0,06	0,11	0,09	0,07	0,13	0,10	0,08	0,14	0,12	0,09	●		
H.1.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,09	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07		●	
H.1.2	0,07	0,05	0,04	0,08	0,06	0,04	0,08	0,06	0,04	0,08	0,06	0,05	0,09	0,07	0,06	0,10	0,08	0,06		●	
H.1.3																					
H.1.4																					
H.2.1	0,09	0,07	0,05	0,10	0,07	0,05	0,10	0,08	0,05	0,10	0,08	0,06	0,11	0,09	0,07	0,13	0,11	0,08		●	
H.3.1	0,08	0,06	0,04	0,09	0,07	0,04	0,09	0,07	0,05	0,09	0,07	0,06	0,10	0,08	0,06	0,11	0,09	0,07		●	
O.1.1	0,30	0,22	0,15	0,33	0,25	0,17	0,33	0,26	0,18	0,33	0,27	0,21	0,38	0,31	0,24	0,43	0,35	0,27	●		○
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

Plunging angle for ramping and helical milling: No. of teeth 4 = 4°/No. of teeth 6 = 1°

Cutting data standard values – ICR – End mills, short

Index	Emulsion	Compressed air	MMS	Short version	52 784 …									● 1st choice ○ Suitable		
					Ø DC (mm) =											
					1,5			2			2,5					
					a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)			$a_{p\,max.}$ x DC	f_z (mm)											
P.1.1	140	130		0,25	0,014	0,013	0,010	0,020	0,019	0,014	0,029	0,024	0,018	○	●	○
P.1.2	140	130		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.1.3	140	130		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.1.4	140	130		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.1.5	140	130		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.2.1	120			0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.2.2	120	110		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	○	●	○
P.2.3	80	90		0,25	0,013	0,012	0,009	0,016	0,015	0,011	0,024	0,020	0,015	○	●	○
P.2.4	80	90		0,25	0,013	0,012	0,009	0,016	0,015	0,011	0,024	0,020	0,015	○	●	○
P.3.1	80	90		0,25	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013	○	●	○
P.3.2	80	90		0,25	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013	○	●	○
P.3.3	100	110		0,25	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013	○	●	○
P.4.1	100			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012	●		
P.4.2	100			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012	●		
M.1.1	**100**			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012	●		
M.2.1	**80**			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012	●		
M.3.1	**100**			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012	●		
K.1.1		180		0,25	0,020	0,019	0,014	0,025	0,024	0,018	0,036	0,030	0,022		●	
K.1.2		160		0,25	0,020	0,019	0,014	0,025	0,024	0,018	0,036	0,030	0,022		●	
K.2.1		180		0,25	0,016	0,015	0,011	0,022	0,020	0,015	0,031	0,026	0,019		●	
K.2.2		160		0,25	0,016	0,015	0,011	0,022	0,020	0,015	0,031	0,026	0,019		●	
K.3.1		120		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016		●	
K.3.2		120		0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016		●	
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1	280	280		0,25	0,007	0,007	0,005	0,020	0,019	0,014	0,029	0,024	0,018	●		○
N.3.2	220	220		0,25	0,016	0,015	0,011	0,022	0,020	0,015	0,031	0,026	0,019	●		○
N.3.3	220	220		0,25	0,016	0,015	0,011	0,022	0,020	0,015	0,031	0,026	0,019	●		○
N.4.1																
S.1.1	45			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,012	0,012	●		
S.1.2	45			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,012	0,012	●		
S.2.1	25			0,25	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013	●		
S.2.2	30			0,25	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,012	0,012	●		
S.2.3	25			0,25	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013	●		
S.3.1	80			0,25	0,013	0,012	0,009	0,016	0,015	0,011	0,024	0,020	0,015	●		
S.3.2	60			0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	●		
S.3.3	60			0,25	0,014	0,013	0,010	0,018	0,017	0,013	0,026	0,022	0,016	●		
H.1.1		80		0,20	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013		●	
H.1.2		60		0,15	0,009	0,008	0,006	0,013	0,012	0,009	0,019	0,016	0,012		●	
H.1.3																
H.1.4																
H.2.1		80		0,25	0,013	0,012	0,009	0,016	0,015	0,011	0,024	0,020	0,015		●	
H.3.1		80		0,20	0,011	0,010	0,008	0,014	0,013	0,010	0,021	0,017	0,013		●	
O.1.1	300	300		0,25	0,029	0,027	0,020	0,043	0,040	0,030	0,051	0,043	0,032	●		○
O.1.2																
O.2.1																
O.2.2																
O.3.1																

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Cutting data standard values – ICR – End mills, short – long

Index	Emulsion	Compressed air	MMS	Short version	Long version	52 784 ..., 52 786 ...												● 1st choice ○ Suitable		
						Ø DC (mm) =														
						3			4			5			6					
						a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)			$a_{p\,max.}$ x DC		f_z (mm)														
P.1.1	140	130		1,0	1,0*	0,038	0,029	0,021	0,049	0,038	0,028	0,063	0,049	0,035	0,074	0,057	0,041	○	●	○
P.1.2	140	130		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.1.3	140	130		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.1.4	140	130		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.1.5	140	130		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.2.1	120	110		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.2.2	120	110		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	○	●	○
P.2.3	80	90		1,0	1,0*	0,031	0,024	0,018	0,063	0,049	0,035	0,052	0,040	0,029	0,061	0,047	0,034	○	●	○
P.2.4	80	90		1,0	1,0*	0,031	0,024	0,018	0,063	0,049	0,035	0,052	0,040	0,029	0,061	0,047	0,034	○	●	○
P.3.1	80	90		1,0	1,0*	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	○	●	○
P.3.2	80	90		1,0	1,0*	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	○	●	○
P.3.3	100	110		1,0	1,0*	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	○	●	○
P.4.1	100			1,0	1,0*	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
P.4.2	100			1,0	1,0*	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
M.1.1	**100**			1,0	1,0*	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
M.2.1	**80**			1,0	1,0*	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
M.3.1	**100**			1,0	1,0*	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
K.1.1		180		1,0	1,0*	0,047	0,036	0,026	0,063	0,049	0,035	0,079	0,061	0,044	0,094	0,073	0,053		●	
K.1.2		160		1,0	1,0*	0,047	0,036	0,026	0,063	0,049	0,035	0,079	0,061	0,044	0,094	0,073	0,053		●	
K.2.1		180		1,0	1,0*	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045		●	
K.2.2		160		1,0	1,0*	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045		●	
K.3.1		120		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038		●	
K.3.2		120		1,0	1,0*	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038		●	
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	280	280		1,0	1,0*	0,038	0,029	0,021	0,049	0,038	0,028	0,063	0,049	0,035	0,741	0,572	0,413	●		○
N.3.2	220	220		1,0	1,0*	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	●		○
N.3.3	220	220		1,0	1,0*	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	●		○
N.4.1																				
S.1.1	45			0,5	0,5	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
S.1.2	45			0,5	0,5	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
S.2.1	25			0,5	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	●		
S.2.2	30			0,5	0,5	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	●		
S.2.3	25			0,5	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	●		
S.3.1	80			0,5	0,5	0,031	0,024	0,018	0,040	0,031	0,023	0,052	0,040	0,029	0,061	0,047	0,034	●		
S.3.2	60			0,5	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	●		
S.3.3	60			0,5	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	●		
H.1.1		80		0,3	0,3	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030		●	
H.1.2		60		0,15	0,15	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026		●	
H.1.3																				
H.1.4																				
H.2.1		80		0,5	0,5	0,031	0,024	0,018	0,040	0,031	0,023	0,052	0,040	0,029	0,061	0,047	0,034		●	
H.3.1		80		0,3	0,3	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030		●	
O.1.1	300	300		1,0	1,0*	0,058	0,045	0,033	0,108	0,083	0,060	0,135	0,104	0,075	0,162	0,125	0,090	●		○
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Continued on the next page

Cutting data standard values – ICR – End mills, short – long

Index	Emulsion	Compressed air	MMS	Short version	Long version	52 784 ..., 52 786 ...														
						Ø DC (mm) =														
						8			10			12			14			16		
						a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			$a_{p\,max.}$ x DC		f_z (mm)														
P.1.1	140	130		1,0	1,0*	0,10	0,08	0,06	0,12	0,10	0,07	0,15	0,11	0,08	0,17	0,13	0,10	0,18	0,14	0,11
P.1.2	140	130		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.1.3	140	130		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.1.4	140	130		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.1.5	140	130		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.2.1	120	110		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.2.2	120	110		1,0	1,0*	0,09	0,07	0,05	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
P.2.3	80	90		1,0	1,0*	0,08	0,06	0,05	0,11	0,09	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09
P.2.4	80	90		1,0	1,0*	0,08	0,06	0,05	0,11	0,09	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09
P.3.1	80	90		1,0	1,0*	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
P.3.2	80	90		1,0	1,0*	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
P.3.3	100	110		1,0	1,0*	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
P.4.1	100			1,0	1,0*	0,06	0,05	0,04	0,08	0,06	0,04	0,10	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
P.4.2	100			1,0	1,0*	0,06	0,05	0,04	0,08	0,06	0,04	0,10	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
M.1.1	**100**			1,0	1,0*	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
M.2.1	**80**			1,0	1,0*	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
M.3.1	**100**			1,0	1,0*	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
K.1.1		180		1,0	1,0*	0,13	0,10	0,07	0,14	0,10	0,08	0,16	0,13	0,09	0,22	0,17	0,12	0,22	0,18	0,14
K.1.2		160		1,0	1,0*	0,13	0,10	0,07	0,14	0,10	0,08	0,16	0,13	0,09	0,22	0,17	0,12	0,22	0,18	0,14
K.2.1		180		1,0	1,0*	0,11	0,08	0,06	0,14	0,10	0,08	0,14	0,11	0,08	0,19	0,15	0,11	0,19	0,16	0,12
K.2.2		160		1,0	1,0*	0,11	0,08	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,19	0,15	0,11	0,19	0,16	0,12
K.3.1		120		1,0	1,0*	0,09	0,07	0,05	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
K.3.2		120		1,0	1,0*	0,09	0,07	0,05	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	280	280		1,0	1,0*	0,10	0,08	0,06	0,12	0,10	0,07	0,15	0,11	0,08	0,17	0,13	0,10	0,18	0,14	0,11
N.3.2	220	220		1,0	1,0*	0,11	0,08	0,06	0,14	0,10	0,08	0,16	0,13	0,09	0,14	0,11	0,08	0,19	0,16	0,12
N.3.3	220	220		1,0	1,0*	0,11	0,08	0,06	0,14	0,10	0,08	0,16	0,13	0,09	0,14	0,11	0,08	0,19	0,16	0,12
N.4.1																				
S.1.1	45			0,5	0,5	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
S.1.2	45			0,5	0,5	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
S.2.1	25			0,5	0,5	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
S.2.2	30			0,5	0,5	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
S.2.3	25			0,5	0,5	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,05	0,06	0,13	0,10	0,07	0,13	0,10	0,08
S.3.1	80			0,5	0,5	0,08	0,06	0,05	0,10	0,08	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09
S.3.2	60			0,5	0,5	0,09	0,07	0,05	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
S.3.3	60			0,5	0,5	0,09	0,07	0,05	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10
H.1.1		80		0,3	0,3	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
H.1.2		60		0,15	0,15	0,06	0,05	0,04	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07
H.1.3																				
H.1.4																				
H.2.1		80		0,5	0,5	0,08	0,06	0,05	0,10	0,08	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09
H.3.1		80		0,3	0,3	0,07	0,06	0,04	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08
O.1.1	300	300		1,0	1,0*	0,22	0,17	0,12	0,27	0,21	0,15	0,32	0,25	0,18	0,38	0,29	0,21	0,38	0,31	0,24
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Cutting data standard values – ICR – End mills, short – long

Index	52 784 ..., 52 786 ... Ø DC (mm) = 18 a_e 0,1–0,2 x DC f_z (mm)	18 a_e 0,3–0,4 x DC f_z (mm)	18 a_e 0,6–1,0 x DC f_z (mm)	20 a_e 0,1–0,2 x DC f_z (mm)	20 a_e 0,3–0,4 x DC f_z (mm)	20 a_e 0,6–1,0 x DC f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	0,19	0,16	0,12	0,20	0,17	0,14	○	●	○
P.1.2	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.3	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.4	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.5	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.1	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.2	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.3	0,15	0,13	0,10	0,16	0,14	0,11	○	●	○
P.2.4	0,15	0,13	0,10	0,16	0,14	0,11	○	●	○
P.3.1	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.3.2	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.3.3	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.4.1	0,12	0,10	0,08	0,13	0,11	0,09	●		
P.4.2	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.1.1	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.2.1	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.3.1	0,12	0,10	0,08	0,13	0,11	0,09	●		
K.1.1	0,24	0,20	0,16	0,25	0,22	0,18		●	
K.1.2	0,24	0,20	0,16	0,25	0,22	0,18		●	
K.2.1	0,20	0,17	0,13	0,25	0,22	0,18		●	
K.2.2	0,20	0,17	0,13	0,22	0,19	0,15		●	
K.3.1	0,17	0,15	0,11	0,18	0,16	0,13		●	
K.3.2	0,17	0,15	0,11	0,18	0,16	0,13		●	
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1	0,19	0,16	0,12	0,20	0,17	0,14	●		○
N.3.2	0,21	0,17	0,14	0,22	0,19	0,15	●		○
N.3.3	0,21	0,17	0,14	0,22	0,19	0,15	●		○
N.4.1									
S.1.1	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.1.2	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.2.1	0,14	0,12	0,09	0,14	0,13	0,10	●		
S.2.2	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.2.3	0,14	0,12	0,09	0,14	0,13	0,10	●		
S.3.1	0,15	0,13	0,10	0,16	0,14	0,11	●		
S.3.2	0,17	0,15	0,11	0,18	0,16	0,13	●		
S.3.3	0,17	0,15	0,11	0,18	0,16	0,13	●		
H.1.1	0,14	0,12	0,09	0,14	0,13	0,10		●	
H.1.2	0,12	0,10	0,08	0,13	0,11	0,09		●	
H.1.3									
H.1.4									
H.2.1	0,15	0,13	0,10	0,16	0,14	0,11		●	
H.3.1	0,14	0,12	0,09	0,14	0,13	0,10		●	
O.1.1	0,41	0,35	0,27	0,43	0,38	0,30	●		○
O.1.2									
O.2.1									
O.2.2									
O.3.1									

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Cutting data standard values – ICR – End mills, extra long

Index	Emulsion	Compressed air	MMS	Extra-long version		52 784 ...															
						Ø DC (mm) =															
						3			4			5			6			8			
						a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			$a_{p\,max.}$ x DC		f_z (mm)															
P.1.1	120	110		1,0	0,5	0,038	0,029	0,021	0,049	0,038	0,028	0,063	0,049	0,035	0,074	0,057	0,041	0,10	0,08	0,06	
P.1.2	120	110		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.1.3	120	110		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.1.4	120	110		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.1.5	120	110		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.2.1	100	90		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.2.2	100	90		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
P.2.3	70	70		1,0	0,5	0,031	0,024	0,018	0,063	0,049	0,035	0,052	0,040	0,029	0,061	0,047	0,034	0,08	0,06	0,05	
P.2.4	70	70		1,0	0,5	0,031	0,024	0,018	0,063	0,049	0,035	0,052	0,040	0,029	0,061	0,047	0,034	0,08	0,06	0,05	
P.3.1	70	70		1,0	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,07	0,06	0,04	
P.3.2	70	70		1,0	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,07	0,06	0,04	
P.3.3	85	90		1,0	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,07	0,06	0,04	
P.4.1	85			1,0	0,5	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
P.4.2	85			1,0	0,5	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
M.1.1	85			1,0	0,5	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
M.2.1	70			1,0	0,5	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
M.3.1	85			1,0	0,5	0,025	0,019	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
K.1.1		150		1,0	0,5	0,047	0,036	0,026	0,063	0,049	0,035	0,079	0,061	0,044	0,094	0,073	0,053	0,13	0,10	0,07	
K.1.2		140		1,0	0,5	0,047	0,036	0,026	0,063	0,049	0,035	0,079	0,061	0,044	0,094	0,073	0,053	0,13	0,10	0,07	
K.2.1		150		1,0	0,5	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	0,11	0,08	0,06	
K.2.2		140		1,0	0,5	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	0,11	0,08	0,06	
K.3.1		105		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
K.3.2		105		1,0	0,5	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	240	240		1,0	0,5	0,038	0,029	0,021	0,049	0,038	0,028	0,063	0,049	0,035	0,741	0,572	0,413	0,10	0,08	0,06	
N.3.2	190	190		1,0	0,5	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	0,11	0,08	0,06	
N.3.3	190	190		1,0	0,5	0,040	0,031	0,023	0,054	0,042	0,030	0,067	0,052	0,038	0,081	0,062	0,045	0,11	0,08	0,06	
N.4.1																					
S.1.1	38			0,5	0,25	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
S.1.2	38			0,5	0,25	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
S.2.1	23			0,5	0,25	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,07	0,06	0,04	
S.2.2	27			0,5	0,25	0,025	0,012	0,014	0,031	0,024	0,018	0,040	0,031	0,023	0,047	0,036	0,026	0,06	0,05	0,04	
S.2.3	23			0,5	0,25	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,07	0,06	0,04	
S.3.1	70			0,5	0,25	0,031	0,024	0,018	0,040	0,031	0,023	0,052	0,040	0,029	0,061	0,047	0,034	0,08	0,06	0,05	
S.3.2	50			0,5	0,25	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
S.3.3	50			0,5	0,25	0,034	0,026	0,019	0,045	0,035	0,025	0,056	0,043	0,031	0,067	0,052	0,038	0,09	0,07	0,05	
H.1.1		70		0,5*		0,027	0,021		0,036	0,028		0,045	0,035		0,054	0,042		0,07	0,06		
H.1.2		50		0,5*		0,025	0,019		0,031	0,024		0,040	0,031		0,047	0,036		0,06	0,05		
H.1.3																					
H.1.4																					
H.2.1		70		0,5*		0,031	0,024		0,040	0,031		0,052	0,040		0,061	0,047		0,08	0,06		
H.3.1		70		0,5*		0,027	0,021		0,036	0,028		0,045	0,035		0,054	0,042		0,07	0,06		
O.1.1	250	250		1,0	0,5	0,058	0,045	0,033	0,108	0,083	0,060	0,135	0,104	0,075	0,162	0,125	0,090	0,22	0,17	0,12	
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

* = profiling and trochoidal milling

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Cutting data standard values – ICR – End mills, extra long

Index	52 784 ... Ø DC (mm) = 10			12			14			16			18			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																				
P.1.1	0,12	0,10	0,07	0,15	0,11	0,08	0,17	0,13	0,10	0,18	0,14	0,11	0,19	0,16	0,12	0,20	0,17	0,14	○	●	○
P.1.2	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.3	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.4	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.1.5	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.1	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.2	0,12	0,09	0,07	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	○	●	○
P.2.3	0,11	0,09	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09	0,15	0,13	0,10	0,16	0,14	0,11	○	●	○
P.2.4	0,11	0,09	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09	0,15	0,13	0,10	0,16	0,14	0,11	○	●	○
P.3.1	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.3.2	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.3.3	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,14	0,13	0,10	○	●	○
P.4.1	0,08	0,06	0,04	0,10	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
P.4.2	0,08	0,06	0,04	0,10	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.1.1	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.2.1	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
M.3.1	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
K.1.1	0,14	0,10	0,08	0,16	0,13	0,09	0,22	0,17	0,12	0,22	0,18	0,14	0,24	0,20	0,16	0,25	0,22	0,18		●	
K.1.2	0,14	0,10	0,08	0,16	0,13	0,09	0,22	0,17	0,12	0,22	0,18	0,14	0,24	0,20	0,16	0,25	0,22	0,18		●	
K.2.1	0,14	0,10	0,08	0,14	0,11	0,08	0,19	0,15	0,11	0,19	0,16	0,12	0,20	0,17	0,13	0,25	0,22	0,18		●	
K.2.2	0,12	0,09	0,07	0,14	0,11	0,08	0,19	0,15	0,11	0,19	0,16	0,12	0,20	0,17	0,13	0,22	0,19	0,15		●	
K.3.1	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13		●	
K.3.2	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13		●	
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	0,12	0,10	0,07	0,15	0,11	0,08	0,17	0,13	0,10	0,18	0,14	0,11	0,19	0,16	0,12	0,20	0,17	0,14	●		○
N.3.2	0,14	0,10	0,08	0,16	0,13	0,09	0,14	0,11	0,08	0,19	0,16	0,12	0,21	0,17	0,14	0,22	0,19	0,15	●		○
N.3.3	0,14	0,10	0,08	0,16	0,13	0,09	0,14	0,11	0,08	0,19	0,16	0,12	0,21	0,17	0,14	0,22	0,19	0,15	●		○
N.4.1																					
S.1.1	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.1.2	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.2.1	0,09	0,07	0,05	0,11	0,08	0,06	0,13	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,14	0,13	0,10	●		
S.2.2	0,08	0,06	0,04	0,09	0,07	0,05	0,11	0,09	0,06	0,11	0,09	0,07	0,12	0,10	0,08	0,13	0,11	0,09	●		
S.2.3	0,09	0,07	0,05	0,11	0,05	0,06	0,13	0,10	0,07	0,13	0,10	0,08	0,14	0,12	0,09	0,14	0,13	0,10	●		
S.3.1	0,10	0,08	0,06	0,12	0,09	0,07	0,14	0,11	0,08	0,14	0,12	0,09	0,15	0,13	0,10	0,16	0,14	0,11	●		
S.3.2	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	●		
S.3.3	0,11	0,09	0,06	0,14	0,10	0,08	0,16	0,12	0,09	0,16	0,13	0,10	0,17	0,15	0,11	0,18	0,16	0,13	●		
H.1.1	0,09	0,07		0,11	0,08		0,13	0,10		0,13	0,10		0,14	0,12		0,14	0,13			●	
H.1.2	0,08	0,06		0,09	0,07		0,11	0,09		0,11	0,09		0,12	0,10		0,13	0,11			●	
H.1.3																					
H.1.4																					
H.2.1	0,10	0,08		0,12	0,09		0,14	0,11		0,14	0,12		0,16	0,13		0,16	0,14			●	
H.3.1	0,09	0,07		0,11	0,08		0,13	0,10		0,13	0,10		0,14	0,12		0,14	0,13			●	
O.1.1	0,27	0,21	0,15	0,32	0,25	0,18	0,38	0,29	0,21	0,38	0,31	0,24	0,41	0,35	0,27	0,43	0,38	0,30	●		○
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

* = profiling and trochoidal milling

Plunging angle for ramping and helical milling: No. of teeth 3 = 5°/No. of teeth 4 = 4°/No. of teeth 5 = 3°

Cutting data standard values – MonsterMill – TCR – End mills

Index	Long version	Extra-long version	Long version	Extra-long version	52 504 ..., 52 508 ...											
					Ø DC (mm) =											
					4			5			6			8		
					a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)		$a_{p\,max.}$ x DC		f_z (mm)											
P.4.1	110	88	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,05	0,037	0,025
P.4.2	100	80	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,05	0,037	0,025
M.1.1	110	88	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,05	0,037	0,025
M.2.1	80	64	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,05	0,037	0,025
M.3.1	100	80	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,05	0,037	0,025
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1	**80**	**96**	1,0	0,5	0,022	0,017	0,012	0,032	0,024	0,016	0,042	0,031	0,021	0,050	0,037	0,025
S.3.2	**70**	**80**	1,0	0,5	0,020	0,015	0,010	0,030	0,022	0,014	0,040	0,029	0,019	0,048	0,035	0,022
S.3.3	**60**	**64**	1,0	0,5	0,150	0,010	0,008	0,025	0,018	0,010	0,035	0,025	0,015	0,040	0,030	0,018

Cutting data standard values – MonsterMill – TCR – End mills

Index	Long version	Long version	52 506 ...											
			Ø DC (mm) =											
			4		5		6		8		10		12	
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.4.1	110	1,0	0,022	0,017	0,032	0,024	0,042	0,031	0,05	0,037	0,064	0,048	0,08	0,06
P.4.2	100	1,0	0,022	0,017	0,032	0,024	0,042	0,031	0,05	0,037	0,064	0,048	0,08	0,06
M.1.1	110	1,0	0,022	0,017	0,032	0,024	0,042	0,031	0,05	0,037	0,064	0,048	0,08	0,06
M.2.1	80	1,0	0,022	0,017	0,032	0,024	0,042	0,031	0,05	0,037	0,064	0,048	0,08	0,06
M.3.1	100	1,0	0,022	0,017	0,032	0,024	0,042	0,031	0,05	0,037	0,064	0,048	0,08	0,06
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1	**80**	**1,0**	0,022	0,017	0,032	0,024	0,042	0,031	0,050	0,037	0,064	0,048	0,080	0,060
S.3.2	**70**	**1,0**	0,020	0,015	0,030	0,022	0,040	0,029	0,048	0,035	0,062	0,046	0,078	0,058
S.3.3	**60**	**1,0**	0,150	0,010	0,025	0,018	0,035	0,025	0,040	0,030	0,055	0,035	0,070	0,050

Cutting data standard values – MonsterMill – TCR – End mills

Index	52 504 ..., 52 508 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	10			12			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.4.1	0,064	0,048	0,032	0,08	0,06	0,04	0,085	0,065	0,045	0,111	0,09	0,07	●	○	
P.4.2	0,064	0,048	0,032	0,08	0,06	0,04	0,085	0,065	0,045	0,111	0,09	0,07	●	○	
M.1.1	0,064	0,048	0,032	0,08	0,06	0,04	0,085	0,065	0,045	0,111	0,09	0,07	●	○	
M.2.1	0,064	0,048	0,032	0,08	0,06	0,04	0,085	0,065	0,045	0,111	0,09	0,07	●	○	
M.3.1	0,064	0,048	0,032	0,08	0,06	0,04	0,085	0,065	0,045	0,111	0,09	0,07	●	○	
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	0,064	0,048	0,032	0,080	0,060	0,040	0,085	0,065	0,045	0,111	0,090	0,070	●		
S.3.2	0,062	0,046	0,030	0,078	0,058	0,038	0,083	0,063	0,043	0,109	0,088	0,068	●		
S.3.3	0,055	0,035	0,025	0,070	0,050	0,030	0,075	0,055	0,035	0,100	0,080	0,060	●		

Cutting data standard values – MonsterMill – TCR – End mills

Index	52 506 ...				● 1st choice ○ Suitable		
	Ø DC (mm) =						
	16		20				
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	Emulsion	Compressed air	MMS
	f_z (mm)						
P.4.1	0,085	0,065	0,111	0,09	●	○	
P.4.2	0,085	0,065	0,111	0,09	●	○	
M.1.1	0,085	0,065	0,111	0,09	●	○	
M.2.1	0,085	0,065	0,111	0,09	●	○	
M.3.1	0,085	0,065	0,111	0,09	●	○	
S.1.1							
S.1.2							
S.2.1							
S.2.2							
S.2.3							
S.3.1	0,085	0,065	0,111	0,090	●		
S.3.2	0,083	0,063	0,109	0,088	●		
S.3.3	0,075	0,055	0,100	0,080	●		

Cutting data standard values – MonsterMill – TCR – Ball-nosed end mills

Index	Long version	Extra-long version		52 514 ...											
				Ø DC (mm) =											
				2		3		4		5		6		8	
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)											
P.4.1	110	65	0,1 - 0,2	0,015	0,011	0,018	0,012	0,02	0,015	0,02	0,015	0,03	0,02	0,04	0,03
P.4.2	100	60	0,1 - 0,2	0,015	0,011	0,018	0,012	0,02	0,015	0,02	0,015	0,03	0,02	0,04	0,03
M.1.1	110	65	0,1 - 0,2	0,015	0,011	0,018	0,012	0,02	0,015	0,02	0,015	0,03	0,02	0,04	0,03
M.2.1	80	55	0,1 - 0,2	0,015	0,011	0,018	0,012	0,02	0,015	0,02	0,015	0,03	0,02	0,04	0,03
M.3.1	100	60	0,1 - 0,2	0,015	0,011	0,018	0,012	0,02	0,015	0,02	0,015	0,03	0,02	0,04	0,03
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	80	60	0,1 - 0,2	0,017	0,013	0,02	0,014	0,022	0,017	0,022	0,017	0,034	0,025	0,053	0,042
S.3.2	70	50	0,1 - 0,2	0,014	0,011	0,017	0,012	0,019	0,014	0,019	0,014	0,029	0,022	0,046	0,036
S.3.3	60	40	0,1 - 0,2	0,012	0,009	0,014	0,01	0,016	0,012	0,016	0,012	0,024	0,018	0,038	0,03

Cutting data standard values – MonsterMill – TCR – Torus face cutters

Index	Long version	Extra-long version		52 512 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
				2	3	4	5	6	8	10	12	16	Emulsion	Compressed air	MMS
				a_e 0,1–1,0 x DC											
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)											
P.4.1	120	110	0,06	0,025	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	●	○	
P.4.2	110	100	0,06	0,025	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	●	○	
M.1.1	120	110	0,06	0,025	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	●	○	
M.2.1	100	90	0,06	0,025	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	●	○	
M.3.1	110	100	0,06	0,025	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	●	○	
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	130	120	0,06	0,025	0,040	0,060	0,070	0,090	0,11	0,13	0,18	0,22	●		
S.3.2	110	100	0,06	0,020	0,035	0,055	0,065	0,085	0,10	0,12	0,16	0,20	●		
S.3.3	90	80	0,06	0,015	0,030	0,050	0,060	0,080	0,09	0,11	0,15	0,18	●		

Cutting data standard values – MonsterMill – TCR – Ball-nosed end mills

Index	52 514 ... Ø DC (mm) = 10 a_e 0,1–0,2 x DC f_z (mm)	10 a_e 0,3–0,4 x DC f_z (mm)	12 a_e 0,1–0,2 x DC f_z (mm)	12 a_e 0,3–0,4 x DC f_z (mm)	16 a_e 0,1–0,2 x DC f_z (mm)	16 a_e 0,3–0,4 x DC f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.4.1	0,05	0,04	0,06	0,05	0,07	0,06	●	○	
P.4.2	0,05	0,04	0,06	0,05	0,07	0,06	●	○	
M.1.1	0,05	0,04	0,06	0,05	0,07	0,06	●	○	
M.2.1	0,05	0,04	0,06	0,05	0,07	0,06	●	○	
M.3.1	0,05	0,04	0,06	0,05	0,07	0,06	●	○	
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1	0,059	0,046	0,066	0,056	0,073	0,063	●		
S.3.2	0,05	0,04	0,056	0,048	0,062	0,054	●		
S.3.3	0,042	0,033	0,047	0,04	0,052	0,045	●		

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	Long version		53 034 ..., 53 035 ...																					
			Ø DC (mm) =																					
			3			4			5			6			8			10			12			
	v_c (m/min)	$a_{p\,max}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																					
P.1.1																								
P.1.2																								
P.1.3																								
P.1.4																								
P.1.5																								
P.2.1																								
P.2.2																								
P.2.3																								
P.2.4																								
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P.3.3																								
P.4.1																								
P.4.2																								
M.1.1																								
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N.2.3																								
N.3.1																								
N.3.2																								
N.3.3																								
N.4.1																								
S.1.1	40	1,0	0,030	0,023		0,036	0,028		0,042	0,032		0,048	0,037		0,060	0,046		0,072	0,055		0,083	0,064	
S.1.2	40	1,0	0,030	0,023		0,036	0,028		0,042	0,032		0,048	0,037		0,060	0,046		0,072	0,055		0,083	0,064	
S.2.1	40	1,0	0,030	0,023		0,036	0,028		0,042	0,032		0,048	0,037		0,060	0,046		0,072	0,055		0,083	0,064	
S.2.2	40	1,0	0,030	0,023		0,036	0,028		0,042	0,032		0,048	0,037		0,060	0,046		0,072	0,055		0,083	0,064	
S.2.3	40	1,0	0,030	0,023		0,036	0,028		0,042	0,032		0,048	0,037		0,060	0,046		0,072	0,055		0,083	0,064	
S.3.1	80	1,0	0,042	0,033	0,025	0,051	0,039	0,030	0,059	0,046	0,035	0,068	0,052	0,040	0,085	0,065	0,050	0,101	0,078	0,060	0,118	0,091	0,070
S.3.2	60	1,0	0,034	0,026	0,020	0,041	0,031	0,024	0,047	0,036	0,028	0,054	0,042	0,032	0,067	0,051	0,040	0,080	0,062	0,048	0,093	0,072	0,055
S.3.3																								
H.1.1																								
H.1.2																								
H.1.3																								
H.1.4																								
H.2.1																								
H.3.1																								
O.1.1																								
O.1.2																								
O.2.1																								
O.2.2																								
O.3.1																								

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	53 034 ..., 53 035 ... Ø DC (mm) = 16 a_e 0,1–0,2 x DC	16 a_e 0,3–0,4 x DC	16 a_e 0,6–1,0 x DC	20 a_e 0,1–0,2 x DC	20 a_e 0,3–0,4 x DC	20 a_e 0,6–1,0 x DC	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	f_z (mm)								
P.1.1									
P.1.2									
P.1.3									
P.1.4									
P.1.5									
P.2.1									
P.2.2									
P.2.3									
P.2.4									
P.3.1									
P.3.2									
P.3.3									
P.4.1									
P.4.2									
M.1.1									
M.2.1									
M.3.1									
K.1.1									
K.1.2									
K.2.1									
K.2.2									
K.3.1									
K.3.2									
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1	0,101	0,078		0,116	0,089		●		
S.1.2	0,101	0,078		0,116	0,089		●		
S.2.1	0,101	0,078		0,116	0,089		●		
S.2.2	0,101	0,078		0,116	0,089		●		
S.2.3	0,101	0,078		0,116	0,089		●		
S.3.1	0,144	0,111	0,085	0,161	0,124	0,095	●		
S.3.2	0,113	0,087	0,067	0,127	0,098	0,075	●		
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	Extra-long version		53 036 ...													
			Ø DC (mm) =													
			3		4		5		6		8		10		12	
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC
			f_z (mm)													
P.1.1																
P.1.2																
P.1.3																
P.1.4																
P.1.5																
P.2.1																
P.2.2																
P.2.3																
P.2.4																
P.3.1																
P.3.2																
P.3.3																
P.4.1																
P.4.2																
M.1.1																
M.2.1																
M.3.1																
K.1.1																
K.1.2																
K.2.1																
K.2.2																
K.3.1																
K.3.2																
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1																
N.3.2																
N.3.3																
N.4.1																
S.1.1	35	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.1.2	35	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.2.1	35	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.2.2	35	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.2.3	35	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.3.1	75	1,0	0,033	0,025	0,039	0,030	0,046	0,035	0,052	0,040	0,065	0,050	0,078	0,060	0,091	0,070
S.3.2	50	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	53 036 ... Ø DC (mm) = 16 a_e 0,1–0,2 x DC	16 a_e 0,3–0,4 x DC	20 a_e 0,1–0,2 x DC	20 a_e 0,3–0,4 x DC	f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1								
P.1.2								
P.1.3								
P.1.4								
P.1.5								
P.2.1								
P.2.2								
P.2.3								
P.2.4								
P.3.1								
P.3.2								
P.3.3								
P.4.1								
P.4.2								
M.1.1								
M.2.1								
M.3.1								
K.1.1								
K.1.2								
K.2.1								
K.2.2								
K.3.1								
K.3.2								
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1	0,101	0,078	0,116	0,089		●		
S.1.2	0,101	0,078	0,116	0,089		●		
S.2.1	0,101	0,078	0,116	0,089		●		
S.2.2	0,101	0,078	0,116	0,089		●		
S.2.3	0,101	0,078	0,116	0,089		●		
S.3.1	0,111	0,085	0,124	0,095		●		
S.3.2	0,101	0,078	0,116	0,089		●		
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	Long version		53 039 ...					● 1st choice ○ Suitable		
			Ø DC (mm) =							
			6	8	10	12	16			
			a_e 0,05 x DC							
			f_z (mm)							
	v_c (m/min)	$a_{p\,max.}$ x DC						Emulsion	Compressed air	MMS
P.1.1										
P.1.2										
P.1.3										
P.1.4										
P.1.5										
P.2.1										
P.2.2										
P.2.3										
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1	40	2,0	0,029	0,036	0,043	0,051	0,062	●		
S.1.2	40	2,0	0,029	0,036	0,043	0,051	0,062	●		
S.2.1	40	2,0	0,029	0,036	0,043	0,051	0,062	●		
S.2.2	40	2,0	0,029	0,036	0,043	0,051	0,062	●		
S.2.3	40	2,0	0,029	0,036	0,043	0,051	0,062	●		
S.3.1	80	2,0	0,040	0,050	0,060	0,070	0,085	●		
S.3.2	60	2,0	0,032	0,040	0,048	0,055	0,067	●		
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

Cutting data standard values – MonsterMill – ISO-S – End mills

Index	Long version		53 037 ..., 53 038 ...																● 1st choice ○ Suitable		
			Ø DC (mm) =																		
			3		4		5		6		8		10		12		16				
	v_c (m/min)	$a_{p\,max}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	Emulsion	Compressed air	MMS
			f_z (mm)																		
P.1.1																					
P.1.2																					
P.1.3																					
P.1.4																					
P.1.5																					
P.2.1																					
P.2.2																					
P.2.3																					
P.2.4																					
P.3.1																					
P.3.2																					
P.3.3																					
P.4.1																					
P.4.2																					
M.1.1																					
M.2.1																					
M.3.1																					
K.1.1																					
K.1.2																					
K.2.1																					
K.2.2																					
K.3.1																					
K.3.2																					
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1																					
N.3.2																					
N.3.3																					
N.4.1																					
S.1.1	40	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.1.2	40	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.2.1	40	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.2.2	40	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.2.3	40	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.3.1	80	1,0	0,039	0,030	0,047	0,036	0,055	0,042	0,062	0,048	0,078	0,060	0,094	0,072	0,109	0,084	0,133	0,102	●		
S.3.2	60	1,0	0,030	0,023	0,036	0,028	0,042	0,032	0,048	0,037	0,060	0,046	0,072	0,055	0,083	0,064	0,101	0,078	●		
S.3.3																					
H.1.1																					
H.1.2																					
H.1.3																					
H.1.4																					
H.2.1																					
H.3.1																					
O.1.1																					
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

Cutting data standard values – MonsterMill – ISO-S – End mills – Trochoidal milling

Index	v_c (m/min)	$a_{p\,max.}$ x DC	Maximum angle of engagement	53 040 .... Ø DC (mm) = 6			8			10			12			● 1st choice ○ Suitable Emulsion	Compressed air	MMS
				a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m			
				f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)					
S.1.1	85	3.0	25°	0,026		0,006	0,035		0,008	0,044		0,010	0,053		0,012	●		
S.1.2	85	3.0	25°	0,026		0,006	0,035		0,008	0,044		0,010	0,053		0,012	●		
S.2.1	65	3.0	25°	0,026		0,006	0,035		0,008	0,044		0,010	0,053		0,012	●		
S.2.2	65	3.0	25°	0,026		0,006	0,035		0,008	0,044		0,010	0,053		0,012	●		
S.2.3	65	3.0	25°	0,026		0,006	0,035		0,008	0,044		0,010	0,053		0,012	●		
S.3.1	160	3.0	30°	0,051	0,039	0,011	0,068	0,052	0,015	0,085	0,065	0,021	0,103	0,079	0,025	●		
S.3.2	120	3.0	30°	0,051	0,039	0,011	0,068	0,052	0,015	0,085	0,065	0,021	0,103	0,079	0,025	●		
S.3.3																		

Index	v_c (m/min)	$a_{p\,max.}$ x DC	Maximum angle of engagement	53 040 .... Ø DC (mm) = 16			20			● 1st choice ○ Suitable Emulsion	Compressed air	MMS
				a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m			
				f_z (mm)			f_z (mm)					
S.1.1	85	3,0	25°	0,066		0,015	0,075		0,02	●		
S.1.2	85	3,0	25°	0,066		0,015	0,075		0,02	●		
S.2.1	65	3,0	25°	0,066		0,015	0,075		0,02	●		
S.2.2	65	3,0	25°	0,066		0,015	0,075		0,02	●		
S.2.3	65	3,0	25°	0,066		0,015	0,075		0,02	●		
S.3.1	160	3,0	30°	0,129	0,099	0,031	0,146	0,112	0,04	●		
S.3.2	120	3,0	30°	0,129	0,099	0,031	0,146	0,112	0,04	●		
S.3.3												

Cutting data standard values – MonsterMill – ISO-S – Ball-nosed end mills

Index	Long version	Extra-long version		53 032 ..., 53 033 ...										● 1st choice ○ Suitable		
				Ø DC (mm) =												
				2		3		4		5		6				
				a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)												
M.1.1	120	90	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		○
M.2.1	100	80	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		○
M.3.1	120	90	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		○
S.1.1	**60**	**50**	**0.02**	0.015	0.01	0.025	0.015	0.03	0.02	0.04	0.025	0.05	0.03	●		
S.1.2	**60**	**50**	**0.02**	0.015	0.01	0.025	0.015	0.03	0.02	0.04	0.025	0.05	0.03	●		
S.2.1	**50**	**40**	**0.02**	0.015	0.01	0.025	0.015	0.03	0.02	0.04	0.025	0.05	0.03	●		
S.2.2	**50**	**40**	**0.02**	0.015	0.01	0.025	0.015	0.03	0.02	0.04	0.025	0.05	0.03	●		
S.2.3	**50**	**40**	**0.02**	0.015	0.01	0.025	0.015	0.03	0.02	0.04	0.025	0.05	0.03	●		
S.3.1	100	80	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		
S.3.2	90	70	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		
S.3.3	90	70	0.02	0.02	0.015	0.03	0.02	0.035	0.025	0.04	0.03	0.055	0.04	●		

Index	Long version	Extra-long version		53 032 ..., 53 033 ...								● 1st choice ○ Suitable		
				Ø DC (mm) =										
				8		10		12		16				
				a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,05 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)										
M.1.1	120	90	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		○
M.2.1	100	80	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		○
M.3.1	120	90	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		○
S.1.1	**60**	**50**	**0.02**	0.06	0.04	0.07	0.05	0.08	0.06	0.1	0.08	●		
S.1.2	**60**	**50**	**0.02**	0.06	0.04	0.07	0.05	0.08	0.06	0.1	0.08	●		
S.2.1	**50**	**40**	**0.02**	0.06	0.04	0.07	0.05	0.08	0.06	0.1	0.08	●		
S.2.2	**50**	**40**	**0.02**	0.06	0.04	0.07	0.05	0.08	0.06	0.1	0.08	●		
S.2.3	**50**	**40**	**0.02**	0.06	0.04	0.07	0.05	0.08	0.06	0.1	0.08	●		
S.3.1	100	80	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		
S.3.2	90	70	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		
S.3.3	90	70	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.12	0.1	●		

Cutting data standard values – MonsterMill – ISO-S – End mills / Ball-nosed end mills

Index	v_c (ft/min)	v_c (m/min.)	$a_{p\,max.}$ x DC	50 359 ... / 50 365 ... / 50 367 ...							
				1/4"	6,35	5/16"	7,94	3/8"	9.525	1/2"	12,7
				a_e 1,0 x DC							
				f_z							
				inch	mm	inch	mm	inch	mm	inch	mm
P.1.1											
P.1.2											
P.1.3											
P.1.4											
P.1.5											
P.2.1											
P.2.2											
P.2.3											
P.2.4											
P.3.1											
P.3.2											
P.3.3											
P.4.1											
P.4.2											
M.1.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.2.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.3.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
K.1.1											
K.1.2											
K.2.1											
K.2.2											
K.3.1											
K.3.2											
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	120	37	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.1.2	120	37	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.2.1	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.2.2	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.2.3	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.3.1	300	91	1.0	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
S.3.2	180	55	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.3.3	140	43	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting data standard values – MonsterMill – ISO-S – End mills / Ball-nosed end mills

	Index	50 359 ... / 50 365 ... / 50 367 ...						● 1st choice ○ Suitable		
		5/8"	15.875	3/4"	19.05	1"	25.4			
		a_e 1,0 x DC								
		f_z								
		inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
	P.1.1									
	P.1.2									
	P.1.3									
	P.1.4									
	P.1.5									
	P.2.1									
	P.2.2									
	P.2.3									
	P.2.4									
	P.3.1									
	P.3.2									
	P.3.3									
	P.4.1									
	P.4.2									
	M.1.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
	M.2.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
	M.3.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
	K.1.1									
	K.1.2									
	K.2.1									
	K.2.2									
	K.3.1									
	K.3.2									
	N.1.1									
	N.1.2									
	N.2.1									
	N.2.2									
	N.2.3									
	N.3.1									
	N.3.2									
	N.3.3									
	N.4.1									
	S.1.1	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
	S.1.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
	S.2.1	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
	S.2.2	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
	S.2.3	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
	S.3.1	0.0034	0.0864	0.0039	0.0991	0.0040	0.1016	●		
	S.3.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
	S.3.3	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
	H.1.1									
	H.1.2									
	H.1.3									
	H.1.4									
	H.2.1									
	H.3.1									
	O.1.1									
	O.1.2									
	O.2.1									
	O.2.2									
	O.3.1									

Cutting data standard values – MonsterMill – HCR – End mills

Index	$T_x \leq 2,5 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Profiling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	200	1,0	0,006	0,006	0,012	0,012	0,018	0,018	0,024	0,030	0,036	0,042
P.2.3	200	1,0	0,006	0,006	0,012	0,012	0,018	0,018	0,024	0,030	0,036	0,042
P.3.3	200	1,0	0,006	0,006	0,012	0,012	0,018	0,018	0,024	0,030	0,036	0,042
H.1.1	170	1,0	0,006	0,006	0,012	0,012	0,018	0,018	0,024	0,030	0,036	0,042
H.1.2	160	1,0	0,005	0,005	0,010	0,010	0,014	0,014	0,019	0,024	0,029	0,034
H.1.3	150	1,0	0,004	0,004	0,008	0,008	0,012	0,012	0,016	0,020	0,024	0,028
H.1.4	110	1,0	0,003	0,003	0,006	0,006	0,010	0,010	0,013	0,016	0,019	0,022

Index	$T_x \leq 2,5 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Z-layer milling / face milling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	120	0,07	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
P.2.3	120	0,07	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
P.3.3	120	0,07	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
H.1.1	**110**	0,05	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
H.1.2	**100**	0,05	0,002	0,002	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017
H.1.3	**80**	0,03	0,002	0,002	0,004	0,004	0,006	0,006	0,008	0,010	0,012	0,014
H.1.4	**60**	0,03	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,010	0,011

Index	$T_x \leq 2,5 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Full slot		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	70	0,07	0,002	0,002	0,005	0,005	0,006	0,008	0,009	0,011	0,012	0,015
P.2.3	70	0,07	0,002	0,002	0,005	0,005	0,006	0,008	0,009	0,011	0,012	0,015
P.3.3	70	0,07	0,002	0,002	0,005	0,005	0,006	0,008	0,009	0,011	0,012	0,015
H.1.1	**55**	0,05	0,002	0,002	0,005	0,005	0,006	0,008	0,009	0,011	0,012	0,015
H.1.2	**45**	0,05	0,001	0,001	0,003	0,003	0,004	0,005	0,006	0,007	0,008	0,010
H.1.3												
H.1.4												

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	53 603 ..., 53 604 ... Ø DC (mm) = 2,5	3	4	6	8	10	12	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	a_e 0,05 x DC f_z (mm)									
P.1.3	0,054	0,060	0,084	0,126	0,168	0,210	0,240	○	●	●
P.2.3	0,054	0,060	0,084	0,126	0,168	0,210	0,240	○	●	●
P.3.3	0,054	0,060	0,084	0,126	0,168	0,210	0,240	○	●	●
H.1.1	0,054	0,060	0,084	0,126	0,168	0,210	0,240	○	●	●
H.1.2	0,043	0,048	0,067	0,101	0,134	0,168	0,192	○	●	●
H.1.3	0,036	0,040	0,056	0,084	0,112	0,140	0,160	○	●	●
H.1.4	0,029	0,032	0,045	0,067	0,090	0,112	0,128	○	●	●

Index	53 603 ..., 53 604 ... Ø DC (mm) = 2,5	3	4	6	8	10	12	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	a_e 0,05 x DC f_z (mm)									
P.1.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.2.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.3.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.1	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.2	0,022	0,024	0,034	0,050	0,067	0,084	0,096	○	●	●
H.1.3	0,018	0,020	0,028	0,042	0,056	0,070	0,080	○	●	●
H.1.4	0,014	0,016	0,022	0,034	0,045	0,056	0,064	○	●	●

Index	53 603 ..., 53 604 ... Ø DC (mm) = 2,5	3	4	6	8	10	12	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	a_e 0,05 x DC f_z (mm)									
P.1.3	0,018	0,023	0,030	0,045	0,050	0,053	0,060	○	●	●
P.2.3	0,018	0,023	0,030	0,045	0,050	0,053	0,060	○	●	●
P.3.3	0,018	0,023	0,030	0,045	0,050	0,053	0,060	○	●	●
H.1.1	0,018	0,023	0,030	0,045	0,050	0,053	0,060	○	●	●
H.1.2	0,012	0,015	0,020	0,030	0,033	0,035	0,040	○	●	●
H.1.3										
H.1.4										

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	$T_x \leq 2,6–5,0 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Profiling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	140	1,0	0,005	0,005	0,009	0,009	0,014	0,014	0,018	0,023	0,027	0,032
P.2.3	140	1,0	0,005	0,005	0,009	0,009	0,014	0,014	0,018	0,023	0,027	0,032
P.3.3	140	1,0	0,005	0,005	0,009	0,009	0,014	0,014	0,018	0,023	0,027	0,032
H.1.1	119	1,0	0,005	0,005	0,009	0,009	0,014	0,014	0,018	0,023	0,027	0,032
H.1.2	112	1,0	0,004	0,004	0,007	0,007	0,011	0,011	0,014	0,018	0,022	0,025
H.1.3	105	1,0	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
H.1.4	77	1,0	0,002	0,002	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017

Index	$T_x \leq 2,6–5,0 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Z-layer milling / face milling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,03 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	84	0,07	0,002	0,002	0,005	0,005	0,007	0,007	0,009	0,011	0,014	0,016
P.2.3	84	0,07	0,002	0,002	0,005	0,005	0,007	0,007	0,009	0,011	0,014	0,016
P.3.3	84	0,07	0,002	0,002	0,005	0,005	0,007	0,007	0,009	0,011	0,014	0,016
H.1.1	77	0,05	0,002	0,002	0,005	0,005	0,007	0,007	0,009	0,011	0,014	0,016
H.1.2	70	0,05	0,002	0,002	0,004	0,004	0,005	0,005	0,007	0,009	0,011	0,013
H.1.3	56	0,03	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
H.1.4	60	0,03	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,010	0,011

Index	$T_x \leq 2,6–5,0 \times DC$		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Full slot		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 1,0 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	49	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
P.2.3	49	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
P.3.3	49	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
H.1.1	39	0,05	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
H.1.2	32	0,05	0,001	0,001	0,002	0,002	0,003	0,003	0,004	0,005	0,006	0,007
H.1.3												
H.1.4												

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	53 603 ..., 53 604 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,05 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,041	0,045	0,063	0,095	0,126	0,158	0,180	○	●	●
P.2.3	0,041	0,045	0,063	0,095	0,126	0,158	0,180	○	●	●
P.3.3	0,041	0,045	0,063	0,095	0,126	0,158	0,180	○	●	●
H.1.1	0,041	0,045	0,063	0,095	0,126	0,158	0,180	○	●	●
H.1.2	0,032	0,036	0,050	0,076	0,101	0,126	0,144	○	●	●
H.1.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.4	0,022	0,024	0,034	0,050	0,067	0,084	0,096	○	●	●

Index	53 603 ..., 53 604 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,03 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,020	0,023	0,032	0,047	0,063	0,079	0,090	○	●	●
P.2.3	0,020	0,023	0,032	0,047	0,063	0,079	0,090	○	●	●
P.3.3	0,020	0,023	0,032	0,047	0,063	0,079	0,090	○	●	●
H.1.1	0,020	0,023	0,032	0,047	0,063	0,079	0,090	○	●	●
H.1.2	0,016	0,018	0,025	0,038	0,050	0,063	0,072	○	●	●
H.1.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
H.1.4	0,011	0,012	0,017	0,025	0,034	0,042	0,048	○	●	●

Index	53 603 ..., 53 604 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 1,0 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
P.2.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
P.3.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
H.1.1	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
H.1.2	0,009	0,010	0,014	0,021	0,028	0,035	0,040	○	●	●
H.1.3										
H.1.4										

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	T_x ≤ 5,1–10,0 x DC		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Profiling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	110	0,75	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
P.2.3	110	0,75	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
P.3.3	110	0,75	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
H.1.1	94	0,75	0,003	0,003	0,006	0,006	0,009	0,009	0,012	0,015	0,018	0,021
H.1.2	88	0,75	0,002	0,002	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017
H.1.3	83	0,75	0,002	0,002	0,004	0,004	0,006	0,006	0,008	0,010	0,012	0,014
H.1.4	61	0,75	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,010	0,011

Index	T_x ≤ 5,1–10,0 x DC		53 603 ..., 53 604 ...									
			Ø DC (mm) =									
	Z-layer milling / face milling		0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,3 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	66	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
P.2.3	66	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
P.3.3	66	0,07	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
H.1.1	61	0,05	0,002	0,002	0,003	0,003	0,005	0,005	0,006	0,008	0,009	0,011
H.1.2	55	0,05	0,001	0,001	0,002	0,002	0,004	0,004	0,005	0,006	0,007	0,008
H.1.3	44	0,03	0,001	0,001	0,002	0,002	0,003	0,003	0,004	0,005	0,006	0,007
H.1.4	33	0,03	0,001	0,001	0,002	0,002	0,002	0,002	0,003	0,004	0,005	0,006

● 1st choice
○ Suitable

Index	T_x ≤ 10,1–15,0 x DC		53 603 ..., 53 604 ...												
			Ø DC (mm) =												
	Profiling		0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2	2,5	3	4	Emulsion	Compressed air	MMS
			a_e 0,05 x DC													
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)													
P.1.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
P.2.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
P.3.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
H.1.1	77	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
H.1.2	72	0,5	0,004	0,004	0,006	0,006	0,008	0,010	0,012	0,013	0,017	0,019	0,027	○	●	●
H.1.3	68	0,5	0,003	0,003	0,005	0,005	0,006	0,008	0,010	0,011	0,014	0,016	0,022	○	●	●
H.1.4	50	0,5	0,003	0,003	0,004	0,004	0,005	0,006	0,008	0,009	0,012	0,013	0,018	○	●	●

● 1st choice
○ Suitable

Index	T_x ≤ 10,1–15,0 x DC		53 603 ..., 53 604 ...												
			Ø DC (mm) =												
	Z-layer milling / face milling		0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2	2,5	3	4	Emulsion	Compressed air	MMS
			a_e 0,3 x DC													
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)													
P.1.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
P.2.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
P.3.3	90	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
H.1.1	77	0,5	0,005	0,005	0,007	0,007	0,010	0,012	0,014	0,017	0,022	0,024	0,034	○	●	●
H.1.2	72	0,5	0,004	0,004	0,006	0,006	0,008	0,010	0,012	0,013	0,017	0,019	0,027	○	●	●
H.1.3	68	0,5	0,003	0,003	0,005	0,005	0,006	0,008	0,010	0,011	0,014	0,016	0,022	○	●	●
H.1.4	50	0,5	0,003	0,003	0,004	0,004	0,005	0,006	0,008	0,009	0,012	0,013	0,018	○	●	●

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	53 603 ..., 53 604 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,05 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.2.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.3.3	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.1	0,027	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.2	0,022	0,024	0,034	0,050	0,067	0,084	0,096	○	●	●
H.1.3	0,018	0,020	0,028	0,042	0,056	0,070	0,080	○	●	●
H.1.4	0,014	0,016	0,022	0,034	0,045	0,056	0,064	○	●	●

Index	53 603 ..., 53 604 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,3 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
P.2.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
P.3.3	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
H.1.1	0,014	0,015	0,021	0,032	0,042	0,053	0,060	○	●	●
H.1.2	0,011	0,012	0,017	0,025	0,034	0,042	0,048	○	●	●
H.1.3	0,009	0,010	0,014	0,021	0,028	0,035	0,040	○	●	●
H.1.4	0,007	0,008	0,011	0,017	0,022	0,028	0,032	○	●	●

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – End mills

Index	$T_x \leq 2 \times DC$		53 605 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
	Profiling		1	2	3	4	6	8	10	12	Emulsion	Compressed air	MMS
			a_e 0,05 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.1.3	200	2,0	0,018	0,027	0,038	0,051	0,075	0,093	0,120	0,135	○	●	●
P.2.3	200	2,0	0,018	0,027	0,038	0,051	0,075	0,093	0,120	0,135	○	●	●
P.3.3	200	2,0	0,018	0,027	0,038	0,051	0,075	0,093	0,120	0,135	○	●	●
H.1.1	**160**	2,0	0,018	0,027	0,038	0,051	0,075	0,093	0,120	0,135	○	●	●
H.1.2	**130**	2,0	0,014	0,022	0,030	0,041	0,060	0,074	0,096	0,108	○	●	●
H.1.3	**120**	2,0	0,012	0,018	0,025	0,034	0,050	0,062	0,080	0,090	○	●	●
H.1.4	**110**	2,0	0,010	0,014	0,020	0,027	0,040	0,050	0,064	0,072	○	●	●

Index	$T_x \leq 2 \times DC$		53 605 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
	Face milling		1	2	3	4	6	8	10	12	Emulsion	Compressed air	MMS
			a_e 0,05 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.1.3	120	0,07	0,015	0,021	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.2.3	120	0,07	0,015	0,021	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
P.3.3	120	0,07	0,015	0,021	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.1	**110**	0,05	0,015	0,021	0,030	0,042	0,063	0,084	0,105	0,120	○	●	●
H.1.2	**90**	0,05	0,012	0,017	0,024	0,034	0,050	0,067	0,084	0,096	○	●	●
H.1.3	**75**	0,03	0,010	0,014	0,020	0,028	0,042	0,056	0,070	0,080	○	●	●
H.1.4	**60**	0,03	0,008	0,011	0,016	0,022	0,034	0,045	0,056	0,064	○	●	●

Index	$T_x \leq 3 \times DC$		53 606 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
	Profiling		1	2	3	4	6	8	10	12	Emulsion	Compressed air	MMS
			a_e 0,04 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.1.3	140	2,0	0,014	0,024	0,033	0,045	0,066	0,083	0,105	0,120	○	●	●
P.2.3	140	2,0	0,014	0,024	0,033	0,045	0,066	0,083	0,105	0,120	○	●	●
P.3.3	140	2,0	0,014	0,024	0,033	0,045	0,066	0,083	0,105	0,120	○	●	●
H.1.1	**119**	2,0	0,014	0,024	0,033	0,045	0,066	0,083	0,105	0,120	○	●	●
H.1.2	**112**	2,0	0,011	0,019	0,026	0,036	0,053	0,066	0,084	0,096	○	●	●
H.1.3	**105**	2,0	0,009	0,016	0,022	0,030	0,044	0,055	0,070	0,080	○	●	●
H.1.4	**77**	2,0	0,007	0,013	0,018	0,024	0,035	0,044	0,056	0,064	○	●	●

Index	$T_x \leq 3 \times DC$		53 606 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
	Face milling		1	2	3	4	6	8	10	12	Emulsion	Compressed air	MMS
			a_e 0,04 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.1.3	105	0,07	0,009	0,014	0,023	0,036	0,054	0,072	0,090	0,105	○	●	●
P.2.3	105	0,07	0,009	0,014	0,023	0,036	0,054	0,072	0,090	0,105	○	●	●
P.3.3	105	0,07	0,009	0,014	0,023	0,036	0,054	0,072	0,090	0,105	○	●	●
H.1.1	**84**	0,05	0,009	0,014	0,023	0,036	0,054	0,072	0,090	0,105	○	●	●
H.1.2	**77**	0,05	0,007	0,011	0,018	0,029	0,043	0,058	0,072	0,084	○	●	●
H.1.3	**63**	0,03	0,006	0,009	0,015	0,024	0,036	0,048	0,060	0,070	○	●	●
H.1.4	**42**	0,03	0,005	0,007	0,012	0,019	0,029	0,038	0,048	0,056	○	●	●

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – Ball-nosed end mills

Index	$T_x \leq 2,5 \times DC$		53 602 ...						● 1st choice ○ Suitable		
			Ø DC (mm) =								
			3	4	6	8	10	12			
			a_e 0,05 x DC								
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)						Emulsion	Compressed air	MMS
P.1.3	200	0,07	0,038	0,050	0,076	0,101	0,126	0,151	○	●	●
P.2.3	200	0,07	0,038	0,050	0,076	0,101	0,126	0,151	○	●	●
P.3.3	200	0,07	0,038	0,050	0,076	0,101	0,126	0,151	○	●	●
H.1.1	**180**	0,05	0,038	0,050	0,076	0,101	0,126	0,151	○	●	●
H.1.2	**160**	0,05	0,030	0,040	0,060	0,081	0,101	0,121	○	●	●
H.1.3	**150**	0,03	0,025	0,034	0,050	0,067	0,084	0,101	○	●	●
H.1.4	**130**	0,03	0,020	0,027	0,040	0,054	0,067	0,081	○	●	●

Index	$T_x \leq 2,6–5,0 \times DC$		53 602 ...						● 1st choice ○ Suitable		
			Ø DC (mm) =								
			3	4	6	8	10	12			
			a_e 0,05 x DC								
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)						Emulsion	Compressed air	MMS
P.1.3	120	0,07	0,03	0,04	0,053	0,073	0,093	0,113	○	●	●
P.2.3	120	0,07	0,03	0,04	0,053	0,073	0,093	0,113	○	●	●
P.3.3	120	0,07	0,03	0,04	0,053	0,073	0,093	0,113	○	●	●
H.1.1	**108**	0,05	0,030	0,040	0,053	0,073	0,093	0,113	○	●	●
H.1.2	**96**	0,05	0,024	0,032	0,042	0,058	0,075	0,091	○	●	●
H.1.3	**90**	0,03	0,020	0,027	0,035	0,049	0,062	0,076	○	●	●
H.1.4	**78**	0,03	0,016	0,022	0,028	0,039	0,050	0,060	○	●	●

Index	$T_x \leq 5,1–10,0 \times DC$		53 602 ...						● 1st choice ○ Suitable		
			Ø DC (mm) =								
			3	4	6	8	10	12			
			a_e 0,04 x DC								
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)						Emulsion	Compressed air	MMS
P.1.3	90	0,06	0,023	0,030	0,030	0,045	0,060	0,076	○	●	●
P.2.3	90	0,06	0,023	0,030	0,030	0,045	0,060	0,076	○	●	●
P.3.3	90	0,06	0,023	0,030	0,030	0,045	0,060	0,076	○	●	●
H.1.1	**81**	0,04	0,023	0,030	0,030	0,045	0,060	0,076	○	●	●
H.1.2	**72**	0,04	0,018	0,024	0,024	0,036	0,048	0,060	○	●	●
H.1.3	**68**	0,02	0,015	0,020	0,020	0,030	0,040	0,050	○	●	●
H.1.4	**59**	0,02	0,012	0,016	0,016	0,024	0,032	0,040	○	●	●

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – Ball-nosed end mills

Index	$T_x \leq 2{,}5 \times DC$		53 600 ..., 53 601 ...									
			Ø DC (mm) =									
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	200	0,07	0,003	0,006	0,008	0,011	0,015	0,018	0,021	0,027	0,033	0,036
P.2.3	200	0,07	0,003	0,006	0,008	0,011	0,015	0,018	0,021	0,027	0,033	0,036
P.3.3	200	0,07	0,003	0,006	0,008	0,011	0,015	0,018	0,021	0,027	0,033	0,036
H.1.1	180	0,05	0,003	0,006	0,008	0,011	0,015	0,018	0,021	0,027	0,033	0,036
H.1.2	160	0,05	0,002	0,005	0,006	0,008	0,012	0,014	0,017	0,022	0,026	0,029
H.1.3	150	0,03	0,002	0,004	0,005	0,007	0,010	0,012	0,014	0,018	0,022	0,024
H.1.4	130	0,03	0,002	0,003	0,004	0,006	0,008	0,010	0,011	0,014	0,018	0,019

Index	$T_x \leq 2{,}6–5{,}0 \times DC$		53 600 ..., 53 601 ...									
			Ø DC (mm) =									
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	120	0,07	0,002	0,005	0,006	0,008	0,012	0,014	0,017	0,022	0,026	0,029
P.2.3	120	0,07	0,002	0,005	0,006	0,008	0,012	0,014	0,017	0,022	0,026	0,029
P.3.3	120	0,07	0,002	0,005	0,006	0,008	0,012	0,014	0,017	0,022	0,026	0,029
H.1.1	108	0,05	0,002	0,005	0,006	0,008	0,012	0,014	0,017	0,022	0,026	0,029
H.1.2	96	0,05	0,002	0,004	0,005	0,007	0,010	0,011	0,014	0,017	0,020	0,023
H.1.3	90	0,03	0,002	0,003	0,004	0,006	0,008	0,010	0,012	0,015	0,017	0,019
H.1.4	78	0,03	0,001	0,002	0,003	0,004	0,006	0,008	0,009	0,012	0,014	0,015

Index	$T_x \leq 5{,}1–10{,}0 \times DC$		53 600 ..., 53 601 ...									
			Ø DC (mm) =									
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	90	0,06	0,002	0,003	0,005	0,006	0,009	0,011	0,014	0,017	0,018	0,021
P.2.3	90	0,06	0,002	0,003	0,005	0,006	0,009	0,011	0,014	0,017	0,018	0,021
P.3.3	90	0,06	0,002	0,003	0,005	0,006	0,009	0,011	0,014	0,017	0,018	0,021
H.1.1	81	0,04	0,002	0,003	0,005	0,006	0,009	0,011	0,014	0,017	0,018	0,021
H.1.2	72	0,04	0,001	0,002	0,004	0,005	0,007	0,008	0,011	0,013	0,014	0,017
H.1.3	68	0,02	0,001	0,002	0,003	0,004	0,006	0,007	0,009	0,011	0,012	0,014
H.1.4	59	0,02	0,001	0,002	0,002	0,003	0,005	0,006	0,007	0,009	0,010	0,011

Index	$T_x \leq 10{,}1–15{,}0 \times DC$		53 600 ..., 53 601 ...									
			Ø DC (mm) =									
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1	1,2–1,4	1,5	1,6–1,8	2
			a_e 0,04 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.1.3	70	0,05	0,002	0,002	0,003	0,005	0,006	0,008	0,009	0,011	0,012	0,015
P.2.3	70	0,05	0,002	0,002	0,003	0,005	0,006	0,008	0,009	0,011	0,012	0,015
P.3.3	70	0,05	0,002	0,002	0,003	0,005	0,006	0,008	0,009	0,011	0,012	0,015
H.1.1	63	0,03	0,002	0,002	0,003	0,005	0,006	0,008	0,009	0,011	0,012	0,015
H.1.2	56	0,03	0,001	0,001	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012
H.1.3	53	0,01	0,001	0,001	0,002	0,003	0,004	0,005	0,006	0,007	0,008	0,010
H.1.4	46	0,01	0,001	0,001	0,002	0,002	0,003	0,004	0,005	0,006	0,006	0,008



To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – HCR – Ball-nosed end mills

Index	53 600 ..., 53 601 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,05 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,045	0,054	0,072	0,108	0,144	0,180	0,216	○	●	●
P.2.3	0,045	0,054	0,072	0,108	0,144	0,180	0,216	○	●	●
P.3.3	0,045	0,054	0,072	0,108	0,144	0,180	0,216	○	●	●
H.1.1	0,045	0,054	0,072	0,108	0,144	0,180	0,216	○	●	●
H.1.2	0,036	0,043	0,058	0,086	0,115	0,144	0,173	○	●	●
H.1.3	0,030	0,036	0,048	0,072	0,096	0,120	0,144	○	●	●
H.1.4	0,024	0,029	0,038	0,058	0,077	0,096	0,115	○	●	●

Index	53 600 ..., 53 601 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,05 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,036	0,044	0,058	0,076	0,104	0,133	0,162	○	●	●
P.2.3	0,036	0,044	0,058	0,076	0,104	0,133	0,162	○	●	●
P.3.3	0,036	0,044	0,058	0,076	0,104	0,133	0,162	○	●	●
H.1.1	0,036	0,044	0,058	0,076	0,104	0,133	0,162	○	●	●
H.1.2	0,029	0,035	0,046	0,060	0,084	0,107	0,130	○	●	●
H.1.3	0,024	0,029	0,039	0,050	0,070	0,089	0,108	○	●	●
H.1.4	0,019	0,023	0,031	0,040	0,056	0,071	0,086	○	●	●

Index	53 600 ..., 53 601 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,05 x DC									
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,027	0,033	0,044	0,043	0,065	0,086	0,108	○	●	●
P.2.3	0,027	0,033	0,044	0,043	0,065	0,086	0,108	○	●	●
P.3.3	0,027	0,033	0,044	0,043	0,065	0,086	0,108	○	●	●
H.1.1	0,027	0,033	0,044	0,043	0,065	0,086	0,108	○	●	●
H.1.2	0,022	0,026	0,035	0,035	0,052	0,069	0,086	○	●	●
H.1.3	0,018	0,022	0,029	0,029	0,043	0,058	0,072	○	●	●
H.1.4	0,014	0,018	0,023	0,023	0,035	0,046	0,058	○	●	●

Index	53 600 ..., 53 601 ...							● 1st choice ○ Suitable		
	Ø DC (mm) =									
	2,5	3	4	6	8	10	12			
	a_e 0,04 x DC		a_e 0,05 x DC							
	f_z (mm)							Emulsion	Compressed air	MMS
P.1.3	0,021	0,027	0,035	0,035	0,052	0,069	0,086	○	●	●
P.2.3	0,021	0,027	0,035	0,035	0,052	0,069	0,086	○	●	●
P.3.3	0,021	0,027	0,035	0,035	0,052	0,069	0,086	○	●	●
H.1.1	0,021	0,027	0,035	0,035	0,052	0,069	0,086	○	●	●
H.1.2	0,017	0,022	0,028	0,028	0,041	0,055	0,069	○	●	●
H.1.3	0,014	0,018	0,023	0,023	0,035	0,046	0,058	○	●	●
H.1.4	0,011	0,014	0,019	0,018	0,028	0,037	0,046	○	●	●

To improve surface quality, reduce f_z and allowance (a_e or a_p) by 30%!

Cutting data standard values – MonsterMill – PCR – End mills, type UNI

Index	Type short / long / extra long		52 613 ..., 52 614 ..., 52 615 ..., 52 619 ...																		
			Ø DC (mm) =																		
			5,0			5,7–6,0			6,7–7,0			7,7–8,0			8,7–9,0			9,7–10,0		
	v_c (m/min)	$a_{p\,max}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																		
P.1.1	240	1,0	0,096	0,068	0,043	0,107	0,075	0,048	0,122	0,086	0,054	0,136	0,096	0,061	0,150	0,106	0,067	0,163	0,115	0,073
P.1.2	230	1,0	0,092	0,065	0,041	0,102	0,072	0,046	0,116	0,082	0,052	0,130	0,092	0,058	0,143	0,101	0,064	0,156	0,110	0,070
P.1.3	220	1,0	0,087	0,062	0,039	0,097	0,069	0,043	0,111	0,078	0,050	0,124	0,088	0,055	0,136	0,096	0,061	0,148	0,105	0,066
P.1.4	205	1,0	0,083	0,059	0,037	0,092	0,065	0,041	0,105	0,074	0,047	0,118	0,083	0,053	0,130	0,092	0,058	0,141	0,100	0,063
P.1.5	195	1,0	0,079	0,056	0,035	0,087	0,062	0,039	0,100	0,070	0,045	0,111	0,079	0,050	0,123	0,087	0,055	0,134	0,094	0,060
P.2.1	220	1,0	0,096	0,068	0,043	0,107	0,075	0,048	0,122	0,086	0,054	0,136	0,096	0,061	0,150	0,106	0,067	0,163	0,115	0,073
P.2.2	200	1,0	0,087	0,062	0,039	0,097	0,069	0,043	0,111	0,078	0,050	0,124	0,088	0,055	0,136	0,096	0,061	0,148	0,105	0,066
P.2.3	180	1,0	0,079	0,056	0,035	0,087	0,062	0,039	0,100	0,070	0,045	0,111	0,079	0,050	0,123	0,087	0,055	0,134	0,094	0,060
P.2.4	140	1,0	0,073	0,051	0,033	0,081	0,057	0,036	0,092	0,065	0,041	0,103	0,073	0,046	0,114	0,080	0,051	0,124	0,087	0,055
P.3.1	130	1,0	0,084	0,060	0,038	0,094	0,066	0,042	0,107	0,076	0,048	0,120	0,085	0,054	0,132	0,093	0,059	0,143	0,101	0,064
P.3.2	120	1,0	0,080	0,057	0,036	0,089	0,063	0,040	0,101	0,072	0,045	0,114	0,080	0,051	0,125	0,088	0,056	0,136	0,096	0,061
P.3.3	110	1,0	0,076	0,053	0,034	0,084	0,059	0,038	0,096	0,068	0,043	0,107	0,076	0,048	0,118	0,084	0,053	0,129	0,091	0,058
P.4.1	90	1,0	0,058	0,041	0,026	0,065	0,046	0,029	0,074	0,052	0,033	0,083	0,058	0,037	0,091	0,064	0,041	0,099	0,070	0,044
P.4.2	90	1,0	0,058	0,041	0,026	0,065	0,046	0,029	0,074	0,052	0,033	0,083	0,058	0,037	0,091	0,064	0,041	0,099	0,070	0,044
M.1.1	60	1,0	0,051	0,036	0,023	0,057	0,040	0,025	0,065	0,046	0,029	0,072	0,051	0,032	0,080	0,056	0,036	0,087	0,061	0,039
M.2.1	55	1,0	0,042	0,030	0,019	0,047	0,033	0,021	0,054	0,038	0,024	0,060	0,042	0,027	0,066	0,047	0,029	0,072	0,051	0,032
M.3.1	60	1,0	0,044	0,031	0,020	0,048	0,034	0,022	0,055	0,039	0,025	0,062	0,044	0,028	0,068	0,048	0,031	0,074	0,052	0,033
K.1.1	240	1,0	0,145	0,103	0,065	0,162	0,114	0,072	0,185	0,130	0,083	0,206	0,146	0,092	0,227	0,161	0,102	0,247	0,175	0,111
K.1.2	180	1,0	0,102	0,072	0,046	0,113	0,080	0,051	0,129	0,091	0,058	0,145	0,102	0,065	0,159	0,113	0,071	0,173	0,122	0,077
K.2.1	220	1,0	0,124	0,087	0,055	0,137	0,097	0,061	0,157	0,111	0,070	0,175	0,124	0,078	0,193	0,137	0,086	0,210	0,149	0,094
K.2.2	180	1,0	0,102	0,072	0,046	0,113	0,080	0,051	0,129	0,091	0,058	0,145	0,102	0,065	0,159	0,113	0,071	0,173	0,122	0,077
K.3.1	160	1,0	0,102	0,072	0,046	0,113	0,080	0,051	0,129	0,091	0,058	0,145	0,102	0,065	0,159	0,113	0,071	0,173	0,122	0,077
K.3.2	150	1,0	0,087	0,062	0,039	0,097	0,069	0,043	0,111	0,078	0,050	0,124	0,088	0,055	0,136	0,096	0,061	0,148	0,105	0,066
N.1.1																				
N.1.2																				
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H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

With an a_p of 1.5 x DC, multiply the f_z by 0.75.

Cutting data for ramping and helical milling = 100%
Multiply cutting data for drilling by the factor from the table

Cutting data standard values – MonsterMill – PCR – End mills, type UNI

Index	52 613 ..., 52 614 ..., 52 615 ..., 52 619 ...																		
	Ø DC (mm) =												Ramping	Helical milling			Drilling	● 1st choice	
	11,7–12,0			13,7–14,0			15,5–16,0			17,5–20,0			1,0 x DC		Bore diameter		1,0 x DC	○ Suitable	
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Max. plunging angle	$\alpha_{R\,max.}$*	$D_{min.}$ DC x 1,5	$D_{max.}$ DC x 1,8	f_z Factor	Emulsion	Compressed air	MMS
	f_z (mm)																		
P.1.1	0,188	0,133	0,084	0,209	0,148	0,094	0,229	0,162	0,102	0,262	0,185	0,117	45	0,75 x DC	25°	16°	0,9	○	●	○
P.1.2	0,179	0,127	0,080	0,200	0,141	0,089	0,219	0,155	0,098	0,250	0,177	0,112	45	0,75 x DC	25°	16°	0,9	○	●	○
P.1.3	0,171	0,121	0,076	0,190	0,135	0,085	0,208	0,147	0,093	0,238	0,168	0,107	45	0,75 x DC	25°	16°	0,9	○	●	○
P.1.4	0,162	0,115	0,072	0,181	0,128	0,081	0,198	0,140	0,088	0,226	0,160	0,101	45	0,75 x DC	25°	16°	0,9	○	●	○
P.1.5	0,153	0,109	0,069	0,171	0,121	0,077	0,187	0,133	0,084	0,214	0,152	0,096	45	0,75 x DC	25°	16°	0,9	○	●	○
P.2.1	0,188	0,133	0,084	0,209	0,148	0,094	0,229	0,162	0,102	0,262	0,185	0,117	45	0,75 x DC	25°	16°	0,8	○	●	○
P.2.2	0,171	0,121	0,076	0,190	0,135	0,085	0,208	0,147	0,093	0,238	0,168	0,107	45	0,75 x DC	25°	16°	0,8	○	●	○
P.2.3	0,153	0,109	0,069	0,171	0,121	0,077	0,187	0,133	0,084	0,214	0,152	0,096	45	0,75 x DC	25°	16°	0,8	○	●	○
P.2.4	0,142	0,100	0,064	0,159	0,112	0,071	0,174	0,123	0,078	0,198	0,140	0,089	45	0,75 x DC	25°	16°	0,7	○	●	○
P.3.1	0,165	0,117	0,074	0,184	0,130	0,082	0,201	0,142	0,090	0,230	0,163	0,103	30	0,5 x DC	18°	11°	0,8	●		○
P.3.2	0,156	0,111	0,070	0,175	0,123	0,078	0,191	0,135	0,085	0,218	0,154	0,098	30	0,5 x DC	18°	11°	0,7	●		○
P.3.3	0,148	0,104	0,066	0,165	0,117	0,074	0,181	0,128	0,081	0,206	0,146	0,092	30	0,5 x DC	18°	11°	0,7	●		○
P.4.1	0,114	0,080	0,051	0,127	0,090	0,057	0,139	0,098	0,062	0,159	0,112	0,071	15	0,5 x DC	18°	11°		●		○
P.4.2	0,114	0,080	0,051	0,127	0,090	0,057	0,139	0,098	0,062	0,159	0,112	0,071	15	0,5 x DC	18°	11°		●		○
M.1.1	0,099	0,070	0,044	0,111	0,079	0,050	0,122	0,086	0,054	0,139	0,098	0,062	15	0,5 x DC	18°	11°		●		
M.2.1	0,082	0,058	0,037	0,092	0,065	0,041	0,101	0,071	0,045	0,115	0,081	0,051	15	0,5 x DC	18°	11°		●		
M.3.1	0,085	0,060	0,038	0,095	0,067	0,043	0,104	0,074	0,047	0,119	0,084	0,053	15	0,5 x DC	18°	11°		●		
K.1.1	0,284	0,201	0,127	0,317	0,224	0,142	0,347	0,245	0,155	0,397	0,281	0,178	45	0,75 x DC	25°	16°	0,8		●	
K.1.2	0,199	0,141	0,089	0,222	0,157	0,099	0,243	0,172	0,109	0,278	0,196	0,124	45	0,75 x DC	25°	16°	0,8		●	
K.2.1	0,242	0,171	0,108	0,270	0,191	0,121	0,295	0,209	0,132	0,337	0,239	0,151	45	0,75 x DC	25°	16°	0,8		●	
K.2.2	0,199	0,141	0,089	0,222	0,157	0,099	0,243	0,172	0,109	0,278	0,196	0,124	45	0,75 x DC	25°	16°	0,8		●	
K.3.1	0,199	0,141	0,089	0,222	0,157	0,099	0,243	0,172	0,109	0,278	0,196	0,124	45	0,75 x DC	25°	16°	0,8		●	
K.3.2	0,171	0,121	0,076	0,190	0,135	0,085	0,208	0,147	0,093	0,238	0,168	0,107	45	0,75 x DC	25°	16°	0,8		●	
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H.3.1																				
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O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

With an a_p of 1.5 x DC, multiply the f_z by 0.75.

Cutting data for ramping and helical milling = 100%
Multiply cutting data for drilling by the factor from the table

* Width of cut per helical revolution

Cutting data standard values – MonsterMill – PCR – End mills, type UNI – Trochoidal milling

Index	Long version		52 619																			
			Ø DC (mm) =																			
			5				6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1	505	46°	0,09	0,07	0,05	0,021	0,11	0,08	0,06	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,038	0,19	0,14	0,11	0,043
P.1.2	480	46°	0,09	0,06	0,05	0,020	0,11	0,07	0,06	0,024	0,13	0,10	0,08	0,030	0,16	0,11	0,09	0,036	0,19	0,13	0,11	0,041
P.1.3	460	46°	0,09	0,06	0,05	0,019	0,10	0,07	0,06	0,022	0,13	0,09	0,07	0,029	0,15	0,11	0,09	0,034	0,18	0,12	0,10	0,039
P.1.4	435	46°	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,021	0,12	0,09	0,07	0,027	0,15	0,10	0,08	0,033	0,17	0,12	0,10	0,038
P.1.5	415	46°	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,020	0,12	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,036
P.2.1	460	46°	0,09	0,07	0,05	0,021	0,11	0,08	0,06	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,038	0,19	0,14	0,11	0,043
P.2.2	415	46°	0,09	0,06	0,05	0,019	0,10	0,07	0,06	0,022	0,13	0,09	0,07	0,029	0,15	0,11	0,09	0,034	0,18	0,12	0,10	0,039
P.2.3	375	46°	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,020	0,12	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,036
P.2.4	290	46°	0,07	0,05	0,04	0,016	0,08	0,06	0,05	0,019	0,11	0,08	0,06	0,024	0,13	0,09	0,07	0,029	0,15	0,10	0,08	0,033
P.3.1	270	46°	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,022	0,12	0,09	0,07	0,028	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,038
P.3.2	250	46°	0,08	0,06	0,05	0,018	0,09	0,07	0,05	0,021	0,12	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,036
P.3.3	230	46°	0,07	0,05	0,04	0,017	0,09	0,06	0,05	0,019	0,11	0,08	0,06	0,025	0,13	0,09	0,08	0,030	0,15	0,11	0,09	0,034
P.4.1	190	46°	0,06	0,04	0,03	0,013	0,07	0,05	0,04	0,015	0,09	0,06	0,05	0,019	0,10	0,07	0,06	0,023	0,12	0,08	0,07	0,026
P.4.2	190	46°	0,06	0,04	0,03	0,013	0,07	0,05	0,04	0,015	0,09	0,06	0,05	0,019	0,10	0,07	0,06	0,023	0,12	0,08	0,07	0,026
M.1.1	220	35°	0,05	0,03		0,011	0,06	0,04		0,013	0,08	0,05		0,018	0,10	0,06		0,022	0,12	0,07		0,027
M.2.1	200	35°	0,06	0,04		0,013	0,07	0,05		0,016	0,10	0,06		0,021	0,12	0,08		0,027	0,14	0,10		0,032
M.3.1	200	35°	0,06	0,04		0,013	0,07	0,05		0,016	0,10	0,06		0,021	0,12	0,08		0,027	0,14	0,10		0,032
K.1.1	500	46°	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,037	0,21	0,15	0,12	0,048	0,26	0,18	0,15	0,057	0,29	0,21	0,17	0,066
K.1.2	375	46°	0,10	0,07	0,06	0,022	0,12	0,08	0,07	0,026	0,15	0,11	0,09	0,033	0,18	0,13	0,10	0,040	0,21	0,15	0,12	0,046
K.2.1	460	46°	0,12	0,09	0,07	0,027	0,14	0,10	0,08	0,032	0,18	0,13	0,10	0,041	0,22	0,15	0,13	0,049	0,25	0,18	0,14	0,056
K.2.2	375	46°	0,10	0,07	0,06	0,022	0,12	0,08	0,07	0,026	0,15	0,11	0,09	0,033	0,18	0,13	0,10	0,040	0,21	0,15	0,12	0,046
K.3.1	335	46°	0,10	0,07	0,06	0,022	0,12	0,08	0,07	0,026	0,15	0,11	0,09	0,033	0,18	0,13	0,10	0,040	0,21	0,15	0,12	0,046
K.3.2	315	46°	0,09	0,06	0,05	0,019	0,10	0,07	0,06	0,022	0,13	0,09	0,07	0,029	0,15	0,11	0,09	0,034	0,18	0,12	0,10	0,039
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Cutting depth is the same as the cutting length

Cutting data standard values – MonsterMill – PCR – End mills, type UNI – Trochoidal milling

Index	52 619 .... Ø DC (mm) = 14				16				18				20				● 1st choice ○ Suitable		
	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1	0,22	0,15	0,13	0,049	0,24	0,17	0,14	0,053	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,061	○	●	○
P.1.2	0,21	0,15	0,12	0,046	0,23	0,16	0,13	0,051	0,24	0,17	0,14	0,054	0,26	0,18	0,15	0,058	○	●	○
P.1.3	0,20	0,14	0,11	0,044	0,22	0,15	0,12	0,048	0,23	0,16	0,13	0,052	0,25	0,17	0,14	0,055	○	●	○
P.1.4	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,046	0,22	0,16	0,13	0,049	0,23	0,17	0,14	0,052	○	●	○
P.1.5	0,18	0,13	0,10	0,040	0,19	0,14	0,11	0,043	0,21	0,15	0,12	0,047	0,22	0,16	0,13	0,050	○	●	○
P.2.1	0,22	0,15	0,13	0,049	0,24	0,17	0,14	0,053	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,061	○	●	○
P.2.2	0,20	0,14	0,11	0,044	0,22	0,15	0,12	0,048	0,23	0,16	0,13	0,052	0,25	0,17	0,14	0,055	○	●	○
P.2.3	0,18	0,13	0,10	0,040	0,19	0,14	0,11	0,043	0,21	0,15	0,12	0,047	0,22	0,16	0,13	0,050	○	●	○
P.2.4	0,16	0,12	0,09	0,037	0,18	0,13	0,10	0,040	0,19	0,14	0,11	0,043	0,21	0,15	0,12	0,046	○	●	○
P.3.1	0,19	0,13	0,11	0,043	0,21	0,15	0,12	0,047	0,22	0,16	0,13	0,050	0,24	0,17	0,14	0,053	●		○
P.3.2	0,18	0,13	0,10	0,040	0,20	0,14	0,11	0,044	0,21	0,15	0,12	0,048	0,23	0,16	0,13	0,051	●		○
P.3.3	0,17	0,12	0,10	0,038	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,048	●		○
P.4.1	0,13	0,09	0,08	0,029	0,14	0,10	0,08	0,032	0,15	0,11	0,09	0,035	0,16	0,12	0,09	0,037	●		○
P.4.2	0,13	0,09	0,08	0,029	0,14	0,10	0,08	0,032	0,15	0,11	0,09	0,035	0,16	0,12	0,09	0,037	●		○
M.1.1	0,14	0,08		0,031	0,16	0,10		0,036	0,18	0,11		0,040	0,20	0,12		0,045	●		
M.2.1	0,17	0,11		0,038	0,19	0,13		0,043	0,22	0,14		0,048	0,24	0,16		0,054	●		
M.3.1	0,17	0,11		0,038	0,19	0,13		0,043	0,22	0,14		0,048	0,24	0,16		0,054	●		
K.1.1	0,33	0,23	0,19	0,073	0,36	0,25	0,21	0,080	0,39	0,27	0,22	0,086	0,41	0,29	0,24	0,092		●	
K.1.2	0,23	0,16	0,13	0,051	0,25	0,18	0,15	0,056	0,27	0,19	0,16	0,061	0,29	0,20	0,17	0,064		●	
K.2.1	0,28	0,20	0,16	0,062	0,31	0,22	0,18	0,068	0,33	0,23	0,19	0,074	0,35	0,25	0,20	0,078		●	
K.2.2	0,23	0,16	0,13	0,051	0,25	0,18	0,15	0,056	0,27	0,19	0,16	0,061	0,29	0,20	0,17	0,064		●	
K.3.1	0,23	0,16	0,13	0,051	0,25	0,18	0,15	0,056	0,27	0,19	0,16	0,061	0,29	0,20	0,17	0,064		●	
K.3.2	0,20	0,14	0,11	0,044	0,22	0,15	0,12	0,048	0,23	0,16	0,13	0,052	0,25	0,17	0,14	0,055		●	
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Cutting depth is the same as the cutting length

Cutting data standard values – MonsterMill – PCR – End mills, type AL

Index	Type long / extra long		52 616 ..., 52 617 ..., 52 618 ...																	
			Ø DC (mm) =																	
			5,0			5,7–7,0			7,7–8,0			8,7–10,0			11,7–12,0			13,7–14,0		
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																	
P.1.1																				
P.1.2																				
P.1.3																				
P.1.4																				
P.1.5																				
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K.3.2																				
N.1.1	630	1,0	0,111	0,078	0,050	0,149	0,105	0,067	0,167	0,118	0,075	0,200	0,141	0,089	0,229	0,162	0,103	0,256	0,181	0,115
N.1.2	575	1,0	0,101	0,071	0,045	0,135	0,096	0,061	0,151	0,107	0,068	0,181	0,128	0,081	0,208	0,147	0,093	0,233	0,165	0,104
N.2.1	380	1,0	0,106	0,075	0,047	0,142	0,101	0,064	0,159	0,112	0,071	0,190	0,135	0,085	0,219	0,155	0,098	0,244	0,173	0,109
N.2.2	305	1,0	0,111	0,078	0,050	0,149	0,105	0,067	0,167	0,118	0,075	0,200	0,141	0,089	0,229	0,162	0,103	0,256	0,181	0,115
N.2.3	220	1,0	0,121	0,086	0,054	0,162	0,115	0,073	0,182	0,129	0,081	0,218	0,154	0,097	0,250	0,177	0,112	0,279	0,198	0,125
N.3.1	275	1,0	0,050	0,036	0,023	0,068	0,048	0,030	0,076	0,054	0,034	0,091	0,064	0,041	0,104	0,074	0,047	0,116	0,082	0,052
N.3.2	165	1,0	0,081	0,057	0,036	0,108	0,077	0,048	0,121	0,086	0,054	0,145	0,103	0,065	0,167	0,118	0,075	0,186	0,132	0,083
N.3.3	220	1,0	0,081	0,057	0,036	0,108	0,077	0,048	0,121	0,086	0,054	0,145	0,103	0,065	0,167	0,118	0,075	0,186	0,132	0,083
N.4.1																				
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O.2.2																				
O.3.1																				

With an a_p of 1.5 x DC, multiply the f_z by 0.75.

Cutting data for ramping and helical milling = 100%
Multiply cutting data for drilling by the factor from the table

Cutting data standard values – MonsterMill – PCR – End mills, type AL

Index	52 616 ..., 52 617 ..., 52 618 ...														● 1st choice ○ Suitable		
	Ø DC (mm) =									Ramping	Helical milling			Drilling			
	15,5–16,0			17,5–18,0			19,5–20,0			1,0 x DC		Bore diameter		1,0 x DC			
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Max. plunging angle	$\alpha_{R\,max.}$*	$D_{min.}$ DC x 1,5	$D_{max.}$ DC x 1,8	f_z Factor	Emulsion	Compressed air	MMS
	f_z (mm)																
P.1.1																	
P.1.2																	
P.1.3																	
P.1.4																	
P.1.5																	
P.2.1																	
P.2.2																	
P.2.3																	
P.2.4																	
P.3.1																	
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P.4.1																	
P.4.2																	
M.1.1																	
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M.3.1																	
K.1.1																	
K.1.2																	
K.2.1																	
K.2.2																	
K.3.1																	
K.3.2																	
N.1.1	0,280	0,198	0,125	0,301	0,213	0,135	0,320	0,226	0,143	45°	0,75 x DC	25°	16°	0,8	●		
N.1.2	0,255	0,180	0,114	0,274	0,194	0,123	0,291	0,206	0,130	45°	0,75 x DC	25°	16°	0,8	●		
N.2.1	0,267	0,189	0,120	0,288	0,203	0,129	0,306	0,216	0,137	45°	0,75 x DC	25°	16°	0,8	●		
N.2.2	0,280	0,198	0,125	0,301	0,213	0,135	0,320	0,226	0,143	45°	0,75 x DC	25°	16°	0,8	●		
N.2.3	0,306	0,216	0,137	0,329	0,233	0,147	0,349	0,247	0,156	45°	0,75 x DC	25°	16°	0,8	●		
N.3.1	0,127	0,090	0,057	0,137	0,097	0,061	0,146	0,103	0,065	45°	0,75 x DC	25°	16°	0,8	●		
N.3.2	0,204	0,144	0,091	0,219	0,155	0,098	0,233	0,165	0,104	45°	0,75 x DC	25°	16°	0,8	●		
N.3.3	0,204	0,144	0,091	0,219	0,155	0,098	0,233	0,165	0,104	45°	0,75 x DC	25°	16°	0,8	●		
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
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S.3.1																	
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H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

With an a_p of 1.5 x DC, multiply the f_z by 0.75.

Cutting data for ramping and helical milling = 100%
Multiply cutting data for drilling by the factor from the table

* Width of cut per helical revolution

Cutting data standard values – MonsterMill – PCR – End mills, type AL – Trochoidal milling

Index	Long version		52 618 ...																			
			Ø DC (mm) =																			
			5				6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1																						
P.1.2																						
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K.3.1																						
K.3.2																						
N.1.1	800	66°	0,09	0,07	0,05	0,021	0,11	0,08	0,06	0,024	0,14	0,10	0,08	0,031	0,17	0,12	0,10	0,037	0,19	0,13	0,11	0,043
N.1.2	725	66°	0,08	0,06	0,05	0,019	0,10	0,07	0,06	0,022	0,13	0,09	0,07	0,028	0,15	0,11	0,09	0,034	0,17	0,12	0,10	0,039
N.2.1	485	66°	0,09	0,06	0,05	0,020	0,10	0,07	0,06	0,023	0,13	0,09	0,08	0,030	0,16	0,11	0,09	0,035	0,18	0,13	0,11	0,041
N.2.2	385	66°	0,09	0,07	0,05	0,021	0,11	0,08	0,06	0,024	0,14	0,10	0,08	0,031	0,17	0,12	0,10	0,037	0,19	0,13	0,11	0,043
N.2.3	280	66°	0,10	0,07	0,06	0,023	0,12	0,08	0,07	0,026	0,15	0,11	0,09	0,034	0,18	0,13	0,10	0,040	0,21	0,15	0,12	0,047
N.3.1	350	66°	0,04	0,03	0,02	0,009	0,05	0,03	0,03	0,011	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,019
N.3.2	210	66°	0,07	0,05	0,04	0,015	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,027	0,14	0,10	0,08	0,031
N.3.3	280	66°	0,07	0,05	0,04	0,015	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,027	0,14	0,10	0,08	0,031
N.4.1																						
S.1.1																						
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O.2.2																						
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Cutting depth is the same as the cutting length

Cutting data standard values – MonsterMill – PCR – End mills, type AL – Trochoidal milling

Index	52 618 ... Ø DC (mm) = 14				16				18				20				● 1st choice ○ Suitable		
	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1																			
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K.2.1																			
K.2.2																			
K.3.1																			
K.3.2																			
N.1.1	0,21	0,15	0,12	0,048	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,056	0,27	0,19	0,15	0,060	●		
N.1.2	0,19	0,14	0,11	0,043	0,21	0,15	0,12	0,047	0,23	0,16	0,13	0,051	0,24	0,17	0,14	0,054	●		
N.2.1	0,20	0,14	0,12	0,045	0,22	0,16	0,13	0,050	0,24	0,17	0,14	0,054	0,25	0,18	0,15	0,057	●		
N.2.2	0,21	0,15	0,12	0,048	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,056	0,27	0,19	0,15	0,060	●		
N.2.3	0,23	0,16	0,13	0,052	0,25	0,18	0,15	0,057	0,27	0,19	0,16	0,061	0,29	0,21	0,17	0,065	●		
N.3.1	0,10	0,07	0,06	0,022	0,11	0,07	0,06	0,024	0,11	0,08	0,07	0,025	0,12	0,09	0,07	0,027	●		
N.3.2	0,15	0,11	0,09	0,035	0,17	0,12	0,10	0,038	0,18	0,13	0,11	0,041	0,19	0,14	0,11	0,043	●		
N.3.3	0,15	0,11	0,09	0,035	0,17	0,12	0,10	0,038	0,18	0,13	0,11	0,041	0,19	0,14	0,11	0,043	●		
N.4.1																			
S.1.1																			
S.1.2																			
S.2.1																			
S.2.2																			
S.2.3																			
S.3.1																			
S.3.2																			
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Cutting depth is the same as the cutting length

Cutting data standard values – MCR – End mills, short – long

Index	Short version		50 752 ...						Short version	Long version	50 752 ...												
			Ø DC (mm) =								Ø DC (mm) =												
			1			2					3			4			5			6			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	$a_{p\,max.}$ x DC		a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)								f_z (mm)												
P.1.1	160	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.1.2	140	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.1.3	120	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.1.4	120	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.1.5	100	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.2.1	140	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.2.2	120	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.2.3	100	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.2.4	80	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.3.1	80	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.3.2	80	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.3.3	80	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
P.4.1	60	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,030	0,022	0,014	0,038	0,028	0,018	0,049	0,036	0,023	0,058	0,043	0,027
P.4.2	60	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,030	0,022	0,014	0,038	0,028	0,018	0,049	0,036	0,023	0,058	0,043	0,027
M.1.1	60	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,030	0,022	0,014	0,038	0,028	0,018	0,049	0,036	0,023	0,058	0,043	0,027
M.2.1																						
M.3.1	60	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,030	0,022	0,014	0,038	0,028	0,018	0,049	0,036	0,023	0,058	0,043	0,027
K.1.1	160	0,5	0,012	0,010	0,006	0,023	0,019	0,012	1,0	1,0*	0,045	0,033	0,021	0,060	0,044	0,028	0,075	0,055	0,035	0,090	0,066	0,042
K.1.2	160	0,5	0,012	0,010	0,006	0,023	0,019	0,012	1,0	1,0*	0,045	0,033	0,021	0,060	0,044	0,028	0,075	0,055	0,035	0,090	0,066	0,042
K.2.1	140	0,5	0,012	0,010	0,006	0,023	0,019	0,012	1,0	1,0*	0,045	0,033	0,021	0,060	0,044	0,028	0,075	0,055	0,035	0,090	0,066	0,042
K.2.2	140	0,5	0,012	0,010	0,006	0,023	0,019	0,012	1,0	1,0*	0,045	0,033	0,021	0,060	0,044	0,028	0,075	0,055	0,035	0,090	0,066	0,042
K.3.1	100	0,5	0,010	0,008	0,005	0,019	0,016	0,010	1,0	1,0*	0,038	0,028	0,018	0,051	0,038	0,024	0,064	0,047	0,030	0,077	0,057	0,036
K.3.2	100	0,5	0,010	0,008	0,005	0,019	0,016	0,010	1,0	1,0*	0,038	0,028	0,018	0,051	0,038	0,024	0,064	0,047	0,030	0,077	0,057	0,036
N.1.1																						
N.1.2																						
N.2.1																						
N.2.2																						
N.2.3																						
N.3.1	140	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
N.3.2	140	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
N.3.3	140	0,5	0,008	0,007	0,004	0,015	0,013	0,008	1,0	1,0*	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
N.4.1																						
S.1.1																						
S.1.2																						
S.2.1																						
S.2.2																						
S.2.3																						
S.3.1	60	0,25	0,008	0,007	0,004	0,015	0,013	0,008	0,5	0,5	0,026	0,019	0,012	0,034	0,025	0,016	0,043	0,032	0,020	0,051	0,038	0,024
S.3.2	60	0,25	0,008	0,007	0,004	0,015	0,013	0,008	0,5	0,5	0,026	0,019	0,012	0,034	0,025	0,016	0,043	0,032	0,020	0,051	0,038	0,024
S.3.3	60	0,25	0,008	0,007	0,004	0,015	0,013	0,008	0,5	0,5	0,026	0,019	0,012	0,034	0,025	0,016	0,043	0,032	0,020	0,051	0,038	0,024
H.1.1																						
H.1.2																						
H.1.3																						
H.1.4																						
H.2.1	80	0,25	0,008	0,007	0,004	0,015	0,013	0,008	0,5	0,5	0,032	0,024	0,015	0,043	0,032	0,020	0,053	0,040	0,025	0,064	0,047	0,030
H.3.1																						
O.1.1																						
O.1.2																						
O.2.1																						
O.2.2																						
O.3.1																						

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

Plunging angle for ramping and helical milling: Diameter 3–5 = 3°/Diameter 6–9 = 5°/Diameter 10–20 = 8°

Cutting data standard values – MCR – End mills, short – long

Index	50 752 ... Ø DC (mm) = 8			10			12			14			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																				
P.1.1	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.1.2	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.1.3	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.1.4	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.1.5	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.2.1	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.2.2	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.2.3	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.2.4	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.3.1	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.3.2	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.3.3	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
P.4.1	0,08	0,06	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,11	0,09	0,06	0,12	0,10	0,07	0,14	0,12	0,09	●		
P.4.2	0,08	0,06	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,11	0,09	0,06	0,12	0,10	0,07	0,14	0,12	0,09	●		
M.1.1	0,08	0,06	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,11	0,09	0,06	0,12	0,10	0,07	0,14	0,12	0,09	●		
M.2.1																					
M.3.1	0,08	0,06	0,04	0,10	0,07	0,05	0,10	0,08	0,05	0,11	0,09	0,06	0,12	0,10	0,07	0,14	0,12	0,09	●		
K.1.1	0,12	0,09	0,06	0,15	0,11	0,07	0,16	0,13	0,08	0,18	0,14	0,10	0,19	0,16	0,11	0,22	0,18	0,14		●	
K.1.2	0,12	0,09	0,06	0,15	0,11	0,07	0,16	0,13	0,08	0,18	0,14	0,10	0,19	0,16	0,11	0,22	0,18	0,14		●	
K.2.1	0,12	0,09	0,06	0,15	0,11	0,07	0,16	0,13	0,08	0,18	0,14	0,10	0,19	0,16	0,11	0,22	0,18	0,14		●	
K.2.2	0,12	0,09	0,06	0,15	0,11	0,07	0,16	0,13	0,08	0,18	0,14	0,10	0,19	0,16	0,11	0,22	0,18	0,14		●	
K.3.1	0,10	0,08	0,05	0,13	0,10	0,06	0,14	0,11	0,07	0,15	0,12	0,08	0,16	0,14	0,10	0,19	0,16	0,12		●	
K.3.2	0,10	0,08	0,05	0,13	0,10	0,06	0,14	0,11	0,07	0,15	0,12	0,08	0,16	0,14	0,10	0,19	0,16	0,12		●	
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10	●		
N.3.2	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10	●		
N.3.3	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10	●		
N.4.1																					
S.1.1																					
S.1.2																					
S.2.1																					
S.2.2																					
S.2.3																					
S.3.1	0,07	0,05	0,03	0,09	0,06	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,11	0,09	0,06	0,13	0,10	0,08	●		
S.3.2	0,07	0,05	0,03	0,09	0,06	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,11	0,09	0,06	0,13	0,10	0,08	●		
S.3.3	0,07	0,05	0,03	0,09	0,06	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,11	0,09	0,06	0,13	0,10	0,08	●		
H.1.1																					
H.1.2																					
H.1.3																					
H.1.4																					
H.2.1	0,09	0,06	0,04	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,16	0,13	0,10		●	
H.3.1																					
O.1.1																					
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

* = with an a_p of 1.5xD, multiply the feed rate per tooth f_z by 0.8

Plunging angle for ramping and helical milling: Diameter 3–5 = 3°/Diameter 6–9 = 5°/Diameter 10–20 = 8°

Cutting data standard values – MCR – End mills, extra long

Index	Extra-long version			50 752 ...															
				Ø DC (mm) =															
				3			4			5			6			8			
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC		f_z (mm)															
P.1.1	120	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.1.2	100	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.1.3	80	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.1.4	80	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.1.5	80	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.2.1	100	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.2.2	80	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.2.3	70	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.2.4	70	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.3.1	70	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.3.2	70	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.3.3	70	1,0*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
P.4.1	50	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
P.4.2	50	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
M.1.1	50	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
M.2.1																			
M.3.1	50	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
K.1.1	120	1,0*	0,5	0,034	0,024	0,015	0,045	0,032	0,020	0,056	0,040	0,025	0,067	0,047	0,030	0,09	0,06	0,04	
K.1.2	120	1,0*	0,5	0,034	0,024	0,015	0,045	0,032	0,020	0,056	0,040	0,025	0,067	0,047	0,030	0,09	0,06	0,04	
K.2.1	120	1,0*	0,5	0,034	0,024	0,015	0,045	0,032	0,020	0,056	0,040	0,025	0,067	0,047	0,030	0,09	0,06	0,04	
K.2.2	120	1,0*	0,5	0,034	0,024	0,015	0,045	0,032	0,020	0,056	0,040	0,025	0,067	0,047	0,030	0,09	0,06	0,04	
K.3.1	100	1,0*	0,5	0,027	0,019	0,012	0,036	0,025	0,016	0,045	0,032	0,020	0,054	0,038	0,024	0,07	0,05	0,03	
K.3.2	100	1,0*	0,5	0,027	0,019	0,012	0,036	0,025	0,016	0,045	0,032	0,020	0,054	0,038	0,024	0,07	0,05	0,03	
N.1.1																			
N.1.2																			
N.2.1																			
N.2.2																			
N.2.3																			
N.3.1	120	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
N.3.2	120	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
N.3.3	120	1,0*	0,5	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
N.4.1																			
S.1.1																			
S.1.2																			
S.2.1																			
S.2.2																			
S.2.3																			
S.3.1	60	0,5*	0,25	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
S.3.2	60	0,5*	0,25	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
S.3.3	60	0,5*	0,25	0,020	0,014	0,009	0,027	0,019	0,012	0,034	0,024	0,015	0,040	0,028	0,018	0,05	0,04	0,02	
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1	80	0,5*	0,5	0,025	0,017	0,011	0,031	0,022	0,014	0,040	0,028	0,018	0,047	0,033	0,021	0,06	0,04	0,03	
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

* = profiling and trochoidal milling

Plunging angle for ramping and helical milling: Diameter 3–5 = 3°/Diameter 6–9 = 5°/Diameter 10–20 = 8°

Cutting data standard values – MCR – End mills, extra long

Index	50 752 ... Ø DC (mm) = 10			12			14			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																	
P.1.1	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.1.2	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.1.3	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.1.4	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.1.5	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.2.1	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.2.2	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.2.3	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.2.4	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.3.1	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.3.2	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.3.3	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
P.4.1	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
P.4.2	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
M.1.1	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
M.2.1																		
M.3.1	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
K.1.1	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,17	0,14	0,10		●	
K.1.2	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,17	0,14	0,10		●	
K.2.1	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,17	0,14	0,10		●	
K.2.2	0,11	0,08	0,05	0,12	0,09	0,06	0,13	0,10	0,07	0,14	0,11	0,08	0,17	0,14	0,10		●	
K.3.1	0,09	0,06	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,11	0,09	0,06	0,14	0,11	0,08		●	
K.3.2	0,09	0,06	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,11	0,09	0,06	0,14	0,11	0,08		●	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
N.3.2	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
N.3.3	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
S.3.2	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
S.3.3	0,07	0,05	0,03	0,07	0,06	0,04	0,08	0,06	0,04	0,08	0,07	0,05	0,10	0,08	0,06	●		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1	0,08	0,06	0,04	0,08	0,07	0,04	0,09	0,07	0,05	0,10	0,08	0,06	0,12	0,09	0,07		●	
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

* = profiling and trochoidal milling

Plunging angle for ramping and helical milling: Diameter 3–5 = 3°/Diameter 6–9 = 5°/Diameter 10–20 = 8°

Cutting data standard values – End mills – CCR-UNI, short – long

Index	Short/long version		53 585..., 53 587..., 53 586 ..., 53 642 ...															
			Ø DC (mm) =															
			6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.1.2	280	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.3	280	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.4	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.5	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.2.1	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.2.2	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.2.3	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.2.4	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.1	220	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.2	220	45°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.3	200	45°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.4.1	180	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
P.4.2	160	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.1.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.2.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.3.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
K.1.1	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.1.2	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.2.1	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.2.2	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
K.3.1	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
K.3.2	200	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	80	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.1.2	80	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.1	60	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.2	60	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.3																		
S.3.1	140	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.2	100	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting depth is the same as the cutting length

Cutting data standard values – End mills – CCR-UNI, short – long

Index	53 585..., 53 587..., 53 586 ..., 53 642 ...																● 1st choice ○ Suitable		
	Ø DC (mm) =																		
	14				16				18				20						
	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
P.1.2	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.1.3	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.1.4	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.1.5	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.2.1	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
P.2.2	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
P.2.3	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.2.4	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.3.1	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.3.2	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.3.3	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
P.4.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,047	●		
P.4.2	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,047	●		
M.1.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,047	●		
M.2.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,047	●		
M.3.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,20	0,14	0,12	0,045	0,21	0,15	0,12	0,047	●		
K.1.1	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
K.1.2	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
K.2.1	0,26	0,18	0,15	0,057	0,27	0,19	0,16	0,060	0,28	0,20	0,16	0,063	0,30	0,21	0,17	0,066	○	●	○
K.2.2	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
K.3.1	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
K.3.2	0,23	0,16	0,13	0,052	0,25	0,18	0,14	0,055	0,26	0,18	0,15	0,058	0,28	0,20	0,16	0,062	○	●	○
N.1.1																			
N.1.2																			
N.2.1																			
N.2.2																			
N.2.3																			
N.3.1																			
N.3.2																			
N.3.3																			
N.4.1																			
S.1.1	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,12	0,09	0,07	0,027	0,13	0,09	0,08	0,029	●		
S.1.2	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,12	0,09	0,07	0,027	0,13	0,09	0,08	0,029	●		
S.2.1	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,12	0,09	0,07	0,027	0,13	0,09	0,08	0,029	●		
S.2.2	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,12	0,09	0,07	0,027	0,13	0,09	0,08	0,029	●		
S.2.3																			
S.3.1	0,15	0,10	0,08	0,033	0,16	0,11	0,09	0,035	0,17	0,12	0,10	0,037	0,18	0,12	0,10	0,040	●		
S.3.2	0,15	0,10	0,08	0,033	0,16	0,11	0,09	0,035	0,17	0,12	0,10	0,037	0,18	0,12	0,10	0,040	●		
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Cutting depth is the same as the cutting length

Cutting data standard values – End mills – CCR-UNI, extra long

Index	Extra-long version			53 589 …, 53 593 …																
				Ø DC (mm) =																
	4xDC	5xDC	Maximum angle of engagement	6			8			10			12			14				
				a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m		
	v_c (m/min)			f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)				
P.1.1	250	220	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
P.1.2	250	220	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.1.3	250	220	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.1.4	230	210	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.1.5	230	210	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.2.1	250	220	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
P.2.2	250	220	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
P.2.3	230	210	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.2.4	230	210	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.3.1	200	180	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.3.2	200	180	45°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.3.3	180	160	45°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
P.4.1	150	130	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020		
P.4.2	130	110	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020		
M.1.1	110	90	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020		
M.2.1	110	90	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020		
M.3.1	110	90	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020		
K.1.1	260	230	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
K.1.2	260	230	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
K.2.1	260	230	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
K.2.2	230	210	50°	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025	0,13	0,09	0,028		
K.3.1	230	210	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
K.3.2	180	170	50°	0,06	0,04	0,013	0,07	0,05	0,016	0,08	0,06	0,019	0,10	0,07	0,022	0,11	0,08	0,025		
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1																				
N.3.2																				
N.3.3																				
N.4.1																				
S.1.1	70	60	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.1.2	70	60	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.2.1	50	40	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.2.2	50	40	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.2.3																				
S.3.1	120	100	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.3.2	90	80	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016		
S.3.3																				
H.1.1																				
H.1.2																				
H.1.3																				
H.1.4																				
H.2.1																				
H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

Cutting depth is the same as the cutting length

Cutting data standard values – End mills – CCR-UNI, extra long

Index	53 589 …, 53 593 …									● 1st choice ○ Suitable		
	Ø DC (mm) =											
	16			18			20					
	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)			f_z (mm)			f_z (mm)					
P.1.1	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
P.1.2	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.1.3	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.1.4	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.1.5	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.2.1	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
P.2.2	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
P.2.3	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.2.4	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.3.1	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.3.2	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.3.3	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
P.4.1	0,10	0,07	0,022	0,10	0,07	0,023	0,11	0,08	0,024	●		
P.4.2	0,10	0,07	0,022	0,10	0,07	0,023	0,11	0,08	0,024	●		
M.1.1	0,10	0,07	0,022	0,10	0,07	0,023	0,11	0,08	0,024	●		
M.2.1	0,10	0,07	0,022	0,10	0,07	0,023	0,11	0,08	0,024	●		
M.3.1	0,10	0,07	0,022	0,10	0,07	0,023	0,11	0,08	0,024	●		
K.1.1	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
K.1.2	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
K.2.1	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
K.2.2	0,13	0,10	0,030	0,14	0,10	0,032	0,15	0,11	0,033	○	●	○
K.3.1	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
K.3.2	0,12	0,09	0,027	0,13	0,09	0,028	0,13	0,10	0,030	○	●	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.1.2	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.2.1	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.2.2	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.2.3												
S.3.1	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.3.2	0,07	0,05	0,017	0,08	0,06	0,018	0,08	0,06	0,019	●		
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting depth is the same as the cutting length

Cutting data standard values – CCR-VA, long 3xDC

Index	Long version		53 643 ...															
			Ø DC (mm) =															
			6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1																		
P.1.2																		
P.1.3																		
P.1.4																		
P.1.5																		
P.2.1																		
P.2.2																		
P.2.3																		
P.2.4																		
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	200	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
P.4.2	180	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.1.1	**160**	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.2.1	**160**	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.3.1	**160**	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
K.1.1																		
K.1.2																		
K.2.1																		
K.2.2																		
K.3.1																		
K.3.2																		
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	85	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.1.2	85	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.1	65	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.2	65	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.3	65	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.3.1	160	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.2	120	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting depth is the same as the cutting length

Cutting data standard values – CCR-VA, long 3xDC

Index	53 643 ... Ø DC (mm) = 14 f_z (mm) a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	16 f_z (mm) a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	20 f_z (mm) a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
P.4.2	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.1.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.2.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.3.1	0,18	0,13	0,10	0,040	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.1.2	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.1	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.2	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.3	0,11	0,08	0,06	0,024	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.3.1	0,15	0,10	0,08	0,033	0,16	0,11	0,09	0,035	0,18	0,12	0,10	0,040	●		
S.3.2	0,15	0,10	0,08	0,033	0,16	0,11	0,09	0,035	0,18	0,12	0,10	0,040	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting depth is the same as the cutting length

Cutting data standard values – CCR-VA, extra long 4xDC

Index	Extra-long version		53 644 ...															
			Ø DC (mm) =															
			6			8			10			12			14			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	h_m	
			f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)			
P.1.1																		
P.1.2																		
P.1.3																		
P.1.4																		
P.1.5																		
P.2.1																		
P.2.2																		
P.2.3																		
P.2.4																		
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	170	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020	
P.4.2	150	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020	
M.1.1	**125**	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020	
M.2.1	**125**	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020	
M.3.1	**125**	45°	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,05	0,014	0,08	0,05	0,017	0,09	0,06	0,020	
K.1.1																		
K.1.2																		
K.2.1																		
K.2.2																		
K.3.1																		
K.3.2																		
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	**75**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.1.2	**75**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.2.1	**55**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.2.2	**55**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.2.3	**55**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.3.1	**140**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.3.2	**105**	40°	0,03	0,02	0,007	0,04	0,03	0,009	0,05	0,04	0,011	0,06	0,04	0,014	0,07	0,05	0,016	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting depth is the same as the cutting length

Cutting data standard values – CCR-VA, extra long 4xDC

Index	53 644 ... Ø DC (mm) = 16 a_e 0,05 x DC f_z (mm)	16 a_e 0,1 x DC f_z (mm)	16 h_m	20 a_e 0,05 x DC f_z (mm)	20 a_e 0,1 x DC f_z (mm)	20 h_m	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1									
P.1.2									
P.1.3									
P.1.4									
P.1.5									
P.2.1									
P.2.2									
P.2.3									
P.2.4									
P.3.1									
P.3.2									
P.3.3									
P.4.1	0,10	0,07	0,022	0,11	0,08	0,024	●		
P.4.2	0,10	0,07	0,022	0,11	0,08	0,024	●		
M.1.1	0,10	0,07	0,022	0,11	0,08	0,024	●		
M.2.1	0,10	0,07	0,022	0,11	0,08	0,024	●		
M.3.1	0,10	0,07	0,022	0,11	0,08	0,024	●		
K.1.1									
K.1.2									
K.2.1									
K.2.2									
K.3.1									
K.3.2									
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.1.2	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.2.1	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.2.2	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.2.3	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.3.1	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.3.2	0,07	0,05	0,017	0,08	0,06	0,019	●		
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									



Cutting depth is the same as the cutting length

Cutting data standard values – CCR-AL

Index	Long version	Extra-long version		Maximum angle of engagement	53 590 ..., 53 591 ..., 53 594 ..., 53 595 ..., 53 641 ...															
					Ø DC (mm) =															
					6				8				10				12			
	3xDC	4xDC	5xDC		a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m
	v_c (m/min)				f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1																				
P.1.2																				
P.1.3																				
P.1.4																				
P.1.5																				
P.2.1																				
P.2.2																				
P.2.3																				
P.2.4																				
P.3.1																				
P.3.2																				
P.3.3																				
P.4.1																				
P.4.2																				
M.1.1																				
M.2.1																				
M.3.1																				
K.1.1																				
K.1.2																				
K.2.1																				
K.2.2																				
K.3.1																				
K.3.2																				
N.1.1	500	400	300	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.1.2	500	400	300	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.2.1	500	400	300	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.2.2	500	400	300	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.2.3	400	350	265	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.3.1	400	350	265	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.3.2	400	350	265	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.3.3	300	250	190	60°	0,30	0,21	0,18	0,096	0,35	0,25	0,20	0,111	0,40	0,28	0,23	0,126	0,45	0,31	0,26	0,141
N.4.1																				
S.1.1																				
S.1.2																				
S.2.1																				
S.2.2																				
S.2.3																				
S.3.1																				
S.3.2																				
S.3.3																				
H.1.1																				
H.1.2																				
H.1.3																				
H.1.4																				
H.2.1																				
H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

Cutting depth is the same as the cutting length

Plunging angle for ramping and helical milling = 4°

Cutting data standard values – CCR-AL

Index	53 590 ..., 53 591 ..., 53 594 ..., 53 595 ..., 53 641 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	14				16				20						
	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	a_e 0,1 x DC	a_e 0,2 x DC	a_e 0,3 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.1.2	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.2.1	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.2.2	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.2.3	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.3.1	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.3.2	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.3.3	0,49	0,35	0,29	0,156	0,52	0,37	0,30	0,164	0,57	0,40	0,33	0,179	●		○
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting depth is the same as the cutting length

Plunging angle for ramping and helical milling = 4°

Cutting data standard values – CCR-Ti, long

Index	Long version		52 510 ...											
			Ø DC (mm) =											
			6				8				10			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)			
P.4.1	200	35°	0,080	0,057	0,046	0,022	0,098	0,070	0,057	0,033	0,125	0,089	0,072	0,042
P.4.2	180	35°	0,080	0,057	0,046	0,022	0,098	0,070	0,057	0,033	0,125	0,089	0,072	0,042
M.1.1	200	35°	0,080	0,057	0,046	0,022	0,098	0,070	0,057	0,033	0,125	0,089	0,072	0,042
M.2.1	160	35°	0,080	0,057	0,046	0,022	0,098	0,070	0,057	0,033	0,125	0,089	0,072	0,042
M.3.1	180	35°	0,080	0,057	0,046	0,022	0,098	0,070	0,057	0,033	0,125	0,089	0,072	0,042
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1	140	25°	0,060	0,042	0,034	0,020	0,070	0,049	0,040	0,030	0,089	0,063	0,052	0,040
S.3.2	120	25°	0,060	0,042	0,034	0,020	0,070	0,049	0,040	0,030	0,089	0,063	0,052	0,040
S.3.3	100	25°	0,045	0,032	0,026	0,018	0,052	0,037	0,030	0,028	0,067	0,047	0,039	0,038

Cutting data standard values – CircularLine – CCR-Ti, extra long

Index	Extra-long version		52 510 ...											
			Ø DC (mm) =											
			6				8				10		12	
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,05 x DC	a_e 0,10 x DC	h_m
			f_z (mm)			f_z (mm)			f_z (mm)			f_z (mm)		
P.4.1	170	35°	0,057	0,046	0,018	0,070	0,057	0,026	0,089	0,072	0,036	0,114	0,093	0,046
P.4.2	150	35°	0,057	0,046	0,018	0,070	0,057	0,026	0,089	0,072	0,036	0,114	0,093	0,046
M.1.1	170	35°	0,057	0,046	0,018	0,070	0,057	0,026	0,089	0,072	0,036	0,114	0,093	0,046
M.2.1	130	35°	0,057	0,046	0,018	0,070	0,057	0,026	0,089	0,072	0,036	0,114	0,093	0,046
M.3.1	150	35°	0,057	0,046	0,018	0,070	0,057	0,026	0,089	0,072	0,036	0,114	0,093	0,046
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1	120	25°	0,031	0,022	0,015	0,036	0,025	0,020	0,045	0,032	0,030	0,054	0,038	0,040
S.3.2	100	25°	0,031	0,022	0,015	0,036	0,025	0,020	0,045	0,032	0,030	0,054	0,038	0,040
S.3.3	90	25°	0,022	0,016	0,013	0,027	0,019	0,015	0,036	0,025	0,025	0,045	0,032	0,035

Cutting depth is the same as the cutting length

Cutting data standard values – CCR-Ti, long

Index	52 510 ... Ø DC (mm) = 12 a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m	16 a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m	20 a_e 0,05 x DC	a_e 0,10 x DC	a_e 0,15 x DC	h_m	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)						
P.4.1	0,161	0,114	0,093	0,053	0,188	0,133	0,108	0,064	0,268	0,190	0,155	0,079	●	○	
P.4.2	0,161	0,114	0,093	0,053	0,188	0,133	0,108	0,064	0,268	0,190	0,155	0,079	●	○	
M.1.1	0,161	0,114	0,093	0,053	0,188	0,133	0,108	0,064	0,268	0,190	0,155	0,079	●	○	
M.2.1	0,161	0,114	0,093	0,053	0,188	0,133	0,108	0,064	0,268	0,190	0,155	0,079	●	○	
M.3.1	0,161	0,114	0,093	0,053	0,188	0,133	0,108	0,064	0,268	0,190	0,155	0,079	●	○	
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	0,113	0,080	0,065	0,050	0,157	0,111	0,090	0,060	0,217	0,153	0,125	0,075	●		
S.3.2	0,113	0,080	0,065	0,050	0,157	0,111	0,090	0,060	0,217	0,153	0,125	0,075	●		
S.3.3	0,085	0,060	0,049	0,048	0,117	0,083	0,068	0,058	0,163	0,115	0,094	0,070	●		

Cutting data standard values – CircularLine – CCR-Ti, extra long

Index	52 510 ... Ø DC (mm) = 16 a_e 0,05 x DC	a_e 0,10 x DC	h_m	20 a_e 0,05 x DC	a_e 0,10 x DC	h_m	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	f_z (mm)			f_z (mm)					
P.4.1	0,133	0,108	0,056	0,190	0,155	0,066	●	○	
P.4.2	0,133	0,108	0,056	0,190	0,155	0,066	●	○	
M.1.1	0,133	0,108	0,056	0,190	0,155	0,066	●	○	
M.2.1	0,133	0,108	0,056	0,190	0,155	0,066	●	○	
M.3.1	0,133	0,108	0,056	0,190	0,155	0,066	●	○	
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1	0,076	0,054	0,050	0,107	0,076	0,060	●		
S.3.2	0,076	0,054	0,050	0,107	0,076	0,060	●		
S.3.3	0,058	0,041	0,045	0,080	0,057	0,055	●		

Cutting depth is the same as the cutting length

Cutting data standard values – End mills – CCR-H

Index	Long version		53 596 ...												● 1st choice ○ Suitable		
			Ø DC (mm) =														
			6				8				10						
	v_c (m/min)	Maximum angle of engagement	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	Emulsion	Compressed air	MMS
			f_z (mm)				f_z (mm)				f_z (mm)						
H.1.1	**130**	30°	0,11	0,07	0,05	0,015	0,13	0,08	0,06	0,019	0,16	0,10	0,07	0,023		●	○
H.1.2	**120**	30°	0,06	0,04	0,03	0,008	0,07	0,05	0,03	0,010	0,09	0,06	0,04	0,012		●	○
H.1.3	**115**	30°	0,04	0,03		0,006	0,05	0,03		0,007	0,06	0,04		0,009		●	○
H.1.4	**110**	30°	0,02			0,003	0,03				0,04			0,006		●	○
H.2.1	**130**	30°	0,11	0,07	0,05	0,015	0,13	0,08	0,06	0,019	0,16	0,10	0,07	0,023		●	○
H.3.1	**130**	30°	0,11	0,07	0,05	0,015	0,13	0,08	0,06	0,019	0,16	0,10	0,07	0,023			

Index	Long version		53 596 ...												● 1st choice ○ Suitable		
			Ø DC (mm) =														
			12				16				20						
	v_c (m/min)	Maximum angle of engagement	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	a_e 0,02 x DC	a_e 0,05 x DC	a_e 0,10 x DC	h_m	Emulsion	Compressed air	MMS
			f_z (mm)				f_z (mm)				f_z (mm)						
H.1.1	**130**	30°	0,19	0,12	0,08	0,027	0,22	0,14	0,10	0,031	0,24	0,15	0,11	0,034		●	○
H.1.2	**120**	30°	0,10	0,07	0,05	0,015	0,13	0,08		0,018	0,14	0,09		0,020		●	○
H.1.3	**115**	30°	0,07	0,05		0,010	0,09	0,06		0,012	0,09	0,06		0,013		●	○
H.1.4	**110**	30°	0,05			0,006	0,06			0,008	0,08			0,011		●	○
H.2.1	**130**	30°	0,19	0,12	0,08	0,027	0,22	0,14		0,031	0,24	0,15		0,034		●	○
H.3.1	**130**	30°	0,19	0,12	0,08	0,027	0,22	0,14	0,10	0,031	0,24	0,15	0,11	0,034		●	○

Cutting depth is the same as the cutting length

Cutting data standard values – SilverLine – NC deburring cutters

Index	v_c (m/min)	50 324 ..., 50 325 ..., 50 326 ..., 50 327 ... Ø DC (mm) = 4	6	8	10	12	f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	130	0,028	0,039	0,050	0,061	0,072		●	○	○
P.1.2	130	0,028	0,039	0,050	0,061	0,072		●	○	○
P.1.3	130	0,028	0,039	0,050	0,061	0,072		●	○	○
P.1.4	90	0,022	0,033	0,044	0,055	0,066		●	○	○
P.1.5	90	0,022	0,033	0,044	0,055	0,066		●	○	○
P.2.1	130	0,028	0,039	0,050	0,061	0,072		●	○	○
P.2.2	100	0,028	0,039	0,050	0,061	0,072		●	○	○
P.2.3	90	0,022	0,033	0,044	0,055	0,066		●	○	○
P.2.4	80	0,017	0,023	0,029	0,034	0,040		●	○	○
P.3.1	120	0,024	0,035	0,047	0,058	0,070		●	○	○
P.3.2	70	0,017	0,023	0,029	0,034	0,040		●	○	○
P.3.3	70	0,017	0,023	0,029	0,034	0,040		●		○
P.4.1	100	0,024	0,035	0,047	0,058	0,070		●		
P.4.2	95	0,022	0,033	0,044	0,055	0,066		●		
M.1.1	90	0,022	0,033	0,044	0,055	0,066		●		
M.2.1	90	0,022	0,033	0,044	0,055	0,066		●		
M.3.1	90	0,022	0,033	0,044	0,055	0,066		●		
K.1.1	130	0,028	0,039	0,050	0,061	0,072		●	○	○
K.1.2	100	0,028	0,039	0,050	0,061	0,072		●	○	○
K.2.1	130	0,028	0,039	0,050	0,061	0,072		●	○	○
K.2.2	120	0,028	0,039	0,050	0,061	0,072		●	○	○
K.3.1	130	0,028	0,039	0,050	0,061	0,072		●	○	○
K.3.2	120	0,028	0,039	0,050	0,061	0,072		●	○	○
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1	45	0,010	0,015	0,020	0,025	0,030		●		
S.1.2	45	0,010	0,015	0,020	0,025	0,030		●		
S.2.1	40	0,010	0,015	0,020	0,025	0,030		●		
S.2.2	40	0,010	0,015	0,020	0,025	0,030		●		
S.2.3	45	0,010	0,015	0,020	0,025	0,030		●		
S.3.1	70	0,017	0,023	0,029	0,034	0,040		●		
S.3.2	60	0,017	0,023	0,029	0,034	0,040		●		
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

Cutting data standard values – SilverLine – End mills

Index	Short/long version		50 993 …, 50 994 …, 50 995 …, 50 996 …, 50 997 …, 50 998 …																		● 1st choice ○ Suitable		
			Ø DC (mm) =																				
			6			8			10			12			16			20					
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	Emulsion	Compressed air	MMS
			f_z (mm)																				
P.1.1	205	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.2	200	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.3	200	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.4	190	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.5	190	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.1	200	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.2	190	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.3	180	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.4	170	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.1	180	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.3.2	170	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.3.3	145	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.4.1	100	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
P.4.2	80	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.1.1	100	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.2.1	100	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.3.1	100	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
K.1.1	200	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
K.1.2	180	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
K.2.1	190	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.2.2	170	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.3.1	180	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.3.2	160	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
N.1.1																							
N.1.2																							
N.2.1																							
N.2.2																							
N.2.3																							
N.3.1	315	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.3.2	315	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.3.3	250	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.4.1																							
S.1.1	25	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	25	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	25	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	25	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	25	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	80	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●		
S.3.2																							
S.3.3																							
H.1.1																							
H.1.2																							
H.1.3																							
H.1.4																							
H.2.1																							
H.3.1																							
O.1.1																							
O.1.2																							
O.2.1																							
O.2.2																							
O.3.1																							

Plunging angle for ramping and helical milling = 2–3°

Cutting data standard values – SilverLine – End mills

Index	Long version		50 949 ..., 50 999 ...																			● 1st choice ○ Suitable		
			Ø DC (mm) =																					
			6			8			10			12			16			20					
	v_c (m/min)	$a_{p\,max}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6 x DC	Emulsion	Compressed air	MMS
			f_z (mm)																					
P.1.1	165	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.2	160	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.3	160	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.4	150	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.1.5	150	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.1	160	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.2	150	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.3	145	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.2.4	135	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.1	145	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.3.2	135	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.3.3	115	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
P.4.1	80	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
P.4.2	65	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.1.1	80	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.2.1	80	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.3.1	80	1,0	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
K.1.1	160	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
K.1.2	145	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
K.2.1	150	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.2.2	135	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.3.1	145	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.3.2	130	1,0	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
N.1.1																							
N.1.2																							
N.2.1																							
N.2.2																							
N.2.3																							
N.3.1	250	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.3.2	250	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.3.3	200	1,0	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080	0,192	0,154	0,096	0,240	0,192	0,120	0,274	0,219	0,137	●	○	○
N.4.1																							
S.1.1	20	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	20	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	20	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	20	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	20	1,0	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	65	1,0	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●		
S.3.2																							
S.3.3																							
H.1.1																							
H.1.2																							
H.1.3																							
H.1.4																							
H.2.1																							
H.3.1																							
O.1.1																							
O.1.2																							
O.2.1																							
O.2.2																							
O.3.1																							

Plunging angle for ramping and helical milling = 2–3°

Cutting data standard values – SilverLine – End mills – Trochoidal machining

Index	Long version		50 949 ..., 50 999 ...															
			Ø DC (mm) =															
			6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.1.2	280	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.3	280	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.4	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.1.5	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.2.1	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.2.2	280	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
P.2.3	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.2.4	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.1	220	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.2	220	45°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.3.3	200	45°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
P.4.1	180	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
P.4.2	160	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.1.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.2.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
M.3.1	140	45°	0,09	0,07	0,05	0,021	0,11	0,08	0,07	0,026	0,14	0,10	0,08	0,031	0,16	0,11	0,09	0,035
K.1.1	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.1.2	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.2.1	300	50°	0,15	0,10	0,09	0,033	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045	0,23	0,16	0,13	0,051
K.2.2	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
K.3.1	260	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
K.3.2	200	50°	0,11	0,08	0,07	0,025	0,14	0,10	0,08	0,032	0,17	0,12	0,10	0,039	0,20	0,14	0,12	0,045
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	80	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.1.2	80	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.1	60	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.2	60	40°	0,05	0,03	0,03	0,010	0,06	0,04	0,04	0,014	0,08	0,05	0,04	0,017	0,09	0,06	0,05	0,021
S.2.3																		
S.3.1	140	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.2	100	40°	0,06	0,04	0,04	0,014	0,08	0,06	0,05	0,018	0,10	0,07	0,06	0,023	0,12	0,09	0,07	0,028
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 2–3°

Cutting depth is the same as the cutting length

Cutting data standard values – SilverLine – End mills – Trochoidal machining

Index	50 949 ..., 50 999 ...								● 1st choice ○ Suitable		
	Ø DC (mm) =										
	16				20						
	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)						
P.1.1	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
P.1.2	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.1.3	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.1.4	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.1.5	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.2.1	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
P.2.2	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
P.2.3	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.2.4	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.3.1	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.3.2	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.3.3	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
P.4.1	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
P.4.2	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.1.1	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.2.1	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
M.3.1	0,19	0,13	0,11	0,042	0,21	0,15	0,12	0,047	●		
K.1.1	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
K.1.2	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
K.2.1	0,27	0,19	0,16	0,060	0,30	0,21	0,17	0,066	○	●	○
K.2.2	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
K.3.1	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
K.3.2	0,25	0,18	0,14	0,055	0,28	0,20	0,16	0,062	○	●	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.1.2	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.1	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.2	0,11	0,08	0,07	0,026	0,13	0,09	0,08	0,029	●		
S.2.3											
S.3.1	0,16	0,11	0,09	0,035	0,18	0,12	0,10	0,040	●		
S.3.2	0,16	0,11	0,09	0,035	0,18	0,12	0,10	0,040	●		
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Plunging angle for ramping and helical milling = 2–3°

Cutting depth is the same as the cutting length

Cutting data standard values – SilverLine – End mills

Index	Long version		50 558 ..., 50 958																		
			Ø DC (mm) =																		
			3,0			3,5–4,0			5,0			6,0			8,0			10,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)																		
P.1.1	110	1,0*	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	0,086	0,069	0,043
P.1.2	90	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.1.3	90	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.1.4	80	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.1.5	80	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.2.1	90	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.2.2	70	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.2.3	70	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.2.4	55	1,0*	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038
P.3.1																				
P.3.2																				
P.3.3																				
P.4.1	50	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
P.4.2	40	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
M.1.1	40	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
M.2.1	50	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
M.3.1	50	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
K.1.1	130	1,0*	0,056	0,045	0,028	0,068	0,054	0,034	0,080	0,064	0,040	0,092	0,074	0,046	0,116	0,093	0,058	0,140	0,112	0,070
K.1.2	120	1,0*	0,056	0,045	0,028	0,068	0,054	0,034	0,080	0,064	0,040	0,092	0,074	0,046	0,116	0,093	0,058	0,140	0,112	0,070
K.2.1	130	1,0*	0,040	0,032	0,020	0,048	0,038	0,024	0,056	0,045	0,028	0,064	0,051	0,032	0,079	0,063	0,040	0,095	0,076	0,048
K.2.2	120	1,0*	0,040	0,032	0,020	0,048	0,038	0,024	0,056	0,045	0,028	0,064	0,051	0,032	0,079	0,063	0,040	0,095	0,076	0,048
K.3.1	130	1,0*	0,056	0,045	0,028	0,068	0,054	0,034	0,080	0,064	0,040	0,092	0,074	0,046	0,116	0,093	0,058	0,140	0,112	0,070
K.3.2	120	1,0*	0,056	0,045	0,028	0,068	0,054	0,034	0,080	0,064	0,040	0,092	0,074	0,046	0,116	0,093	0,058	0,140	0,112	0,070
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	200	1,0*	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,090	0,072	0,045	0,110	0,088	0,055
N.3.2	200	1,0*	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,090	0,072	0,045	0,110	0,088	0,055
N.3.3	140	1,0*	0,040	0,032	0,020	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,090	0,072	0,045	0,110	0,088	0,055
N.4.1																				
S.1.1	30	1,0*	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.1.2	30	1,0*	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.1	30	1,0*	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.2	30	1,0*	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.3	30	1,0*	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.3.1	50	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
S.3.2	20	1,0*	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033
S.3.3																				
H.1.1																				
H.1.2																				
H.1.3																				
H.1.4																				
H.2.1																				
H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

* = type long: $a_{p\,max.}$ = 1.5 x DC at f_z x 0.75

Plunging angle for ramping and helical milling = 6–10°

Cutting data standard values – SilverLine – End mills

Index	50 558 ..., 50 958 Ø DC (mm) = 12,0 a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC f_z (mm)	Emulsion	Compressed air	MMS
	● 1st choice ○ Suitable					
P.1.1	0,102	0,082	0,051	●	○	○
P.1.2	0,089	0,071	0,045	●	○	○
P.1.3	0,089	0,071	0,045	●	○	○
P.1.4	0,089	0,071	0,045	●	○	○
P.1.5	0,089	0,071	0,045	●	○	○
P.2.1	0,089	0,071	0,045	●	○	○
P.2.2	0,089	0,071	0,045	●	○	○
P.2.3	0,089	0,071	0,045	●	○	○
P.2.4	0,089	0,071	0,045	●	○	○
P.3.1						
P.3.2						
P.3.3						
P.4.1	0,079	0,063	0,040	●		
P.4.2	0,079	0,063	0,040	●		
M.1.1	0,079	0,063	0,040	●		
M.2.1	0,079	0,063	0,040	●		
M.3.1	0,079	0,063	0,040	●		
K.1.1	0,164	0,131	0,082	●	○	○
K.1.2	0,164	0,131	0,082	●	○	○
K.2.1	0,110	0,088	0,055	●	○	○
K.2.2	0,110	0,088	0,055	●	○	○
K.3.1	0,164	0,131	0,082	●	○	○
K.3.2	0,164	0,131	0,082	●	○	○
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1	0,130	0,104	0,065	●		
N.3.2	0,130	0,104	0,065	●		
N.3.3	0,130	0,104	0,065	●		
N.4.1						
S.1.1	0,060	0,048	0,030	●		
S.1.2	0,060	0,048	0,030	●		
S.2.1	0,060	0,048	0,030	●		
S.2.2	0,060	0,048	0,030	●		
S.2.3	0,060	0,048	0,030	●		
S.3.1	0,079	0,063	0,040	●		
S.3.2	0,079	0,063	0,040	●		
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

* = type long: $a_{p\ max.}$ = 1.5 x DC at f_z x 0.75

Plunging angle for ramping and helical milling = 6–10°

Cutting data standard values – SilverLine – End mills

Index	Short version		Long version		Extra-long version		50 966 ..., 50 967 ..., 50 992 ...														
							Ø DC (mm) =														
							3,0			3,5–4,0			4,5–5,0			5,5–6,0			6,5–8,0		
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
							f_z (mm)														
P.1.1	252	1,0	210	1,0*	105	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.1.2	240	1,0	200	1,0*	100	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.1.3	240	1,0	200	1,0*	100	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.1.4	228	1,0	190	1,0*	95	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.1.5	228	1,0	190	1,0*	95	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.2.1	240	1,0	200	1,0*	100	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.2.2	228	1,0	190	1,0*	95	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.2.3	216	1,0	180	1,0*	90	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.2.4	204	1,0	170	1,0*	85	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
P.3.1																					
P.3.2																					
P.3.3																					
P.4.1	120	1,0	100	1,0*	60	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
P.4.2	96	1,0	80	1,0*	50	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
M.1.1	120	1,0	100	1,0*	60	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
M.2.1	120	1,0	100	1,0*	60	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
M.3.1	120	1,0	100	1,0*	60	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
K.1.1	240	1,0	200	1,0*	100	0,8	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047
K.1.2	216	1,0	180	1,0*	90	0,8	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047
K.2.1	228	1,0	190	1,0*	60	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
K.2.2	204	1,0	170	1,0*	85	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
K.3.1	216	1,0	180	1,0*	90	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
K.3.2	192	1,0	160	1,0*	80	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	420	1,0	350	1,0*	175	0,8	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047
N.3.2	420	1,0	350	1,0*	175	0,8	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047
N.3.3	336	1,0	280	1,0*	140	0,8	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047
N.4.1																					
S.1.1	30	0,5	25	0,5	15	0,4	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020
S.1.2	30	0,5	25	0,5	15	0,4	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020
S.2.1	30	0,5	25	0,5	15	0,4	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020
S.2.2	30	0,5	25	0,5	15	0,4	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020
S.2.3	30	0,5	25	0,5	15	0,4	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020
S.3.1	108	1,0	90	1,0*	45	0,8	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040
S.3.2	60	1,0	50	1,0*	25	0,8	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026
S.3.3																					
H.1.1																					
H.1.2																					
H.1.3																					
H.1.4																					
H.2.1																					
H.3.1																					
O.1.1																					
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

"Extra-long" version: When profiling with an a_e 0.1–0.4 x DC, an a_p of 1.0 x DC may be used.

Plunging angle for ramping and helical milling = 3°

* = type long: $a_{p\,max.}$ = 1.5 x DC at f_z x 0.75

Cutting data standard values – SilverLine – End mills

Index	50 966 ..., 50 967 ..., 50 992 ...																● 1st choice ○ Suitable		
	Ø DC (mm) =																		
	8,5–10,0			12,0			14,0			16,0			20,0						
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																		
P.1.1	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.2	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.3	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.4	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.5	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.2	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.3	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.4	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
P.4.2	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.1.1	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.2.1	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.3.1	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
K.1.1	0,116	0,093	0,058	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,196	0,157	0,098	●	●	●
K.1.2	0,116	0,093	0,058	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,196	0,157	0,098	●	●	●
K.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	●	●
K.2.2	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	●	●
K.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	●	●
K.3.2	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●	●	●
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	0,116	0,093	0,058	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.2	0,116	0,093	0,058	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.3	0,116	0,093	0,058	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.4.1																		
S.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	0,050	0,040	0,025	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,170	0,136	0,085	●		
S.3.2	0,066	0,053	0,033	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,115	0,092	0,058	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

"Extra-long" version: When profiling with an a_e 0.1–0.4 x DC, an a_p of 1.0 x DC may be used.

Plunging angle for ramping and helical milling = 3°

* = type long: $a_{p\,max.}$ = 1.5 x DC at f_z x 0.75

Cutting data standard values – SilverLine – End mills

Index	Long version		50 976 ..., 50 977 ...															
			Ø DC (mm) =															
			3		4		5		6		8		10		12		14	
			a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1	210	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.1.2	200	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.1.3	200	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.1.4	190	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.1.5	190	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.2.1	200	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.2.2	190	2,0	0,020	0,014	0,027	0,019	0,034	0,025	0,042	0,030	0,056	0,040	0,070	0,050	0,084	0,060	0,098	0,070
P.2.3	180	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.2.4	170	2,0	0,020	0,014	0,027	0,019	0,034	0,025	0,042	0,030	0,056	0,040	0,070	0,050	0,084	0,060	0,098	0,070
P.3.1	180	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.3.2	170	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.3.3	140	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
P.4.1	120	1,5	0,012	0,009	0,017	0,012	0,022	0,016	0,027	0,019	0,036	0,026	0,046	0,033	0,056	0,040	0,066	0,047
P.4.2	100	1,5	0,012	0,009	0,017	0,012	0,022	0,016	0,027	0,019	0,036	0,026	0,046	0,033	0,056	0,040	0,066	0,047
M.1.1	120	1,5	0,012	0,009	0,017	0,012	0,022	0,016	0,027	0,019	0,036	0,026	0,046	0,033	0,056	0,040	0,066	0,047
M.2.1	120	1,5	0,012	0,009	0,017	0,012	0,022	0,016	0,027	0,019	0,036	0,026	0,046	0,033	0,056	0,040	0,066	0,047
M.3.1	120	1,5	0,012	0,009	0,017	0,012	0,022	0,016	0,027	0,019	0,036	0,026	0,046	0,033	0,056	0,040	0,066	0,047
K.1.1	200	2,0	0,031	0,022	0,039	0,028	0,048	0,034	0,056	0,040	0,074	0,053	0,091	0,065	0,108	0,077	0,126	0,090
K.1.2	180	2,0	0,031	0,022	0,039	0,028	0,048	0,034	0,056	0,040	0,074	0,053	0,091	0,065	0,108	0,077	0,126	0,090
K.2.1	190	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
K.2.2	170	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
K.3.1	180	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
K.3.2	160	2,0	0,026	0,019	0,034	0,024	0,042	0,030	0,049	0,035	0,066	0,047	0,081	0,058	0,098	0,070	0,113	0,081
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	350	2,0	0,031	0,022	0,039	0,028	0,048	0,034	0,056	0,040	0,074	0,053	0,091	0,065	0,108	0,077	0,126	0,090
N.3.2	350	2,0	0,031	0,022	0,039	0,028	0,048	0,034	0,056	0,040	0,074	0,053	0,091	0,065	0,108	0,077	0,126	0,090
N.3.3	280	2,0	0,031	0,022	0,039	0,028	0,048	0,034	0,056	0,040	0,074	0,053	0,091	0,065	0,108	0,077	0,126	0,090
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Profiling with an a_e < 0.3xDC only possible under certain conditions.

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – End mills

Index	50 976 ..., 50 977 ... Ø DC (mm) = 16 a_e 0,3–0,4 x DC f_z (mm)	16 a_e 0,6–1,0 x DC f_z (mm)	20 a_e 0,3–0,4 x DC f_z (mm)	20 a_e 0,6–1,0 x DC f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	0,121	0,087	0,137	0,098	●	○	○
P.1.2	0,121	0,087	0,137	0,098	●	○	○
P.1.3	0,121	0,087	0,137	0,098	●	○	○
P.1.4	0,121	0,087	0,137	0,098	●	○	○
P.1.5	0,121	0,087	0,137	0,098	●	○	○
P.2.1	0,121	0,087	0,137	0,098	●	○	○
P.2.2	0,105	0,075	0,119	0,085	●	○	○
P.2.3	0,121	0,087	0,137	0,098	●	○	○
P.2.4	0,105	0,075	0,119	0,085	●	○	○
P.3.1	0,121	0,087	0,137	0,098	●	○	○
P.3.2	0,121	0,087	0,137	0,098	●	○	○
P.3.3	0,121	0,087	0,137	0,098	●	○	○
P.4.1	0,071	0,051	0,081	0,058	●		
P.4.2	0,071	0,051	0,081	0,058	●		
M.1.1	0,071	0,051	0,081	0,058	●		
M.2.1	0,071	0,051	0,081	0,058	●		
M.3.1	0,071	0,051	0,081	0,058	●		
K.1.1	0,134	0,096	0,151	0,108	●	●	●
K.1.2	0,134	0,096	0,151	0,108	●	●	●
K.2.1	0,121	0,087	0,137	0,098	●	●	●
K.2.2	0,121	0,087	0,137	0,098	●	●	●
K.3.1	0,121	0,087	0,137	0,098	●	●	●
K.3.2	0,121	0,087	0,137	0,098	●	●	●
N.1.1							
N.1.2							
N.2.1							
N.2.2							
N.2.3							
N.3.1	0,134	0,096	0,151	0,108	●	○	○
N.3.2	0,134	0,096	0,151	0,108	●	○	○
N.3.3	0,134	0,096	0,151	0,108	●	○	○
N.4.1							
S.1.1							
S.1.2							
S.2.1							
S.2.2							
S.2.3							
S.3.1							
S.3.2							
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

Profiling with an a_e < 0.3xDC only possible under certain conditions.

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – End mills

Index	Extra-long version		50 970 ..., 50 971 ..., 50 974 ..., 50 975 ...																		
			Ø DC (mm) =																		
			3			4			5			6			8			10		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)																		
P.1.1	160	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.1.2	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.1.3	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.1.4	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.1.5	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.2.1	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.2.2	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.2.3	120	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.2.4	120	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.3.1	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.3.2	80	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.3.3	80	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,100	0,075	0,050
P.4.1	80	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,030	0,022	0,015	0,038	0,028	0,019	0,050	0,037	0,025	0,064	0,048	0,032
P.4.2	80	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,030	0,022	0,015	0,038	0,028	0,019	0,050	0,037	0,025	0,064	0,048	0,032
M.1.1	80	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,030	0,022	0,015	0,038	0,028	0,019	0,050	0,037	0,025	0,064	0,048	0,032
M.2.1	70	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,030	0,022	0,015	0,038	0,028	0,019	0,050	0,037	0,025	0,064	0,048	0,032
M.3.1	80	0,5	0,016	0,012	0,009	0,022	0,017	0,012	0,030	0,022	0,015	0,038	0,028	0,019	0,050	0,037	0,025	0,064	0,048	0,032
K.1.1	150	1,0	0,040	0,031	0,022	0,054	0,042	0,030	0,070	0,052	0,035	0,080	0,060	0,040	0,100	0,075	0,050	0,110	0,082	0,055
K.1.2	140	1,0	0,040	0,031	0,022	0,054	0,042	0,030	0,070	0,052	0,035	0,080	0,060	0,040	0,100	0,075	0,050	0,110	0,082	0,055
K.2.1	150	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,090	0,067	0,045
K.2.2	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,090	0,067	0,045
K.3.1	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,090	0,067	0,045
K.3.2	140	1,0	0,027	0,021	0,015	0,036	0,028	0,020	0,050	0,037	0,025	0,060	0,045	0,030	0,080	0,060	0,040	0,090	0,067	0,045
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	220	1,0	0,034	0,026	0,019	0,045	0,035	0,025	0,054	0,042	0,030	0,063	0,049	0,035	0,081	0,062	0,045	0,102	0,079	0,057
N.3.2	180	1,0	0,034	0,026	0,019	0,045	0,035	0,025	0,054	0,042	0,030	0,063	0,049	0,035	0,081	0,062	0,045	0,102	0,079	0,057
N.3.3	180	1,0	0,034	0,026	0,019	0,045	0,035	0,025	0,054	0,042	0,030	0,063	0,049	0,035	0,081	0,062	0,045	0,102	0,079	0,057
N.4.1																				
S.1.1	25	0,5	0,013	0,010	0,007	0,018	0,014	0,010	0,022	0,017	0,012	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025
S.1.2	25	0,5	0,013	0,010	0,007	0,018	0,014	0,010	0,022	0,017	0,012	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025
S.2.1	25	0,5	0,013	0,010	0,007	0,018	0,014	0,010	0,022	0,017	0,012	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025
S.2.2	25	0,5	0,013	0,010	0,007	0,018	0,014	0,010	0,022	0,017	0,012	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025
S.2.3	25	0,5	0,013	0,010	0,007	0,018	0,014	0,010	0,022	0,017	0,012	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025
S.3.1	80	0,5	0,027	0,021	0,015	0,036	0,028	0,020	0,045	0,035	0,025	0,054	0,042	0,030	0,072	0,055	0,040	0,090	0,069	0,050
S.3.2	70	0,5	0,020	0,015	0,011	0,027	0,021	0,015	0,032	0,025	0,018	0,040	0,031	0,022	0,054	0,042	0,030	0,072	0,055	0,040
S.3.3																				
H.1.1																				
H.1.2																				
H.1.3																				
H.1.4																				
H.2.1																				
H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – End mills

Index	50 970 ..., 50 971 ..., 50 974 ..., 50 975 ...																● 1st choice ○ Suitable		
	Ø DC (mm) =																		
	12			14			16			18			20						
	a_e 0,1–0,2	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x	a_e 0,6–1,0				
	f_z (mm)																Emulsion	Compressed air	MMS
P.1.1	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.1.2	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.1.3	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.1.4	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.1.5	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.2.1	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.2.2	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.2.3	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.2.4	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.3.1	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.3.2	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.3.3	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	○	○
P.4.1	0,080	0,060	0,040	0,082	0,064	0,045	0,085	0,065	0,050	0,095	0,077	0,060	0,111	0,090	0,070		●		
P.4.2	0,080	0,060	0,040	0,082	0,064	0,045	0,085	0,065	0,050	0,095	0,077	0,060	0,111	0,090	0,070		●		
M.1.1	0,080	0,060	0,040	0,082	0,064	0,045	0,085	0,065	0,050	0,095	0,077	0,060	0,111	0,090	0,070		●		
M.2.1	0,080	0,060	0,040	0,082	0,064	0,045	0,085	0,065	0,050	0,095	0,077	0,060	0,111	0,090	0,070		●		
M.3.1	0,080	0,060	0,040	0,082	0,064	0,045	0,085	0,065	0,050	0,095	0,077	0,060	0,111	0,090	0,070		●		
K.1.1	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	●	●
K.1.2	0,120	0,089	0,060	0,128	0,099	0,070	0,135	0,103	0,080	0,142	0,116	0,090	0,158	0,129	0,100		●	●	●
K.2.1	0,100	0,075	0,050	0,100	0,078	0,055	0,101	0,077	0,060	0,103	0,084	0,065	0,111	0,090	0,070		●	●	●
K.2.2	0,100	0,075	0,050	0,100	0,078	0,055	0,101	0,077	0,060	0,103	0,084	0,065	0,111	0,090	0,070		●	●	●
K.3.1	0,100	0,075	0,050	0,100	0,078	0,055	0,101	0,077	0,060	0,103	0,084	0,065	0,111	0,090	0,070		●	●	●
K.3.2	0,100	0,075	0,050	0,100	0,078	0,055	0,101	0,077	0,060	0,103	0,084	0,065	0,111	0,090	0,070		●	●	●
N.1.1																			
N.1.2																			
N.2.1																			
N.2.2																			
N.2.3																			
N.3.1	0,126	0,097	0,070	0,153	0,118	0,085	0,180	0,139	0,100	0,198	0,153	0,110	0,216	0,166	0,120		●		
N.3.2	0,126	0,097	0,070	0,153	0,118	0,085	0,180	0,139	0,100	0,198	0,153	0,110	0,216	0,166	0,120		●		
N.3.3	0,126	0,097	0,070	0,153	0,118	0,085	0,180	0,139	0,100	0,198	0,153	0,110	0,216	0,166	0,120		●		
N.4.1																			
S.1.1	0,054	0,042	0,030	0,063	0,049	0,035	0,072	0,055	0,040	0,081	0,062	0,045	0,090	0,069	0,050		●		
S.1.2	0,054	0,042	0,030	0,063	0,049	0,035	0,072	0,055	0,040	0,081	0,062	0,045	0,090	0,069	0,050		●		
S.2.1	0,054	0,042	0,030	0,063	0,049	0,035	0,072	0,055	0,040	0,081	0,062	0,045	0,090	0,069	0,050		●		
S.2.2	0,054	0,042	0,030	0,063	0,049	0,035	0,072	0,055	0,040	0,081	0,062	0,045	0,090	0,069	0,050		●		
S.2.3	0,054	0,042	0,030	0,063	0,049	0,035	0,072	0,055	0,040	0,081	0,062	0,045	0,090	0,069	0,050		●		
S.3.1	0,108	0,083	0,060	0,126	0,097	0,070	0,144	0,111	0,080	0,162	0,125	0,090	0,180	0,139	0,100		●		
S.3.2	0,090	0,069	0,050	0,099	0,076	0,055	0,108	0,083	0,060	0,126	0,097	0,070	0,144	0,111	0,080		●		
S.3.3																	●		
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – End mills, roughing-finishing milling cutters, and rough milling cutters

Index	Short version	Long version		50 969 ..., 50 970..., 50 971 ..., 50 972 ..., 50 973 ..., 50 974 ..., 50 975 ..., 50 978 ..., 50 979 ...																	
				Ø DC (mm) =																	
				3,0			3,5–4,0			4,5–5,0			5,5–6,0			7,0–8,0			9,0–10,0		
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)																	
P.1.1	253	230	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.1.2	242	220	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.1.3	242	220	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.1.4	230	210	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.1.5	230	210	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.2.1	242	220	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.2.2	230	210	1,0*	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050
P.2.3	220	200	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.2.4	210	190	1,0*	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050
P.3.1	220	200	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.3.2	210	190	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.3.3	176	160	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
P.4.1	120	110	1,0*	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
P.4.2	100	90	1,0*	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
M.1.1	120	110	1,0*	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
M.2.1	120	110	1,0*	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
M.3.1	120	110	1,0*	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
K.1.1	242	220	1,0*	0,046	0,037	0,023	0,062	0,050	0,031	0,078	0,062	0,039	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080
K.1.2	220	200	1,0*	0,046	0,037	0,023	0,062	0,050	0,031	0,078	0,062	0,039	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080
K.2.1	230	210	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
K.2.2	210	190	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
K.3.1	220	200	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
K.3.2	200	180	1,0*	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1	385	350	1,0*	0,046	0,037	0,023	0,062	0,050	0,031	0,078	0,062	0,039	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080
N.3.2	308	350	1,0*	0,046	0,037	0,023	0,062	0,050	0,031	0,078	0,062	0,039	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080
N.3.3	308	280	1,0*	0,046	0,037	0,023	0,062	0,050	0,031	0,078	0,062	0,039	0,094	0,075	0,047	0,126	0,101	0,063	0,160	0,128	0,080
N.4.1																					
S.1.1	35	30	0,5	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.1.2	35	30	0,5	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.1	35	30	0,5	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.2	35	30	0,5	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.2.3	35	30	0,5	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025
S.3.1	110	90	0,5	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050
S.3.2	70	50	0,5	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	0,066	0,053	0,033
S.3.3																					
H.1.1																					
H.1.2																					
H.1.3																					
H.1.4																					
H.2.1																					
H.3.1																					
O.1.1																					
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

Plunging angle for ramping and helical milling = 3°

* = type long: $a_{p\,max.}$ = 1.5 x DC at f_z x 0.75

Cutting data standard values – SilverLine – End mills, roughing-finishing milling cutters, and rough milling cutters

Index	50 969 ..., 50 970..., 50 971 ..., 50 972 ..., 50 973 ..., 50 974 ..., 50 975 ..., 50 978 ..., 50 979 ...															Emulsion	Compressed air	MMS
	Ø DC (mm) =																	
	11,0–12,0			14,0			15,0–16,0			17,0→18,0			19,0–20,0					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																	
P.1.1	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.1.2	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.1.3	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.1.4	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.1.5	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.2.1	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.2.2	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,160	0,128	0,080	0,170	0,136	0,085	●	○	○
P.2.3	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.2.4	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,160	0,128	0,080	0,170	0,136	0,085	●	○	○
P.3.1	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.3.2	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.3.3	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	○	○
P.4.1	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
P.4.2	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
M.1.1	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
M.2.1	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
M.3.1	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
K.1.1	0,192	0,154	0,096	0,224	0,179	0,112	0,240	0,192	0,120	0,258	0,206	0,129	0,274	0,219	0,137	●	●	●
K.1.2	0,192	0,154	0,096	0,224	0,179	0,112	0,240	0,192	0,120	0,258	0,206	0,129	0,274	0,219	0,137	●	●	●
K.2.1	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	●	●
K.2.2	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	●	●
K.3.1	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	●	●
K.3.2	0,140	0,112	0,070	0,162	0,130	0,081	0,173	0,138	0,087	0,184	0,147	0,092	0,196	0,157	0,098	●	●	●
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	0,192	0,154	0,096	0,224	0,179	0,112	0,240	0,192	0,120	0,258	0,206	0,129	0,274	0,219	0,137	●		
N.3.2	0,192	0,154	0,096	0,224	0,179	0,112	0,240	0,192	0,120	0,258	0,206	0,129	0,274	0,219	0,137	●		
N.3.3	0,192	0,154	0,096	0,224	0,179	0,112	0,240	0,192	0,120	0,258	0,206	0,129	0,274	0,219	0,137	●		
N.4.1																		
S.1.1	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,079	0,063	0,040	0,084	0,067	0,042	●		
S.1.2	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,079	0,063	0,040	0,084	0,067	0,042	●		
S.2.1	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,079	0,063	0,040	0,084	0,067	0,042	●		
S.2.2	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,079	0,063	0,040	0,084	0,067	0,042	●		
S.2.3	0,060	0,048	0,030	0,070	0,056	0,035	0,075	0,060	0,038	0,079	0,063	0,040	0,084	0,067	0,042	●		
S.3.1	0,120	0,096	0,060	0,140	0,112	0,070	0,150	0,120	0,075	0,160	0,128	0,080	0,170	0,136	0,085	●		
S.3.2	0,080	0,064	0,040	0,094	0,075	0,047	0,101	0,081	0,051	0,108	0,086	0,054	0,115	0,092	0,058	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

● 1st choice
○ Suitable

Plunging angle for ramping and helical milling = 3°

* = type long: $a_{p\,max.}$ = 1.5 x DC at f_z x 0.75

Cutting data standard values – SilverLine – High-precision finish milling cutters

Index	Long version	Extra-long version		50 991 ...							● 1st choice ○ Suitable		
				Ø DC (mm) =									
				6	8	10	12	16	20	25			
							a_e 0,05 x DC						
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)							Emulsion	Compressed air	MMS
P.1.1	260	180	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.1.2	250	175	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.1.3	250	175	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.1.4	230	160	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.1.5	230	160	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.2.1	250	175	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.2.2	230	160	2,0	0,023	0,031	0,039	0,047	0,059	0,067	0,077	●		
P.2.3	220	155	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.2.4	210	145	2,0	0,023	0,031	0,039	0,047	0,059	0,067	0,077	●		
P.3.1	220	155	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.3.2	210	145	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.3.3	175	120	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
P.4.1	120	80	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
P.4.2	100	70	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
M.1.1	120	80	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
M.2.1	120	80	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
M.3.1	120	80	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
K.1.1	250	175	2,0	0,035	0,047	0,058	0,070	0,087	0,098	0,112	●		
K.1.2	220	155	2,0	0,035	0,047	0,058	0,070	0,087	0,098	0,112	●		
K.2.1	230	160	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
K.2.2	210	145	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
K.3.1	220	155	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
K.3.2	200	140	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	430	300	2,0	0,035	0,047	0,058	0,070	0,087	0,098	0,112	●		
N.3.2	430	300	2,0	0,035	0,047	0,058	0,070	0,087	0,098	0,112	●		
N.3.3	350	245	2,0	0,035	0,047	0,058	0,070	0,087	0,098	0,112	●		
N.4.1													
S.1.1	40	30	2,0	0,015	0,020	0,025	0,030	0,038	0,042	0,048	●		
S.1.2	40	30	2,0	0,015	0,020	0,025	0,030	0,038	0,042	0,048	●		
S.2.1	40	30	2,0	0,015	0,020	0,025	0,030	0,038	0,042	0,048	●		
S.2.2	40	30	2,0	0,015	0,020	0,025	0,030	0,038	0,042	0,048	●		
S.2.3	40	30	2,0	0,015	0,020	0,025	0,030	0,038	0,042	0,048	●		
S.3.1	200	140	2,0	0,030	0,040	0,050	0,060	0,075	0,085	0,098	●		
S.3.2	125	85	2,0	0,019	0,026	0,033	0,040	0,051	0,058	0,066	●		
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Plunging angle for ramping and helical milling = 1°

Cutting data standard values – SilverLine – High-precision finish milling cutters

Index	3xDC 50323..200		4xDC 50323..400		50 323 ...						● 1st choice ○ Suitable		
					Ø DC (mm) =								
	v_c (m/min)	a_e x DC	v_c (m/min)	a_e x DC	6	8	10	12	16	20	Emulsion	Compressed air	MMS
					f_z (mm)								
P.1.1	**210**	0,04	**200**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.1.2	**200**	0,04	**190**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.1.3	**200**	0,04	**190**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.1.4	**185**	0,04	**175**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.1.5	**185**	0,04	**175**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.2.1	**200**	0,04	**190**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.2.2	**185**	0,04	**175**	0,03	0,023	0,031	0,039	0,047	0,059	0,067	●	●	○
P.2.3	**175**	0,04	**165**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.2.4	**170**	0,04	**160**	0,03	0,023	0,031	0,039	0,047	0,059	0,067	●	●	○
P.3.1	**175**	0,04	**165**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.3.2	**170**	0,04	**160**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
P.3.3	**140**	0,04	**135**	0,03	0,030	0,040	0,050	0,060	0,075	0,085	●		○
P.4.1	**95**	0,025	**65**	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
P.4.2	**80**	0,025	**70**	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
M.1.1	**95**	0,025	**65**	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
M.2.1	**95**	0,025	**65**	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
M.3.1	**95**	0,025	**65**	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
K.1.1	200	0,025	190	0,025	0,035	0,047	0,058	0,070	0,087	0,098	●	●	○
K.1.2	175	0,025	165	0,025	0,035	0,047	0,058	0,070	0,087	0,098	●	●	○
K.2.1	185	0,025	175	0,025	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
K.2.2	170	0,025	160	0,025	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
K.3.1	175	0,025	165	0,025	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
K.3.2	160	0,025	150	0,025	0,030	0,040	0,050	0,060	0,075	0,085	●	●	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	345	0,04	330	0,03	0,035	0,047	0,058	0,070	0,087	0,098	●	○	○
N.3.2	345	0,04	330	0,03	0,035	0,047	0,058	0,070	0,087	0,098	●	○	○
N.3.3	280	0,04	265	0,03	0,035	0,047	0,058	0,070	0,087	0,098	●	○	○
N.4.1													
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1	160	0,025	150	0,025	0,030	0,040	0,050	0,060	0,075	0,085	●		
S.3.2	100	0,025	95	0,025	0,019	0,026	0,033	0,040	0,051	0,058	●		
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting depth is the same as the cutting length

Cutting data standard values – SilverLine – Ball-nosed end mills – 50 990 ... – finish machining

Index	Long version	Extra-long version		50 990 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
					4	5	6	8	10	12	16	20			
				a_e 0,05 x DC											
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)									Emulsion	Compressed air	MMS
P.1.1	195	155	0.08	0.014	0.019	0.025	0.030	0.040	0.050	0.060	0.075	0.085	●	○	○
P.1.2	165	130	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.1.3	165	130	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.1.4	145	115	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.1.5	145	115	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.2.1	165	130	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.2.2	130	105	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.2.3	130	105	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.2.4	100	80	0.08	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.068	0.077	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	90	70	0.08	0.008	0.011	0.014	0.017	0.023	0.029	0.035	0.044	0.050	●		
P.4.2	75	60	0.08	0.008	0.011	0.014	0.017	0.023	0.029	0.035	0.044	0.050	●		
M.1.1	75	60	0.08	0.008	0.011	0.014	0.017	0.023	0.029	0.035	0.044	0.050	●		
M.2.1	90	70	0.08	0.008	0.011	0.014	0.017	0.023	0.029	0.035	0.044	0.050	●		
M.3.1	90	70	0.08	0.008	0.011	0.014	0.017	0.023	0.029	0.035	0.044	0.050	●		
K.1.1	235	190	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
K.1.2	220	175	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
K.2.1	235	190	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
K.2.2	220	175	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
K.3.1	235	190	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
K.3.2	220	175	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	360	290	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
N.3.2	360	290	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
N.3.3	255	205	0.08	0.022	0.028	0.034	0.040	0.053	0.065	0.077	0.096	0.108	●	○	○
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – Ball-nosed end mills – 50 990 ... / 50 953 ... – rough machining

Index	Long version		50 990 ... / 50 953 ...																		
			Ø DC (mm) =																		
			3			4			5			6			8			10		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)																		
P.1.1	130	1.0	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.036	0.031	0.024	0.047	0.040	0.031	0.056	0.049	0.038
P.1.2	110	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.1.3	110	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.1.4	95	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.1.5	95	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.2.1	110	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.2.2	85	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.2.3	85	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.2.4	65	1.0	0.017	0.014	0.011	0.021	0.018	0.014	0.026	0.022	0.017	0.031	0.027	0.021	0.041	0.035	0.027	0.050	0.043	0.033
P.3.1																				
P.3.2																				
P.3.3																				
P.4.1	60	1.0	0.012	0.010	0.008	0.015	0.013	0.010	0.019	0.016	0.013	0.023	0.020	0.015	0.030	0.026	0.020	0.038	0.033	0.025
P.4.2	50	1.0	0.012	0.010	0.008	0.015	0.013	0.010	0.019	0.016	0.013	0.023	0.020	0.015	0.030	0.026	0.020	0.038	0.033	0.025
M.1.1	50	1.0	0.012	0.010	0.008	0.015	0.013	0.010	0.019	0.016	0.013	0.023	0.020	0.015	0.030	0.026	0.020	0.038	0.033	0.025
M.2.1	60	1.0	0.012	0.010	0.008	0.015	0.013	0.010	0.019	0.016	0.013	0.023	0.020	0.015	0.030	0.026	0.020	0.038	0.033	0.025
M.3.1	60	1.0	0.012	0.010	0.008	0.015	0.013	0.010	0.019	0.016	0.013	0.023	0.020	0.015	0.030	0.026	0.020	0.038	0.033	0.025
K.1.1	155	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
K.1.2	145	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
K.2.1	155	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
K.2.2	145	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
K.3.1	155	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
K.3.2	145	1.0	0.033	0.029	0.022	0.042	0.036	0.028	0.050	0.043	0.033	0.059	0.051	0.039	0.075	0.065	0.050	0.092	0.079	0.061
N.1.1																				
N.1.2																				
N.2.1																				
N.2.2																				
N.2.3																				
N.3.1	240	1.0	0.024	0.021	0.016	0.032	0.028	0.022	0.041	0.035	0.027	0.050	0.043	0.033	0.066	0.057	0.044	0.083	0.072	0.055
N.3.2	240	1.0	0.024	0.021	0.016	0.032	0.028	0.022	0.041	0.035	0.027	0.050	0.043	0.033	0.066	0.057	0.044	0.083	0.072	0.055
N.3.3	170	1.0	0.024	0.021	0.016	0.032	0.028	0.022	0.041	0.035	0.027	0.050	0.043	0.033	0.066	0.057	0.044	0.083	0.072	0.055
N.4.1																				
S.1.1																				
S.1.2																				
S.2.1																				
S.2.2																				
S.2.3																				
S.3.1																				
S.3.2																				
S.3.3																				
H.1.1																				
H.1.2																				
H.1.3																				
H.1.4																				
H.2.1																				
H.3.1																				
O.1.1																				
O.1.2																				
O.2.1																				
O.2.2																				
O.3.1																				

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – Ball-nosed end mills – 50 990 ... / 50 953 ... – rough machining

Index	50 990 ... / 50 953 ...									● 1st choice ○ Suitable		
	Ø DC (mm) =											
	12			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)											
P.1.1	0.067	0.058	0.045	0.083	0.072	0.055	0.092	0.080	0.062	●	○	○
P.1.2	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.1.3	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.1.4	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.1.5	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.2.1	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.2.2	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.2.3	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.2.4	0.059	0.051	0.040	0.074	0.064	0.050	0.083	0.072	0.056	●	○	○
P.3.1												
P.3.2												
P.3.3												
P.4.1	0.045	0.039	0.030	0.056	0.049	0.038	0.063	0.055	0.042	●		
P.4.2	0.045	0.039	0.030	0.056	0.049	0.038	0.063	0.055	0.042	●		
M.1.1	0.045	0.039	0.030	0.056	0.049	0.038	0.063	0.055	0.042	●		
M.2.1	0.045	0.039	0.030	0.056	0.049	0.038	0.063	0.055	0.042	●		
M.3.1	0.045	0.039	0.030	0.056	0.049	0.038	0.063	0.055	0.042	●		
K.1.1	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
K.1.2	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
K.2.1	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
K.2.2	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
K.3.1	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
K.3.2	0.108	0.094	0.072	0.133	0.115	0.089	0.150	0.130	0.100	●	○	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	0.099	0.086	0.066	0.125	0.108	0.083	0.141	0.122	0.094	●	○	○
N.3.2	0.099	0.086	0.066	0.125	0.108	0.083	0.141	0.122	0.094	●	○	○
N.3.3	0.099	0.086	0.066	0.125	0.108	0.083	0.141	0.122	0.094	●	○	○
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – Ball-nosed end mills

Index	Short version		Long version		50 963 ...																	
					Ø DC (mm) =																	
					3			4			5			6			7			8		
					a_e x DC																	
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05
					f_z (mm)																	
P.1.1	300	0,08	180	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.1.2	280	0,08	170	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.1.3	225	0,08	135	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.1.4	225	0,08	135	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.1.5	245	0,08	145	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.2.1	280	0,08	170	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.2.2	215	0,08	130	0,06	0,058	0,046	0,029	0,076	0,061	0,038	0,092	0,074	0,046	0,110	0,088	0,055	0,128	0,102	0,064	0,146	0,117	0,073
P.2.3	190	0,08	115	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.2.4	210	0,08	125	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.3.1	210	0,08	125	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
P.3.2	175	0,08	105	0,06	0,058	0,046	0,029	0,076	0,061	0,038	0,092	0,074	0,046	0,110	0,088	0,055	0,128	0,102	0,064	0,146	0,117	0,073
P.3.3	130	0,08	80	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
P.4.1																						
P.4.2																						
M.1.1																						
M.2.1																						
M.3.1																						
K.1.1	330	0,08	200	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
K.1.2	280	0,08	170	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
K.2.1	330	0,08	200	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
K.2.2	280	0,08	170	0,06	0,058	0,046	0,029	0,076	0,061	0,038	0,092	0,074	0,046	0,110	0,088	0,055	0,128	0,102	0,064	0,146	0,117	0,073
K.3.1	330	0,08	200	0,06	0,072	0,058	0,036	0,094	0,075	0,047	0,118	0,094	0,059	0,142	0,114	0,071	0,166	0,133	0,083	0,190	0,152	0,095
K.3.2	280	0,08	170	0,06	0,058	0,046	0,029	0,076	0,061	0,038	0,092	0,074	0,046	0,110	0,088	0,055	0,128	0,102	0,064	0,146	0,117	0,073
N.1.1																						
N.1.2																						
N.2.1																						
N.2.2																						
N.2.3																						
N.3.1																						
N.3.2																						
N.3.3	455	0,08	275	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
N.4.1																						
S.1.1																						
S.1.2																						
S.2.1																						
S.2.2																						
S.2.3																						
S.3.1																						
S.3.2																						
S.3.3																						
H.1.1	100	0,08	60	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
H.1.2	60	0,08	35	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
H.1.3	55	0,08	35	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
H.1.4																						
H.2.1	70	0,08	40	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
H.3.1	100	0,08	60	0,06	0,046	0,037	0,023	0,058	0,046	0,029	0,068	0,054	0,034	0,080	0,064	0,040	0,091	0,073	0,046	0,102	0,082	0,051
O.1.1																						
O.1.2																						
O.2.1																						
O.2.2																						
O.3.1																						

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – Ball-nosed end mills

Index	50 963 ... Ø DC (mm) = 10			12			14			16			20		
	a_e x DC														
	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05	0,01–0,02	0,03–0,04	0,05
	f_z (mm)														
P.1.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.1.2	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.1.3	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.1.4	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.1.5	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.2.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.2.2	0,180	0,144	0,090	0,216	0,173	0,108	0,250	0,200	0,125	0,300	0,240	0,150	0,400	0,320	0,200
P.2.3	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.2.4	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.3.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
P.3.2	0,180	0,144	0,090	0,216	0,173	0,108	0,250	0,200	0,125	0,300	0,240	0,150	0,400	0,320	0,200
P.3.3	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,180	0,144	0,090	0,240	0,192	0,120
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
K.1.2	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
K.2.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
K.2.2	0,180	0,144	0,090	0,216	0,173	0,108	0,250	0,200	0,125	0,300	0,240	0,150	0,400	0,320	0,200
K.3.1	0,238	0,190	0,119	0,286	0,229	0,143	0,334	0,267	0,167	0,400	0,320	0,200	0,500	0,400	0,250
K.3.2	0,180	0,144	0,090	0,216	0,173	0,108	0,250	0,200	0,125	0,300	0,240	0,150	0,400	0,320	0,200
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,180	0,144	0,090	0,240	0,192	0,120
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,179	0,143	0,090	0,200	0,160	0,100
H.1.2	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,179	0,143	0,090	0,200	0,160	0,100
H.1.3	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,179	0,143	0,090	0,200	0,160	0,100
H.1.4															
H.2.1	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,179	0,143	0,090	0,200	0,160	0,100
H.3.1	0,124	0,099	0,062	0,146	0,117	0,073	0,168	0,134	0,084	0,179	0,143	0,090	0,200	0,160	0,100
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

● 1st choice
○ Suitable

Index	Emulsion	Compressed air	MMS
P.1.1	●	○	○
P.1.2	●	○	○
P.1.3	●	○	○
P.1.4	●	○	○
P.1.5	●	○	○
P.2.1	●	○	○
P.2.2	●	○	○
P.2.3	●	○	○
P.2.4	●	○	○
P.3.1	●	○	○
P.3.2	●	○	○
P.3.3	●	○	○
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1	●	○	○
K.1.2	●	○	○
K.2.1	●	○	○
K.2.2	●	○	○
K.3.1	●	○	○
K.3.2	●	○	○
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3	●		
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1		●	
H.1.2		●	
H.1.3		●	
H.1.4			
H.2.1		●	
H.3.1		●	
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – Torus face cutters

Index	Long version	Extra-long version		50 989 ...															● 1st choice ○ Suitable		
				Ø DC (mm) =																	
				6			8			10			12			16					
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,5 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,5 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,5 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,5 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,5 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)																	
P.1.1	240	190	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.1.2	210	170	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.1.3	210	170	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.1.4	190	150	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.1.5	190	150	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.2.1	220	175	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.2.2	200	160	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.2.3	180	145	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.2.4	170	135	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.3.1	170	135	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.3.2	150	120	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.3.3	120	95	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
P.4.1	90	70	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●		
P.4.2	70	55	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●		
M.1.1	90	70	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●		
M.2.1	90	70	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●		
M.3.1	90	70	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●		
K.1.1	250	200	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
K.1.2	230	185	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
K.2.1	200	160	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
K.2.2	180	145	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
K.3.1	220	175	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
K.3.2	210	170	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
N.1.1																					
N.1.2																					
N.2.1																					
N.2.2																					
N.2.3																					
N.3.1																					
N.3.2																					
N.3.3	250	200	0,03	0,360	0,288	0,180	0,460	0,368	0,230	0,560	0,448	0,280	0,660	0,528	0,330	0,814	0,651	0,407	●	○	○
N.4.1																					
S.1.1																					
S.1.2																					
S.2.1																					
S.2.2																					
S.2.3																					
S.3.1																					
S.3.2																					
S.3.3																					
H.1.1	120	95	0,03	0,240	0,192	0,120	0,330	0,264	0,165	0,420	0,336	0,210	0,510	0,408	0,255	0,644	0,515	0,322		●	●
H.1.2	80	65	0,03	0,240	0,192	0,120	0,330	0,264	0,165	0,420	0,336	0,210	0,510	0,408	0,255	0,644	0,515	0,322		●	●
H.1.3																					
H.1.4																					
H.2.1	120	95	0,03	0,240	0,192	0,120	0,330	0,264	0,165	0,420	0,336	0,210	0,510	0,408	0,255	0,644	0,515	0,322		●	●
H.3.1	120	95	0,03	0,240	0,192	0,120	0,330	0,264	0,165	0,420	0,336	0,210	0,510	0,408	0,255	0,644	0,515	0,322		●	●
O.1.1																					
O.1.2																					
O.2.1																					
O.2.2																					
O.3.1																					

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – SilverLine – End mills

Index	v_c (ft/min)	v_c (m/min.)	$a_{p\,max.}$ x DC	50 328 ... / 50 329 ...									
				Ø DC =									
				1/8"	3.175	3/16"	4.7625	1/4" – 5/16"	6,35- 7,94	3/8"	9.525	7/16" – 1/2"	11,1125 – 12,7
				a_e 1,0 x DC									
				f_z									
				inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	750	230	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.1.2	720	220	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.1.3	720	220	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.1.4	690	210	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.1.5	690	210	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.2.1	720	220	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.2.2	690	210	1.0	0.0007	0.01778	0.001	0.0254	0.0016	0.04064	0.002	0.0508	0.0028	0.07112
P.2.3	690	210	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.2.4	620	190	1.0	0.0007	0.01778	0.001	0.0254	0.0016	0.04064	0.002	0.0508	0.0028	0.07112
P.3.1	660	200	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.3.2	620	190	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.3.3	520	160	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
P.4.1	360	110	1.0	0.0005	0.0127	0.0006	0.01524	0.001	0.0254	0.0013	0.03302	0.0019	0.04826
P.4.2	300	90	1.0	0.0005	0.0127	0.0006	0.01524	0.001	0.0254	0.0013	0.03302	0.0019	0.04826
M.1.1	360	110	1.0	0.0005	0.0127	0.0006	0.01524	0.001	0.0254	0.0013	0.03302	0.0019	0.04826
M.2.1	360	110	1.0	0.0005	0.0127	0.0006	0.01524	0.001	0.0254	0.0013	0.03302	0.0019	0.04826
M.3.1	360	110	1.0	0.0005	0.0127	0.0006	0.01524	0.001	0.0254	0.0013	0.03302	0.0019	0.04826
K.1.1	720	220	1.0	0.0012	0.03048	0.0015	0.0381	0.0025	0.0635	0.0031	0.07874	0.0044	0.11176
K.1.2	660	200	1.0	0.0012	0.03048	0.0015	0.0381	0.0025	0.0635	0.0031	0.07874	0.0044	0.11176
K.2.1	690	210	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
K.2.2	620	190	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
K.3.1	660	200	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
K.3.2	590	180	1.0	0.0009	0.02286	0.0012	0.03048	0.0019	0.04826	0.0023	0.05842	0.0032	0.08128
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	1150	350	1.0	0.0012	0.03048	0.0015	0.0381	0.0025	0.0635	0.0031	0.07874	0.0044	0.11176
N.3.2	1150	350	1.0	0.0012	0.03048	0.0015	0.0381	0.0025	0.0635	0.0031	0.07874	0.0044	0.11176
N.3.3	920	280	1.0	0.0012	0.03048	0.0015	0.0381	0.0025	0.0635	0.0031	0.07874	0.0044	0.11176
N.4.1													
S.1.1	98	30	1.0	0.0004	0.01016	0.0005	0.0127	0.0008	0.02032	0.001	0.0254	0.0014	0.03556
S.1.2	98	30	1.0	0.0004	0.01016	0.0005	0.0127	0.0008	0.02032	0.001	0.0254	0.0014	0.03556
S.2.1	98	30	1.0	0.0004	0.01016	0.0005	0.0127	0.0008	0.02032	0.001	0.0254	0.0014	0.03556
S.2.2	98	30	1.0	0.0004	0.01016	0.0005	0.0127	0.0008	0.02032	0.001	0.0254	0.0014	0.03556
S.2.3	98	30	1.0	0.0004	0.01016	0.0005	0.0127	0.0008	0.02032	0.001	0.0254	0.0014	0.03556
S.3.1	300	90	1.0	0.0007	0.01778	0.001	0.0254	0.0016	0.04064	0.002	0.0508	0.0028	0.07112
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting data standard values – SilverLine – End mills

Index	50 328 ... / 50 329 ...						● 1st choice ○ Suitable		
	Ø DC =								
	5/8"	15.875	3/4"	19.05	1"	25.4			
	a_e 1,0 x DC								
	f_z						Emulsion	Compressed air	MMS
	inch	mm	inch	mm	inch	mm			
P.1.1	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.1.2	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.1.3	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.1.4	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.1.5	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.2.1	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.2.2	0.003	0.0762	0.0033	0.08382	0.0039	0.09906	●	○	○
P.2.3	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.2.4	0.003	0.0762	0.0033	0.08382	0.0039	0.09906	●	○	○
P.3.1	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.3.2	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.3.3	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
P.4.1	0.002	0.0508	0.0023	0.05842	0.0026	0.06604	●		
P.4.2	0.002	0.0508	0.0023	0.05842	0.0026	0.06604	●		
M.1.1	0.002	0.0508	0.0023	0.05842	0.0026	0.06604	●		
M.2.1	0.002	0.0508	0.0023	0.05842	0.0026	0.06604	●		
M.3.1	0.002	0.0508	0.0023	0.05842	0.0026	0.06604	●		
K.1.1	0.0047	0.11938	0.0054	0.13716	0.0062	0.15748	●	○	○
K.1.2	0.0047	0.11938	0.0054	0.13716	0.0062	0.15748	●	○	○
K.2.1	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
K.2.2	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
K.3.1	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
K.3.2	0.0034	0.08636	0.0039	0.09906	0.0044	0.11176	●	○	○
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1	0.0047	0.11938	0.0054	0.13716	0.0062	0.15748	●	○	○
N.3.2	0.0047	0.11938	0.0054	0.13716	0.0062	0.15748	●	○	○
N.3.3	0.0047	0.11938	0.0054	0.13716	0.0062	0.15748	●	○	○
N.4.1									
S.1.1	0.0015	0.0381	0.0017	0.04318	0.0019	0.04826	●		
S.1.2	0.0015	0.0381	0.0017	0.04318	0.0019	0.04826	●		
S.2.1	0.0015	0.0381	0.0017	0.04318	0.0019	0.04826	●		
S.2.2	0.0015	0.0381	0.0017	0.04318	0.0019	0.04826	●		
S.2.3	0.0015	0.0381	0.0017	0.04318	0.0019	0.04826	●		
S.3.1	0.003	0.0762	0.0033	0.08382	0.0039	0.09906	●		
S.3.2							●		
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting data standard values – SilverLine – End mills

Index	v_c (ft/min)	v_c (m/min.)	$a_{p\,max.}$ x DC	50 333 ... / 50 334 ...									
				Ø DC =									
				1/8"	3.175	3/16"	4.7625	1/4" – 5/16"	6,35- 7,94	3/8"	9.525	7/16" – 1/2"	11,1125 – 12,7
				a_e 1,0 x DC									
				f_z									
				inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	690	210	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.2	660	200	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.3	660	200	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.4	620	190	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.5	620	190	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.1	660	200	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.2	620	190	1.0	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
P.2.3	590	180	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.4	560	170	1.0	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
P.3.1	590	180	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.3.2	560	170	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.3.3	460	140	1.0	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.4.1	330	100	1.0	0.0005	0.0114	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
P.4.2	260	80	1.0	0.0005	0.0114	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.1.1	330	100	1	0.0005	0.0114	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.2.1	330	100	1	0.0005	0.0114	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.3.1	330	100	1	0.0005	0.0114	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
K.1.1	660	200	1	0.0009	0.0217	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
K.1.2	590	180	1	0.0009	0.0217	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
K.2.1	620	190	1	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.2.2	560	170	1	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.3.1	590	180	1	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.3.2	520	160	1	0.0007	0.0183	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1	180	55	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.1.2	180	55	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.2.1	180	55	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.2.2	180	55	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.2.3	180	55	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.3.1	390	120	1	0.0009	0.0217	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
S.3.2	260	80	1	0.0005	0.0137	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting data standard values – SilverLine – End mills

Index	50 333 ... / 50 334 ...								● 1st choice ○ Suitable		
	Ø DC =										
	5/8"	15.875	3/4"	19.05	1"	25.4	1 1/4"	31,75			
	a_e 1,0 x DC										
	f_z										
	inch	mm	inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
P.1.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.1.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.1.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.1.4	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.1.5	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.2.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.2.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●	○	○
P.2.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.2.4	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●	○	○
P.3.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.3.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.3.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
P.4.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	0.0031	0.0792	●		
P.4.2	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	0.0031	0.0792	●		
M.1.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	0.0031	0.0792	●		
M.2.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	0.0031	0.0792	●		
M.3.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	0.0031	0.0792	●		
K.1.1	0.0034	0.0864	0.0039	0.0991	0.0044	0.1118	0.0053	0.1341	●	○	○
K.1.2	0.0034	0.0864	0.0039	0.0991	0.0044	0.1118	0.0053	0.1341	●	○	○
K.2.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
K.2.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
K.3.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
K.3.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	0.0047	0.1189	●	○	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.1.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.2.1	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.2.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.2.3	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.3.1	0.0034	0.0864	0.0039	0.0991	0.0044	0.1118	0.0053	0.1341	●		
S.3.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	0.0036	0.0914	●		
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting data standard values – SilverLine – End mills

Index	v_c (ft/min)	v_c (m/min.)	$a_{p\,max.}$ x DC	50 361 ..., 50 363 ...							
				Ø DC =							
				1/4"	6,35	5/16"	7,94	3/8"	9.525	1/2"	12,7
				a_e 1,0 x DC							
				f_z							
				inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	690	210	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.2	660	201	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.3	660	201	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.4	620	189	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.1.5	620	189	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.1	660	201	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.2	620	189	0.5	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0020	0.0508
P.2.3	590	180	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.2.4	560	171	0.5	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0020	0.0508
P.3.1	590	180	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.3.2	560	171	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.3.3	460	140	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
P.4.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
P.4.2	260	79	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.1.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.2.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
M.3.1	330	101	0.5	0.0010	0.0254	0.0012	0.0292	0.0013	0.0330	0.0019	0.0483
K.1.1	660	201	0.5	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
K.1.2	590	180	0.5	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
K.2.1	620	189	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.2.2	560	171	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.3.1	590	180	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
K.3.2	520	158	0.5	0.0016	0.0406	0.0018	0.0457	0.0020	0.0508	0.0028	0.0711
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	120	37	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.1.2	120	37	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.2.1	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.2.2	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.2.3	80	24	1.0	0.0010	0.0254	0.0011	0.0279	0.0012	0.0305	0.0018	0.0457
S.3.1	300	91	1.0	0.0019	0.0483	0.0021	0.0533	0.0023	0.0584	0.0032	0.0813
S.3.2	180	55	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
S.3.3	140	43	1.0	0.0012	0.0305	0.0014	0.0343	0.0015	0.0381	0.0022	0.0559
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting data standard values – SilverLine – End mills

Index	50 361 ..., 50 363 ...						● 1st choice ○ Suitable		
	Ø DC =								
	5/8"	15.875	3/4"	19.05	1"	25.4			
	a_e 1,0 x DC								
	inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
P.1.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.1.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.1.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.1.4	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.1.5	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.2.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.2.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●	○	○
P.2.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.2.4	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●	○	○
P.3.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.3.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.3.3	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
P.4.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
P.4.2	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
M.1.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
M.2.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
M.3.1	0.0020	0.0508	0.0023	0.0584	0.0026	0.0660	●		
K.1.1	0.0034	0.0864	0.0039	0.0991	0.0044	0.1118	●	○	○
K.1.2	0.0034	0.0864	0.0039	0.0991	0.0044	0.1118	●	○	○
K.2.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
K.2.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
K.3.1	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
K.3.2	0.0030	0.0762	0.0033	0.0838	0.0039	0.0991	●	○	○
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
S.1.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
S.2.1	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
S.2.2	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
S.2.3	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	●		
S.3.1	0.0034	0.0864	0.0039	0.0991	0.0040	0.1016	●		
S.3.2	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
S.3.3	0.0023	0.0584	0.0026	0.0660	0.0030	0.0762	●		
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting data standard values – SilverLine – Ball-nosed end mills

Index	v_c (ft/min)	v_c (m/min.)	$a_{p\,max.}$ x DC	50 337 ...									
				Ø DC =									
				1/8"	3.175	3/16"	4.7625	1/4"	6,35	5/16"	7,94	3/8"	9.525
				a_e 1,0 x DC									
				f_z									
				inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	430	131	1.0	0.0007	0.0178	0.0008	0.0203	0.0010	0.0254	0.0012	0.0305	0.0015	0.0381
P.1.2	360	110	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.1.3	360	110	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.1.4	310	94	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.1.5	310	94	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.2.1	360	110	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.2.2	280	85	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.2.3	280	85	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.2.4	210	64	1.0	0.0006	0.0152	0.0007	0.0178	0.0009	0.0229	0.0011	0.0279	0.0013	0.0330
P.3.1													
P.3.2													
P.3.3													
P.4.1	200	61	1.0	0.0004	0.0102	0.0005	0.0127	0.0007	0.0165	0.0008	0.0203	0.0010	0.0254
P.4.2	160	49	1.0	0.0004	0.0102	0.0005	0.0127	0.0007	0.0165	0.0008	0.0203	0.0010	0.0254
M.1.1	160	49	1.0	0.0004	0.0102	0.0005	0.0127	0.0007	0.0165	0.0008	0.0203	0.0010	0.0254
M.2.1	200	61	1.0	0.0004	0.0102	0.0005	0.0127	0.0007	0.0165	0.0008	0.0203	0.0010	0.0254
M.3.1	200	61	1.0	0.0004	0.0102	0.0005	0.0127	0.0007	0.0165	0.0008	0.0203	0.0010	0.0254
K.1.1	510	155	1.0	0.0011	0.0279	0.0013	0.0330	0.0017	0.0419	0.0020	0.0508	0.0024	0.0610
K.1.2	480	146	1.0	0.0011	0.0279	0.0013	0.0330	0.0017	0.0419	0.0020	0.0508	0.0024	0.0610
K.2.1	510	155	1.0	0.0008	0.0203	0.0010	0.0254	0.0012	0.0305	0.0014	0.0356	0.0017	0.0432
K.2.2	480	146	1.0	0.0008	0.0203	0.0010	0.0254	0.0012	0.0305	0.0014	0.0356	0.0017	0.0432
K.3.1	510	155	1.0	0.0011	0.0279	0.0013	0.0330	0.0017	0.0419	0.0020	0.0508	0.0024	0.0610
K.3.2	480	146	1.0	0.0011	0.0279	0.0013	0.0330	0.0017	0.0419	0.0020	0.0508	0.0024	0.0610
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	790	241	1.0	0.0008	0.0203	0.0011	0.0279	0.0014	0.0356	0.0017	0.0432	0.0022	0.0559
N.3.2	790	241	1.0	0.0008	0.0203	0.0011	0.0279	0.0014	0.0356	0.0017	0.0432	0.0022	0.0559
N.3.3	560	171	1.0	0.0008	0.0203	0.0011	0.0279	0.0014	0.0356	0.0017	0.0432	0.0022	0.0559
N.4.1													
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting data standard values – SilverLine – Ball-nosed end mills

Index	50 337 ... Ø DC = 7/16"	11,1125	1/2"	12,7	5/8"	15.875	3/4"	19.05	1"	25.4	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	a_e 1,0 x DC												
	f_z												
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm			
P.1.1	0.0018	0.0445	0.0020	0.0508	0.0022	0.0559	0.0024	0.0610	0.0028	0.0711	●	○	○
P.1.2	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.1.3	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.1.4	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.1.5	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.2.1	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.2.2	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.2.3	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.2.4	0.0016	0.0394	0.0018	0.0457	0.0020	0.0508	0.0022	0.0559	0.0025	0.0635	●	○	○
P.3.1													○
P.3.2													○
P.3.3													○
P.4.1	0.0012	0.0305	0.0014	0.0356	0.0016	0.0394	0.0017	0.0432	0.0019	0.0483	●		
P.4.2	0.0012	0.0305	0.0014	0.0356	0.0016	0.0394	0.0017	0.0432	0.0019	0.0483	●		
M.1.1	0.0012	0.0305	0.0014	0.0356	0.0016	0.0394	0.0017	0.0432	0.0019	0.0483	●		
M.2.1	0.0012	0.0305	0.0014	0.0356	0.0016	0.0394	0.0017	0.0432	0.0019	0.0483	●		
M.3.1	0.0012	0.0305	0.0014	0.0356	0.0016	0.0394	0.0017	0.0432	0.0019	0.0483	●		
K.1.1	0.0029	0.0724	0.0033	0.0838	0.0036	0.0914	0.0039	0.0991	0.0045	0.1143	●	○	○
K.1.2	0.0029	0.0724	0.0033	0.0838	0.0036	0.0914	0.0039	0.0991	0.0045	0.1143	●	○	○
K.2.1	0.0020	0.0508	0.0023	0.0584	0.0025	0.0635	0.0027	0.0686	0.0031	0.0787	●	○	○
K.2.2	0.0020	0.0508	0.0023	0.0584	0.0025	0.0635	0.0027	0.0686	0.0031	0.0787	●	○	○
K.3.1	0.0029	0.0724	0.0033	0.0838	0.0036	0.0914	0.0039	0.0991	0.0045	0.1143	●	○	○
K.3.2	0.0029	0.0724	0.0033	0.0838	0.0036	0.0914	0.0039	0.0991	0.0045	0.1143	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	0.0027	0.0673	0.0031	0.0787	0.0034	0.0864	0.0037	0.0940	0.0043	0.1092	●	○	○
N.3.2	0.0027	0.0673	0.0031	0.0787	0.0034	0.0864	0.0037	0.0940	0.0043	0.1092	●	○	○
N.3.3	0.0027	0.0673	0.0031	0.0787	0.0034	0.0864	0.0037	0.0940	0.0043	0.1092	●	○	○
N.4.1													
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting data standard values – SilverLine – End mills

Index	Short/long version		50 314 ..., 50 319 ...															
			Ø DC =															
			1/4"				5/16"				3/8"				1/2"			
			a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC	
	v_c (ft/min)	v_c (m/min.)	f_z															
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	919	280	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
P.1.2	919	280	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.1.3	919	280	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.1.4	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.1.5	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.2.1	919	280	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
P.2.2	919	280	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
P.2.3	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.2.4	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.3.1	722	220	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.3.2	722	220	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.3.3	656	200	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
P.4.1	591	180	0.0037	0.09	0.0026	0.07	0.0043	0.11	0.0032	0.08	0.0055	0.14	0.0039	0.1	0.0062	0.16	0.0044	0.11
P.4.2	525	160	0.0037	0.09	0.0026	0.07	0.0043	0.11	0.0032	0.08	0.0055	0.14	0.0039	0.1	0.0062	0.16	0.0044	0.11
M.1.1	459	140	0.0037	0.09	0.0026	0.07	0.0043	0.11	0.0032	0.08	0.0055	0.14	0.0039	0.1	0.0062	0.16	0.0044	0.11
M.2.1	459	140	0.0037	0.09	0.0026	0.07	0.0043	0.11	0.0032	0.08	0.0055	0.14	0.0039	0.1	0.0062	0.16	0.0044	0.11
M.3.1	459	140	0.0037	0.09	0.0026	0.07	0.0043	0.11	0.0032	0.08	0.0055	0.14	0.0039	0.1	0.0062	0.16	0.0044	0.11
K.1.1	984	300	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
K.1.2	984	300	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
K.2.1	984	300	0.0058	0.15	0.0041	0.10	0.0067	0.17	0.0049	0.12	0.0079	0.2	0.0055	0.14	0.009	0.23	0.0064	0.16
K.2.2	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
K.3.1	853	260	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
K.3.2	656	200	0.0044	0.11	0.0031	0.08	0.0055	0.14	0.004	0.10	0.0067	0.17	0.0047	0.12	0.008	0.20	0.0056	0.14
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	262	80	0.0018	0.05	0.0013	0.03	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.002	0.05	0.0036	0.09	0.0026	0.06
S.1.2	262	80	0.0018	0.05	0.0013	0.03	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.002	0.05	0.0036	0.09	0.0026	0.06
S.2.1	197	60	0.0018	0.05	0.0013	0.03	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.002	0.05	0.0036	0.09	0.0026	0.06
S.2.2	197	60	0.0018	0.05	0.0013	0.03	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.002	0.05	0.0036	0.09	0.0026	0.06
S.2.3																		
S.3.1	459	140	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.0023	0.06	0.0039	0.1	0.0028	0.07	0.0049	0.12	0.0035	0.09
S.3.2	328	100	0.0024	0.06	0.0017	0.04	0.0031	0.08	0.0023	0.06	0.0039	0.1	0.0028	0.07	0.0049	0.12	0.0035	0.09
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – SilverLine – End mills

Index	50 314 ..., 50 319 ...												● 1st choice ○ Suitable		
	Ø DC =														
	5/8"				3/4"				1"						
	a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC				
	f_z														
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
P.1.1	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
P.1.2	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.1.3	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.1.4	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.1.5	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.2.1	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
P.2.2	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
P.2.3	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.2.4	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.3.1	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.3.2	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.3.3	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
P.4.1	0.0075	0.19	0.0053	0.13	0.0083	0.21	0.0059	0.15	0.0099	0.25	0.0075	0.19	●		
P.4.2	0.0075	0.19	0.0053	0.13	0.0083	0.21	0.0059	0.15	0.0099	0.25	0.0075	0.19	●		
M.1.1	0.0075	0.19	0.0053	0.13	0.0083	0.21	0.0059	0.15	0.0099	0.25	0.0075	0.19	●		
M.2.1	0.0075	0.19	0.0053	0.13	0.0083	0.21	0.0059	0.15	0.0099	0.25	0.0075	0.19	●		
M.3.1	0.0075	0.19	0.0053	0.13	0.0083	0.21	0.0059	0.15	0.0099	0.25	0.0075	0.19	●		
K.1.1	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
K.1.2	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
K.2.1	0.0106	0.27	0.0075	0.19	0.0117	0.30	0.0082	0.21	0.0132	0.34	0.0098	0.25	○	●	○
K.2.2	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
K.3.1	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
K.3.2	0.0098	0.25	0.0069	0.18	0.0109	0.28	0.0077	0.20	0.0125	0.32	0.0093	0.24	○	●	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1	0.0045	0.11	0.0032	0.08	0.0051	0.13	0.0036	0.09	0.0067	0.17	0.0052	0.13	●		
S.1.2	0.0045	0.11	0.0032	0.08	0.0051	0.13	0.0036	0.09	0.0067	0.17	0.0052	0.13	●		
S.2.1	0.0045	0.11	0.0032	0.08	0.0051	0.13	0.0036	0.09	0.0067	0.17	0.0052	0.13	●		
S.2.2	0.0045	0.11	0.0032	0.08	0.0051	0.13	0.0036	0.09	0.0067	0.17	0.0052	0.13	●		
S.2.3															
S.3.1	0.0061	0.16	0.0043	0.11	0.007	0.18	0.0049	0.12	0.0085	0.22	0.0065	0.16	●		
S.3.2	0.0061	0.16	0.0043	0.11	0.007	0.18	0.0049	0.12	0.0085	0.22	0.0065	0.16	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – SilverLine – End mills

Index	Extra-long version		50 314 ..., 50 319 ...											
			Ø DC =											
			1/4"				3/8"				1/2"			
			a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC		a_e 0.5 x DC		a_e 1.0 x DC	
			f_z											
	v_c (ft/min)	v_c (m/min.)	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
P.1.1	820	250	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
P.1.2	820	250	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.1.3	820	250	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.1.4	755	230	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.1.5	755	230	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.2.1	820	250	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
P.2.2	820	250	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
P.2.3	755	230	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.2.4	755	230	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.3.1	656	200	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.3.2	656	200	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.3.3	591	180	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
P.4.1	492	150	0.0015	0.04	0.0011	0.03	0.0025	0.06	0.0018	0.045	0.0030	0.08	0.0021	0.05
P.4.2	427	130	0.0015	0.04	0.0011	0.03	0.0025	0.06	0.0018	0.045	0.0030	0.08	0.0021	0.05
M.1.1	361	110	0.0015	0.04	0.0011	0.03	0.0025	0.06	0.0018	0.045	0.0030	0.08	0.0021	0.05
M.2.1	361	110	0.0015	0.04	0.0011	0.03	0.0025	0.06	0.0018	0.045	0.0030	0.08	0.0021	0.05
M.3.1	361	110	0.0015	0.04	0.0011	0.03	0.0025	0.06	0.0018	0.045	0.0030	0.08	0.0021	0.05
K.1.1	853	260	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
K.1.2	853	260	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
K.2.1	853	260	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
K.2.2	755	230	0.0028	0.07	0.0020	0.05	0.0039	0.10	0.0028	0.07	0.0045	0.11	0.0031	0.08
K.3.1	755	230	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
K.3.2	591	180	0.0022	0.06	0.0016	0.04	0.0033	0.08	0.0024	0.06	0.0039	0.10	0.0028	0.07
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1														
N.3.2														
N.3.3														
N.4.1														
S.1.1	230	70	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.1.2	230	70	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.2.1	164	50	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.2.2	164	50	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.2.3														
S.3.1	394	120	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.3.2	295	90	0.0012	0.03	0.0009	0.02	0.0020	0.05	0.0014	0.036	0.0024	0.06	0.0017	0.04
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Cutting data standard values – SilverLine – End mills

Index	50 314 ..., 50 319 ... Ø DC = 5/8" a_e 0.5 x DC f_z inch	mm	5/8" a_e 1.0 x DC inch	mm	3/4" a_e 0.5 x DC inch	mm	3/4" a_e 1.0 x DC inch	mm	1" a_e 0.5 x DC inch	mm	1" a_e 1.0 x DC inch	mm	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
P.1.2	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.1.3	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.1.4	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.1.5	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.2.1	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
P.2.2	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
P.2.3	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.2.4	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.3.1	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.3.2	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.3.3	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
P.4.1	0.0038	0.10	0.0027	0.07	0.0043	0.11	0.0030	0.08	0.0055	0.14	0.0042	0.11	●		
P.4.2	0.0038	0.10	0.0027	0.07	0.0043	0.11	0.0030	0.08	0.0055	0.14	0.0042	0.11	●		
M.1.1	0.0038	0.10	0.0027	0.07	0.0043	0.11	0.0030	0.08	0.0055	0.14	0.0042	0.11	●		
M.2.1	0.0038	0.10	0.0027	0.07	0.0043	0.11	0.0030	0.08	0.0055	0.14	0.0042	0.11	●		
M.3.1	0.0038	0.10	0.0027	0.07	0.0043	0.11	0.0030	0.08	0.0055	0.14	0.0042	0.11	●		
K.1.1	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
K.1.2	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
K.2.1	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
K.2.2	0.0053	0.13	0.0037	0.10	0.0058	0.15	0.0041	0.11	0.0070	0.18	0.0053	0.14	○	●	○
K.3.1	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
K.3.2	0.0047	0.12	0.0033	0.09	0.0053	0.13	0.0037	0.10	0.0065	0.16	0.0049	0.13	○	●	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.1.2	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.2.1	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.2.2	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.2.3															
S.3.1	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.3.2	0.0030	0.07	0.0021	0.05	0.0033	0.08	0.0024	0.06	0.0045	0.11	0.0035	0.09	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – SilverLine – End mills

Index	Short/long version		50 307 ...														● 1st choice ○ Suitable		
			Ø DC =																
			1/4"		5/16"		3/8"		1/2"		5/8"		3/4"		1"				
			a_e 0.5 x DC																
			f_z																
	v_c (ft/min)	v_c (m/min.)	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
P.1.1	919	280	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
P.1.2	919	280	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.1.3	919	280	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.1.4	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.1.5	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.2.1	919	280	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
P.2.2	919	280	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
P.2.3	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.2.4	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.3.1	722	220	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.3.2	722	220	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.3.3	656	200	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
P.4.1	591	180	0.0037	0.09	0.0043	0.11	0.0055	0.14	0.0062	0.16	0.0075	0.19	0.0083	0.21	0.0099	0.25	●		
P.4.2	525	160	0.0037	0.09	0.0043	0.11	0.0055	0.14	0.0062	0.16	0.0075	0.19	0.0083	0.21	0.0099	0.25	●		
M.1.1	459	140	0.0037	0.09	0.0043	0.11	0.0055	0.14	0.0062	0.16	0.0075	0.19	0.0083	0.21	0.0099	0.25	●		
M.2.1	459	140	0.0037	0.09	0.0043	0.11	0.0055	0.14	0.0062	0.16	0.0075	0.19	0.0083	0.21	0.0099	0.25	●		
M.3.1	459	140	0.0037	0.09	0.0043	0.11	0.0055	0.14	0.0062	0.16	0.0075	0.19	0.0083	0.21	0.0099	0.25	●		
K.1.1	984	300	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
K.1.2	984	300	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
K.2.1	984	300	0.0058	0.15	0.0067	0.17	0.0079	0.2	0.009	0.23	0.0106	0.27	0.0117	0.3	0.0132	0.34	○	●	○
K.2.2	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
K.3.1	853	260	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
K.3.2	656	200	0.0044	0.11	0.0055	0.14	0.0067	0.17	0.008	0.2	0.0098	0.25	0.0109	0.28	0.0125	0.32	○	●	○
N.1.1																			
N.1.2																			
N.2.1																			
N.2.2																			
N.2.3																			
N.3.1																			
N.3.2																			
N.3.3																			
N.4.1																			
S.1.1	262	80	0.0018	0.05	0.0024	0.06	0.0031	0.08	0.0036	0.09	0.0045	0.11	0.0051	0.13	0.0067	0.17	●		
S.1.2	262	80	0.0018	0.05	0.0024	0.06	0.0031	0.08	0.0036	0.09	0.0045	0.11	0.0051	0.13	0.0067	0.17	●		
S.2.1	197	60	0.0018	0.05	0.0024	0.06	0.0031	0.08	0.0036	0.09	0.0045	0.11	0.0051	0.13	0.0067	0.17	●		
S.2.2	197	60	0.0018	0.05	0.0024	0.06	0.0031	0.08	0.0036	0.09	0.0045	0.11	0.0051	0.13	0.0067	0.17	●		
S.2.3																			
S.3.1	459	140	0.0024	0.06	0.0031	0.08	0.0039	0.1	0.0049	0.12	0.0061	0.16	0.007	0.18	0.0085	0.22	●		
S.3.2	328	100	0.0024	0.06	0.0031	0.08	0.0039	0.1	0.0049	0.12	0.0061	0.16	0.007	0.18	0.0085	0.22	●		
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Cutting data standard values – SilverLine – End mills

Index	Short/long version		50 307 ...						● 1st choice ○ Suitable		
			Ø DC =								
			5/8"		3/4"		1"				
			a_e 0.5 x DC								
			f_z								
	v_c (ft/min)	v_c (m/min.)	inch	mm	inch	mm	inch	mm	Emulsion	Compressed air	MMS
P.1.1	820	250	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
P.1.2	820	250	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.1.3	820	250	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.1.4	755	230	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.1.5	755	230	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.2.1	820	250	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
P.2.2	820	250	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
P.2.3	755	230	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.2.4	755	230	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.3.1	656	200	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.3.2	656	200	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.3.3	591	180	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
P.4.1	492	150	0.0038	0.10	0.0043	0.11	0.0055	0.14	●		
P.4.2	427	130	0.0038	0.10	0.0043	0.11	0.0055	0.14	●		
M.1.1	361	110	0.0038	0.10	0.0043	0.11	0.0055	0.14	●		
M.2.1	361	110	0.0038	0.10	0.0043	0.11	0.0055	0.14	●		
M.3.1	361	110	0.0038	0.10	0.0043	0.11	0.0055	0.14	●		
K.1.1	853	260	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
K.1.2	853	260	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
K.2.1	853	260	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
K.2.2	755	230	0.0053	0.13	0.0058	0.15	0.0070	0.18	○	●	○
K.3.1	755	230	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
K.3.2	591	180	0.0047	0.12	0.0053	0.13	0.0065	0.16	○	●	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	230	70	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.1.2	230	70	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.2.1	164	50	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.2.2	164	50	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.2.3											
S.3.1	394	120	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.3.2	295	90	0.0030	0.07	0.0033	0.08	0.0045	0.11	●		
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting data standard values – S-Cut UNI – End mill

Index	Short version		Long version		52 515..., 52 516..., 52 517..., 52 520...														
					Ø DC (mm) =														
					3			4			5			6			8		
					a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)														
P.1.1	220	1,0	220	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.1.2	210	1,0	210	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.1.3	210	1,0	210	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.1.4	200	1,0	200	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.1.5	200	1,0	200	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.2.1	210	1,0	210	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.2.2	200	1,0	200	1,5	0,025	0,021	0,015	0,035	0,029	0,020	0,046	0,038	0,027	0,056	0,047	0,033	0,076	0,063	0,044
P.2.3	190	1,0	190	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.2.4	180	1,0	180	1,5	0,025	0,021	0,015	0,035	0,029	0,020	0,046	0,038	0,027	0,056	0,047	0,033	0,076	0,063	0,044
P.3.1	190	1,0	190	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.3.2	180	1,0	180	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.3.3	150	1,0	150	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
P.4.1	100	1,0	100	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
P.4.2	95	1,0	95	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
M.1.1	100	1,0	100	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
M.2.1	90	1,0	90	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
M.3.1	85	1,0	85	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
K.1.1	230	1,0	230	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	1,176	0,980	0,686
K.1.2	210	1,0	210	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	1,176	0,980	0,686
K.2.1	220	1,0	220	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
K.2.2	200	1,0	200	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
K.3.1	210	1,0	210	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
K.3.2	190	1,0	190	1,5	0,034	0,028	0,020	0,043	0,036	0,025	0,055	0,046	0,032	0,065	0,054	0,038	0,088	0,073	0,051
N.1.1																			
N.1.2																			
N.2.1	500	1,0	500	1,5	0,046	0,038	0,027	0,061	0,051	0,036	0,076	0,063	0,044	0,091	0,076	0,053	0,120	0,100	0,070
N.2.2	480	1,0	480	1,5	0,044	0,037	0,026	0,060	0,050	0,035	0,074	0,062	0,043	0,090	0,075	0,053	1,188	0,990	0,693
N.2.3	420	1,0	420	1,5	0,044	0,037	0,026	0,060	0,050	0,035	0,074	0,062	0,043	0,090	0,075	0,053	1,188	0,990	0,693
N.3.1	340	1,0	340	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	1,176	0,980	0,686
N.3.2	340	1,0	340	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	1,176	0,980	0,686
N.3.3	270	1,0	270	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	1,176	0,980	0,686
N.4.1																			
S.1.1	30	1,0	30	1,5	0,013	0,011	0,008	0,018	0,015	0,011	0,023	0,019	0,013	0,028	0,023	0,016	0,037	0,031	0,022
S.1.2	30	1,0	30	1,5	0,013	0,011	0,008	0,018	0,015	0,011	0,023	0,019	0,013	0,028	0,023	0,016	0,037	0,031	0,022
S.2.1	30	1,0	30	1,5	0,013	0,011	0,008	0,018	0,015	0,011	0,023	0,019	0,013	0,028	0,023	0,016	0,037	0,031	0,022
S.2.2	30	1,0	30	1,5	0,013	0,011	0,008	0,018	0,015	0,011	0,023	0,019	0,013	0,028	0,023	0,016	0,037	0,031	0,022
S.2.3	30	1,0	30	1,5	0,013	0,011	0,008	0,018	0,015	0,011	0,023	0,019	0,013	0,028	0,023	0,016	0,037	0,031	0,022
S.3.1	80	1,0	80	1,5	0,025	0,021	0,015	0,035	0,029	0,020	0,046	0,038	0,027	0,056	0,047	0,033	0,076	0,063	0,044
S.3.2	50	1,0	50	1,5	0,016	0,013	0,009	0,022	0,018	0,013	0,029	0,024	0,017	0,035	0,029	0,020	0,049	0,041	0,029
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Plunging angle for ramping and helical milling:

Ø 3 = 2°	Ø 10 = 5°
Ø 4 = 2°	Ø 12 = 8°
Ø 5 = 2,5°	Ø 14 = 8°
Ø 6 = 3°	Ø 16 = 10°
Ø 8 = 4°	Ø 20 = 15°

Cutting data standard values – S-Cut UNI – End mill

Index	52 515..., 52 516..., 52 517..., 52 520...															Emulsion	Compressed air	MMS
	Ø DC (mm) =																	
	10			12			14			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																	
P.1.1	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.1.2	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.1.3	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.1.4	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.1.5	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.2.1	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.2.2	0,095	0,079	0,055	0,114	0,095	0,067	0,120	0,100	0,070	0,130	0,108	0,076	0,144	0,120	0,084	●	●	○
P.2.3	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.2.4	0,095	0,079	0,055	0,114	0,095	0,067	0,120	0,100	0,070	0,130	0,108	0,076	0,144	0,120	0,084	●	●	○
P.3.1	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.3.2	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.3.3	0,109	0,091	0,064	0,132	0,110	0,077	0,144	0,120	0,084	0,154	0,128	0,090	0,168	0,140	0,098	●	●	○
P.4.1	0,062	0,052	0,036	0,076	0,063	0,044	0,084	0,070	0,049	0,096	0,080	0,056	0,108	0,090	0,063	●	○	
P.4.2	0,062	0,052	0,036	0,076	0,063	0,044	0,084	0,070	0,049	0,096	0,080	0,056	0,108	0,090	0,063	●	○	
M.1.1	0,062	0,052	0,036	0,076	0,063	0,044	0,084	0,070	0,049	0,096	0,080	0,056	0,108	0,090	0,063	●	○	
M.2.1	0,062	0,052	0,036	0,076	0,063	0,044	0,084	0,070	0,049	0,096	0,080	0,056	0,108	0,090	0,063	●	○	
M.3.1	0,062	0,052	0,036	0,076	0,063	0,044	0,084	0,070	0,049	0,096	0,080	0,056	0,108	0,090	0,063	●	○	
K.1.1	0,148	0,123	0,086	0,180	0,150	0,105	0,204	0,170	0,119	0,216	0,180	0,126	0,240	0,200	0,140	●	●	●
K.1.2	0,148	0,123	0,086	0,180	0,150	0,105	0,204	0,170	0,119	0,216	0,180	0,126	0,240	0,200	0,140	●	●	●
K.2.1	0,108	0,090	0,063	0,132	0,110	0,077	0,156	0,130	0,091	0,168	0,140	0,098	0,192	0,160	0,112	●	●	●
K.2.2	0,108	0,090	0,063	0,132	0,110	0,077	0,156	0,130	0,091	0,168	0,140	0,098	0,192	0,160	0,112	●	●	●
K.3.1	0,108	0,090	0,063	0,132	0,110	0,077	0,156	0,130	0,091	0,168	0,140	0,098	0,192	0,160	0,112	●	●	●
K.3.2	0,108	0,090	0,063	0,132	0,110	0,077	0,156	0,130	0,091	0,168	0,140	0,098	0,192	0,160	0,112	●	●	●
N.1.1																		
N.1.2																		
N.2.1	0,162	0,135	0,095	0,186	0,155	0,109	0,216	0,180	0,126	0,228	0,190	0,133	0,240	0,200	0,140	●	●	
N.2.2	0,156	0,130	0,091	0,180	0,150	0,105	0,210	0,175	0,123	0,222	0,185	0,130	0,234	0,195	0,137	●	●	
N.2.3	0,156	0,130	0,091	0,180	0,150	0,105	0,210	0,175	0,123	0,222	0,185	0,130	0,234	0,195	0,137	●	●	
N.3.1	0,144	0,120	0,084	0,174	0,145	0,102	0,204	0,170	0,119	0,216	0,180	0,126	0,228	0,190	0,133	●	●	
N.3.2	0,144	0,120	0,084	0,174	0,145	0,102	0,204	0,170	0,119	0,216	0,180	0,126	0,228	0,190	0,133	●	●	
N.3.3	0,144	0,120	0,084	0,174	0,145	0,102	0,204	0,170	0,119	0,216	0,180	0,126	0,228	0,190	0,133	●	●	
N.4.1																		
S.1.1	0,047	0,039	0,027	0,056	0,047	0,033	0,066	0,055	0,039	0,071	0,059	0,041	0,079	0,066	0,046	●		
S.1.2	0,047	0,039	0,027	0,056	0,047	0,033	0,066	0,055	0,039	0,071	0,059	0,041	0,079	0,066	0,046	●		
S.2.1	0,047	0,039	0,027	0,056	0,047	0,033	0,066	0,055	0,039	0,071	0,059	0,041	0,079	0,066	0,046	●		
S.2.2	0,047	0,039	0,027	0,056	0,047	0,033	0,066	0,055	0,039	0,071	0,059	0,041	0,079	0,066	0,046	●		
S.2.3	0,047	0,039	0,027	0,056	0,047	0,033	0,066	0,055	0,039	0,071	0,059	0,041	0,079	0,066	0,046	●		
S.3.1	0,095	0,079	0,055	0,114	0,095	0,067	0,132	0,110	0,077	0,137	0,114	0,080	0,144	0,120	0,084	●		
S.3.2	0,062	0,052	0,036	0,076	0,063	0,044	0,089	0,074	0,052	0,094	0,078	0,055	0,106	0,088	0,062	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

● 1st choice
○ Suitable

Plunging angle for ramping and helical milling:

Ø 3 = 2°	Ø 10 = 5°
Ø 4 = 2°	Ø 12 = 8°
Ø 5 = 2,5°	Ø 14 = 8°
Ø 6 = 3°	Ø 16 = 10°
Ø 8 = 4°	Ø 20 = 15°

Cutting data standard values – S-Cut UNI – End mill

Index	Medium-length version		52 518 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1	210	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.1.2	200	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.1.3	200	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.1.4	190	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.1.5	190	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.2.1	200	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.2.2	190	1,5	0,022	0,018	0,013	0,031	0,026	0,018	0,042	0,035	0,025	0,053	0,044	0,031	0,072	0,060	0,042	
P.2.3	180	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.2.4	170	1,5	0,022	0,018	0,013	0,031	0,026	0,018	0,042	0,035	0,025	0,053	0,044	0,031	0,072	0,060	0,042	
P.3.1	180	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.3.2	170	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.3.3	140	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
P.4.1	95	1,5	0,012	0,010	0,007	0,018	0,015	0,011	0,025	0,021	0,015	0,031	0,026	0,018	0,046	0,038	0,027	
P.4.2	90	1,5	0,012	0,010	0,007	0,018	0,015	0,011	0,025	0,021	0,015	0,031	0,026	0,018	0,046	0,038	0,027	
M.1.1	95	1,5	0,012	0,010	0,007	0,018	0,015	0,011	0,025	0,021	0,015	0,031	0,026	0,018	0,046	0,038	0,027	
M.2.1	85	1,5	0,012	0,010	0,007	0,018	0,015	0,011	0,025	0,021	0,015	0,031	0,026	0,018	0,046	0,038	0,027	
M.3.1	80	1,5	0,012	0,010	0,007	0,018	0,015	0,011	0,025	0,021	0,015	0,031	0,026	0,018	0,046	0,038	0,027	
K.1.1	220	1,5	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	0,114	0,095	0,067	
K.1.2	200	1,5	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	0,114	0,095	0,067	
K.2.1	210	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
K.2.2	190	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
K.3.1	200	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
K.3.2	180	1,5	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	0,084	0,070	0,049	
N.1.1																		
N.1.2																		
N.2.1	480	1,5	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	0,116	0,097	0,068	
N.2.2	460	1,5	0,041	0,034	0,024	0,056	0,047	0,033	0,071	0,059	0,041	0,086	0,072	0,050	0,115	0,096	0,067	
N.2.3	400	1,5	0,041	0,034	0,024	0,056	0,047	0,033	0,071	0,059	0,041	0,086	0,072	0,050	0,115	0,096	0,067	
N.3.1	320	1,5	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	0,114	0,095	0,067	
N.3.2	320	1,5	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	0,114	0,095	0,067	
N.3.3	250	1,5	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	0,114	0,095	0,067	
N.4.1																		
S.1.1	25	1,5	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	0,035	0,029	0,020	
S.1.2	25	1,5	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	0,035	0,029	0,020	
S.2.1	25	1,5	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	0,035	0,029	0,020	
S.2.2	25	1,5	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	0,035	0,029	0,020	
S.2.3	25	1,5	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	0,035	0,029	0,020	
S.3.1	75	1,5	0,023	0,019	0,013	0,032	0,027	0,019	0,043	0,036	0,025	0,054	0,045	0,032	0,073	0,061	0,043	
S.3.2	45	1,5	0,013	0,011	0,008	0,019	0,016	0,011	0,026	0,022	0,015	0,032	0,027	0,019	0,047	0,039	0,027	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling:

Ø 3 = 1°	Ø 10 = 4°
Ø 4 = 1°	Ø 12 = 6°
Ø 5 = 1,5°	Ø 14 = 6°
Ø 6 = 2°	Ø 16 = 8°
Ø 8 = 3°	Ø 20 = 10°

Cutting data standard values – S-Cut UNI – End mill

Index	52 518 ... Ø DC (mm) = 10			12			14			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																	
P.1.1	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.1.2	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.1.3	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.1.4	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.1.5	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.2.1	0,106	0,088	0,062	0,120	0,100	0,070	0,013	0,011	0,008	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.2.2	0,091	0,076	0,053	0,102	0,085	0,060	0,108	0,090	0,063	0,120	0,100	0,070	0,132	0,110	0,077	●	●	○
P.2.3	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.2.4	0,091	0,076	0,053	0,102	0,085	0,060	0,108	0,090	0,063	0,120	0,100	0,070	0,132	0,110	0,077	●	●	○
P.3.1	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.3.2	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.3.3	0,106	0,088	0,062	0,012	0,010	0,007	0,013	0,011	0,008	0,144	0,120	0,084	0,156	0,130	0,091	●	●	○
P.4.1	0,059	0,049	0,034	0,066	0,055	0,039	0,072	0,060	0,042	0,084	0,070	0,049	0,096	0,080	0,056	●	○	
P.4.2	0,059	0,049	0,034	0,066	0,055	0,039	0,072	0,060	0,042	0,084	0,070	0,049	0,096	0,080	0,056	●	○	
M.1.1	0,059	0,049	0,034	0,066	0,055	0,039	0,072	0,060	0,042	0,084	0,070	0,049	0,096	0,080	0,056	●	○	
M.2.1	0,059	0,049	0,034	0,066	0,055	0,039	0,072	0,060	0,042	0,084	0,070	0,049	0,096	0,080	0,056	●	○	
M.3.1	0,059	0,049	0,034	0,066	0,055	0,039	0,072	0,060	0,042	0,084	0,070	0,049	0,096	0,080	0,056	●	○	
K.1.1	0,144	0,120	0,084	0,168	0,140	0,098	0,192	0,160	0,112	0,204	0,170	0,119	0,228	0,190	0,133	●	●	●
K.1.2	0,144	0,120	0,084	0,168	0,140	0,098	0,192	0,160	0,112	0,204	0,170	0,119	0,228	0,190	0,133	●	●	●
K.2.1	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	0,180	0,150	0,105	●	●	●
K.2.2	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	0,180	0,150	0,105	●	●	●
K.3.1	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	0,180	0,150	0,105	●	●	●
K.3.2	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	0,180	0,150	0,105	●	●	●
N.1.1																		
N.1.2																		
N.2.1	0,158	0,132	0,092	0,174	0,145	0,102	0,204	0,170	0,119	0,216	0,180	0,126	0,228	0,190	0,133	●	●	
N.2.2	0,152	0,127	0,089	0,168	0,140	0,098	0,198	0,165	0,116	0,210	0,175	0,123	0,222	0,185	0,130	●	●	
N.2.3	0,152	0,127	0,089	0,017	0,014	0,010	0,198	0,165	0,116	0,210	0,175	0,123	0,222	0,185	0,130	●	●	
N.3.1	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	0,216	0,180	0,126	●	●	
N.3.2	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	0,216	0,180	0,126	●	●	
N.3.3	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	0,216	0,180	0,126	●	●	
N.4.1																		
S.1.1	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	0,077	0,064	0,045	●		
S.1.2	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	0,077	0,064	0,045	●		
S.2.1	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	0,077	0,064	0,045	●		
S.2.2	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	0,077	0,064	0,045	●		
S.2.3	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	0,077	0,064	0,045	●		
S.3.1	0,092	0,077	0,054	0,110	0,092	0,064	0,120	0,100	0,070	0,134	0,112	0,078	0,142	0,118	0,083	●		
S.3.2	0,060	0,050	0,035	0,072	0,060	0,042	0,086	0,072	0,050	0,091	0,076	0,053	0,103	0,086	0,060	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling:

Ø 3 = 1°	Ø 10 = 4°
Ø 4 = 1°	Ø 12 = 6°
Ø 5 = 1,5°	Ø 14 = 6°
Ø 6 = 2°	Ø 16 = 8°
Ø 8 = 3°	Ø 20 = 10°

Cutting data standard values – S-Cut UNI – End mill

Index	Extra-long version		52 519 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1	150	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.1.2	130	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.1.3	125	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.1.4	125	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.1.5	120	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.2.1	130	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.2.2	125	1,0	0,014	0,012	0,008	0,022	0,018	0,013	0,031	0,026	0,018	0,042	0,035	0,025	0,053	0,044	0,031	
P.2.3	115	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.2.4	110	1,0	0,014	0,012	0,008	0,022	0,018	0,013	0,031	0,026	0,018	0,042	0,035	0,025	0,053	0,044	0,031	
P.3.1	130	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.3.2	80	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.3.3	85	1,0	0,022	0,018	0,013	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
P.4.1	90	1,0	0,012	0,010	0,007	0,017	0,014	0,010	0,023	0,019	0,013	0,029	0,024	0,017	0,037	0,031	0,022	
P.4.2	85	1,0	0,012	0,010	0,007	0,017	0,014	0,010	0,023	0,019	0,013	0,029	0,024	0,017	0,037	0,031	0,022	
M.1.1	80	1,0	0,012	0,010	0,007	0,017	0,014	0,010	0,023	0,019	0,013	0,029	0,024	0,017	0,037	0,031	0,022	
M.2.1	75	1,0	0,012	0,010	0,007	0,017	0,014	0,010	0,023	0,019	0,013	0,029	0,024	0,017	0,037	0,031	0,022	
M.3.1	70	1,0	0,012	0,010	0,007	0,017	0,014	0,010	0,023	0,019	0,013	0,029	0,024	0,017	0,037	0,031	0,022	
K.1.1	140	1,0	0,032	0,027	0,019	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	
K.1.2	130	1,0	0,032	0,027	0,019	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	
K.2.1	140	1,0	0,025	0,021	0,015	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
K.2.2	130	1,0	0,025	0,021	0,015	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
K.3.1	135	1,0	0,025	0,021	0,015	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
K.3.2	125	1,0	0,025	0,021	0,015	0,030	0,025	0,018	0,040	0,033	0,023	0,052	0,043	0,030	0,061	0,051	0,036	
N.1.1																		
N.1.2																		
N.2.1	350	1,0	0,035	0,029	0,020	0,042	0,035	0,025	0,058	0,048	0,034	0,072	0,060	0,042	0,088	0,073	0,051	
N.2.2	340	1,0	0,034	0,028	0,020	0,041	0,034	0,024	0,056	0,047	0,033	0,071	0,059	0,041	0,086	0,072	0,050	
N.2.3	300	1,0	0,034	0,028	0,020	0,041	0,034	0,024	0,056	0,047	0,033	0,071	0,059	0,041	0,086	0,072	0,050	
N.3.1	230	1,0	0,031	0,026	0,018	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	
N.3.2	240	1,0	0,031	0,026	0,018	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	
N.3.3	190	1,0	0,031	0,026	0,018	0,038	0,032	0,022	0,054	0,045	0,032	0,068	0,057	0,040	0,084	0,070	0,049	
N.4.1																		
S.1.1	25	1,0	0,008	0,007	0,005	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	
S.1.2	25	1,0	0,008	0,007	0,005	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	
S.2.1	25	1,0	0,008	0,007	0,005	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	
S.2.2	25	1,0	0,008	0,007	0,005	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	
S.2.3	25	1,0	0,008	0,007	0,005	0,011	0,009	0,006	0,016	0,013	0,009	0,020	0,017	0,012	0,025	0,021	0,015	
S.3.1	75	1,0	0,002	0,002	0,001	0,023	0,019	0,013	0,032	0,027	0,019	0,043	0,036	0,025	0,054	0,045	0,032	
S.3.2	45	1,0	0,011	0,009	0,006	0,013	0,011	0,008	0,019	0,016	0,011	0,026	0,022	0,015	0,032	0,027	0,019	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling:

Ø 3 = 1°	Ø 10 = 4°
Ø 4 = 1°	Ø 12 = 6°
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Ø 8 = 3°	Ø 20 = 10°

Cutting data standard values – S-Cut UNI – End mill

Index	52 519 ...																● 1st choice ○ Suitable		
	Ø DC (mm) =																		
	10			12			14			16			20						
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																		
P.1.1	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.1.2	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.1.3	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.1.4	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.1.5	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.2.1	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,013	0,011	0,008	0,144	0,120	0,084	●	●	○
P.2.2	0,072	0,060	0,042	0,091	0,076	0,053	0,102	0,085	0,060	0,108	0,090	0,063	0,120	0,100	0,070	●	●	○
P.2.3	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.2.4	0,072	0,060	0,042	0,091	0,076	0,053	0,102	0,085	0,060	0,108	0,090	0,063	0,120	0,100	0,070	●	●	○
P.3.1	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.3.2	0,084	0,070	0,049	0,106	0,088	0,062	0,120	0,100	0,070	0,132	0,110	0,077	0,144	0,120	0,084	●	●	○
P.3.3	0,084	0,070	0,049	0,106	0,088	0,062	0,012	0,010	0,007	0,013	0,011	0,008	0,144	0,120	0,084	●	●	○
P.4.1	0,048	0,040	0,028	0,062	0,052	0,036	0,072	0,060	0,042	0,086	0,072	0,050	0,100	0,083	0,058	●	○	
P.4.2	0,048	0,040	0,028	0,062	0,052	0,036	0,072	0,060	0,042	0,086	0,072	0,050	0,100	0,083	0,058	●	○	
M.1.1	0,048	0,040	0,028	0,062	0,052	0,036	0,072	0,060	0,042	0,086	0,072	0,050	0,100	0,083	0,058	●	○	
M.2.1	0,048	0,040	0,028	0,062	0,052	0,036	0,072	0,060	0,042	0,086	0,072	0,050	0,100	0,083	0,058	●	○	
M.3.1	0,048	0,040	0,028	0,062	0,052	0,036	0,072	0,060	0,042	0,086	0,072	0,050	0,100	0,083	0,058	●	○	
K.1.1	0,114	0,095	0,067	0,144	0,120	0,084	0,168	0,140	0,098	0,192	0,160	0,112	0,204	0,170	0,119	●	●	●
K.1.2	0,114	0,095	0,067	0,144	0,120	0,084	0,168	0,140	0,098	0,192	0,160	0,112	0,204	0,170	0,119	●	●	●
K.2.1	0,084	0,070	0,049	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	●	●	●
K.2.2	0,084	0,070	0,049	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	●	●	●
K.3.1	0,084	0,070	0,049	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	●	●	●
K.3.2	0,084	0,070	0,049	0,104	0,087	0,061	0,120	0,100	0,070	0,144	0,120	0,084	0,156	0,130	0,091	●	●	●
N.1.1																		
N.1.2																		
N.2.1	0,116	0,097	0,068	0,158	0,132	0,092	0,174	0,145	0,102	0,204	0,170	0,119	0,216	0,180	0,126	●	●	
N.2.2	0,115	0,096	0,067	0,152	0,127	0,089	0,168	0,140	0,098	0,198	0,165	0,116	0,210	0,175	0,123	●	●	
N.2.3	0,115	0,096	0,067	0,152	0,127	0,089	0,017	0,014	0,010	0,198	0,165	0,116	0,210	0,175	0,123	●	●	
N.3.1	0,114	0,095	0,067	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	●	●	
N.3.2	0,114	0,095	0,067	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	●	●	
N.3.3	0,114	0,095	0,067	0,140	0,117	0,082	0,162	0,135	0,095	0,192	0,160	0,112	0,204	0,170	0,119	●	●	
N.4.1																		
S.1.1	0,035	0,029	0,020	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	●		
S.1.2	0,035	0,029	0,020	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	●		
S.2.1	0,035	0,029	0,020	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	●		
S.2.2	0,035	0,029	0,020	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	●		
S.2.3	0,035	0,029	0,020	0,044	0,037	0,026	0,054	0,045	0,032	0,064	0,053	0,037	0,068	0,057	0,040	●		
S.3.1	0,073	0,061	0,043	0,092	0,077	0,054	0,110	0,092	0,064	0,120	0,100	0,070	0,134	0,112	0,078	●		
S.3.2	0,047	0,039	0,027	0,060	0,050	0,035	0,072	0,060	0,042	0,086	0,072	0,050	0,091	0,076	0,053	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling:

Ø 3 = 1°	Ø 10 = 4°
Ø 4 = 1°	Ø 12 = 6°
Ø 5 = 1,5°	Ø 14 = 6°
Ø 6 = 2°	Ø 16 = 8°
Ø 8 = 3°	Ø 20 = 10°

Cutting data standard values – S-Cut UNI – End mill – Trochoidal machining

Index	Long version		52 521 ...															
			Ø DC (mm) =															
			6				8				10				12			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1	300	45°	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
P.1.2	300	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.1.3	290	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.1.4	280	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.1.5	250	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.2.1	280	45°	1,13	0,90	0,68	0,285	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
P.2.2	270	45°	1,13	0,90	0,68	0,285	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
P.2.3	240	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.2.4	210	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.3.1	230	45°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.3.2	210	40°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.3.3	190	40°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
P.4.1	180	40°	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032
P.4.2	170	40°	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032
M.1.1	160	40°	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032
M.2.1	160	40°	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032
M.3.1	150	40°	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032
K.1.1	300	50°	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
K.1.2	300	50°	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
K.2.1	300	50°	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047
K.2.2	270	50°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
K.3.1	260	50°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
K.3.2	200	50°	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
N.1.1																		
N.1.2																		
N.2.1	420	55°	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	0,15	0,12	0,09	0,038	0,18	0,14	0,11	0,044
N.2.2	320	55°	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	0,15	0,12	0,09	0,038	0,18	0,14	0,11	0,044
N.2.3	250	55°	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	0,16	0,13	0,10	0,041
N.3.1	300	50°	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,15	0,12	0,09	0,038
N.3.2	190	50°	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,15	0,12	0,09	0,038
N.3.3	270	50°	0,09	0,07	0,05	0,022	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,14	0,11	0,08	0,035
N.4.1																		
S.1.1	90	35°	0,04	0,03	0,02	0,009	0,05	0,04	0,03	0,013	0,06	0,05	0,04	0,016	0,08	0,06	0,05	0,019
S.1.2	90	35°	0,04	0,03	0,02	0,009	0,05	0,04	0,03	0,013	0,06	0,05	0,04	0,016	0,08	0,06	0,05	0,019
S.2.1	70	35°	0,04	0,03	0,02	0,009	0,05	0,04	0,03	0,013	0,06	0,05	0,04	0,016	0,08	0,06	0,05	0,019
S.2.2	70	35°	0,04	0,03	0,02	0,009	0,05	0,04	0,03	0,013	0,06	0,05	0,04	0,016	0,08	0,06	0,05	0,019
S.2.3																		
S.3.1	135	35°	0,04	0,04	0,03	0,011	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028
S.3.2	105	35°	0,05	0,04	0,03	0,013	0,08	0,06	0,05	0,019	0,09	0,07	0,05	0,022	0,11	0,09	0,07	0,028
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting depth is the same as the cutting length

Cutting data standard values – S-Cut UNI – End mill – Trochoidal machining

Index	52 521 ... Ø DC (mm) = 14				16				18				20				● 1st choice ○ Suitable		
	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	h_m	Emulsion	Compressed air	MMS
	f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
P.1.2	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.1.3	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.1.4	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.1.5	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.2.1	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
P.2.2	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
P.2.3	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.2.4	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.3.1	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.3.2	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.3.3	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	○	●	○
P.4.1	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	0,16	0,13	0,10	0,041	0,18	0,14	0,11	0,044	●		
P.4.2	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	0,16	0,13	0,10	0,041	0,18	0,14	0,11	0,044	●		
M.1.1	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	0,16	0,13	0,10	0,041	0,18	0,14	0,11	0,044	●		
M.2.1	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	0,16	0,13	0,10	0,041	0,18	0,14	0,11	0,044	●		
M.3.1	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	0,16	0,13	0,10	0,041	0,18	0,14	0,11	0,044	●		
K.1.1	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
K.1.2	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
K.2.1	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	0,25	0,20	0,15	0,063	○	●	○
K.2.2	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	○	●	○
K.3.1	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	○	●	○
K.3.2	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,23	0,18	0,14	0,057	0,24	0,19	0,14	0,060	○	●	○
N.1.1																			
N.1.2																			
N.2.1	0,20	0,16	0,12	0,051	0,23	0,18	0,14	0,057	0,25	0,20	0,15	0,063	0,28	0,22	0,17	0,070	●	●	
N.2.2	0,20	0,16	0,12	0,051	0,23	0,18	0,14	0,057	0,25	0,20	0,15	0,063	0,28	0,22	0,17	0,070	●	●	
N.2.3	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	0,26	0,21	0,16	0,066	●	●	
N.3.1	0,18	0,14	0,11	0,044	0,20	0,16	0,12	0,051	0,23	0,18	0,14	0,057	0,25	0,20	0,15	0,063	●	●	
N.3.2	0,18	0,14	0,11	0,044	0,20	0,16	0,12	0,051	0,23	0,18	0,14	0,057	0,25	0,20	0,15	0,063	●	●	
N.3.3	0,16	0,13	0,10	0,041	0,19	0,15	0,11	0,047	0,21	0,17	0,13	0,054	0,24	0,19	0,14	0,060	●	●	
N.4.1																			
S.1.1	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	●		
S.1.2	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	●		
S.2.1	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	●		
S.2.2	0,10	0,08	0,06	0,025	0,11	0,09	0,07	0,028	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	●		
S.2.3																			
S.3.1	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	●		
S.3.2	0,13	0,10	0,08	0,032	0,14	0,11	0,08	0,035	0,15	0,12	0,09	0,038	0,15	0,12	0,09	0,038	●		
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1																			
O.1.2																			
O.2.1																			
O.2.2																			
O.3.1																			

Cutting depth is the same as the cutting length

Cutting data standard values – S-Cut UNImax – End mills

Index	Long version		52 522 ..., 52 523 ...															
			Ø DC (mm) =															
			3		4		5		6		8		10		12		14	
			a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1	210	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.1.2	200	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.1.3	200	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.1.4	190	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.1.5	190	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.2.1	200	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.2.2	190	2.0	0.020	0.014	0.027	0.019	0.034	0.025	0.042	0.030	0.056	0.040	0.070	0.050	0.084	0.060	0.098	0.070
P.2.3	180	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.2.4	170	2.0	0.020	0.014	0.027	0.019	0.034	0.025	0.042	0.030	0.056	0.040	0.070	0.050	0.084	0.060	0.098	0.070
P.3.1	180	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.3.2	170	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.3.3	140	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
P.4.1	95	1.5	0.012	0.009	0.017	0.012	0.022	0.016	0.027	0.019	0.036	0.026	0.046	0.033	0.056	0.040	0.066	0.047
P.4.2	85	1.5	0.012	0.009	0.017	0.012	0.022	0.016	0.027	0.019	0.036	0.026	0.046	0.033	0.056	0.040	0.066	0.047
M.1.1	95	1.5	0.012	0.009	0.017	0.012	0.022	0.016	0.027	0.019	0.036	0.026	0.046	0.033	0.056	0.040	0.066	0.047
M.2.1	95	1.5	0.012	0.009	0.017	0.012	0.022	0.016	0.027	0.019	0.036	0.026	0.046	0.033	0.056	0.040	0.066	0.047
M.3.1	95	1.5	0.012	0.009	0.017	0.012	0.022	0.016	0.027	0.019	0.036	0.026	0.046	0.033	0.056	0.040	0.066	0.047
K.1.1	200	2.0	0.031	0.022	0.039	0.028	0.048	0.034	0.056	0.040	0.074	0.053	0.091	0.065	0.108	0.077	0.126	0.090
K.1.2	180	2.0	0.031	0.022	0.039	0.028	0.048	0.034	0.056	0.040	0.074	0.053	0.091	0.065	0.108	0.077	0.126	0.090
K.2.1	190	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
K.2.2	170	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
K.3.1	180	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
K.3.2	160	2.0	0.026	0.019	0.034	0.024	0.042	0.030	0.049	0.035	0.066	0.047	0.081	0.058	0.098	0.070	0.113	0.081
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	350	2.0	0.031	0.022	0.039	0.028	0.048	0.034	0.056	0.040	0.074	0.053	0.091	0.065	0.108	0.077	0.126	0.090
N.3.2	350	2.0	0.031	0.022	0.039	0.028	0.048	0.034	0.056	0.040	0.074	0.053	0.091	0.065	0.108	0.077	0.126	0.090
N.3.3	280	2.0	0.031	0.022	0.039	0.028	0.048	0.034	0.056	0.040	0.074	0.053	0.091	0.065	0.108	0.077	0.126	0.090
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Profiling with an a_e < 0.3xDC only possible under certain conditions.

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – S-Cut UNImax – End mills

Index	52 522 ..., 52 523 ...						● 1st choice ○ Suitable		
	Ø DC (mm) =								
	16		18		20				
	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)								
P.1.1	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.1.2	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.1.3	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.1.4	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.1.5	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.2.1	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.2.2	0.105	0.075	0.112	0.080	0.119	0.085	●	○	○
P.2.3	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.2.4	0.105	0.075	0.112	0.080	0.119	0.085	●	○	○
P.3.1	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.3.2	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.3.3	0.121	0.087	0.129	0.092	0.137	0.098	●	○	○
P.4.1	0.071	0.051	0.076	0.054	0.081	0.058	●		
P.4.2	0.071	0.051	0.076	0.054	0.081	0.058	●		
M.1.1	0.071	0.051	0.076	0.054	0.081	0.058	●		
M.2.1	0.071	0.051	0.076	0.054	0.081	0.058	●		
M.3.1	0.071	0.051	0.076	0.054	0.081	0.058	●		
K.1.1	0.134	0.096	0.143	0.102	0.151	0.108	●	●	●
K.1.2	0.134	0.096	0.143	0.102	0.151	0.108	●	●	●
K.2.1	0.121	0.087	0.129	0.092	0.137	0.098	●	●	●
K.2.2	0.121	0.087	0.129	0.092	0.137	0.098	●	●	●
K.3.1	0.121	0.087	0.129	0.092	0.137	0.098	●	●	●
K.3.2	0.121	0.087	0.129	0.092	0.137	0.098	●	●	●
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1	0.134	0.096	0.143	0.102	0.151	0.108	●	○	○
N.3.2	0.134	0.096	0.143	0.102	0.151	0.108	●	○	○
N.3.3	0.134	0.096	0.143	0.102	0.151	0.108	●	○	○
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Profiling with an a_e < 0.3xDC only possible under certain conditions.

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – 3D Finish – Barrel shape

Index	v_c (m/min)	52 739 ... Ø DC (mm) = 10 a_e 0,05–0,10 f_z (mm)	52 739 ... Ø DC (mm) = 10 a_e 0,10–0,20 f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	280	0,07	0,06	●	●	○
P.1.2	250	0,07	0,05	●	●	○
P.1.3	250	0,07	0,05	●	●	○
P.1.4	250	0,07	0,05	●	●	○
P.1.5	250	0,07	0,05	●	●	○
P.2.1	250	0,07	0,05	●	●	○
P.2.2	250	0,07	0,05	●	●	○
P.2.3	210	0,06	0,04	●	●	○
P.2.4	210	0,06	0,04	●	●	○
P.3.1	210	0,06	0,04	●	●	○
P.3.2	200	0,05	0,03		●	
P.3.3	200	0,05	0,03		●	
P.4.1	80	0,05	0,03	●		○
P.4.2	80	0,05	0,03	●		○
M.1.1	60	0,04	0,02	●		○
M.2.1	60	0,04	0,02	●		○
M.3.1	60	0,04	0,02	●		○
K.1.1	280	0,08	0,06		●	
K.1.2	280	0,08	0,06		●	
K.2.1	250	0,07	0,05		●	
K.2.2	250	0,07	0,05		●	
K.3.1	140	0,04	0,03		●	
K.3.2	140	0,04	0,03		●	
N.1.1	600	0,07	0,05	●		○
N.1.2	600	0,06	0,04	●		○
N.2.1	410	0,07	0,05	●		○
N.2.2						
N.2.3						
N.3.1	180	0,08	0,06	●	○	○
N.3.2	180	0,08	0,06	●		○
N.3.3	180	0,08	0,06	●		○
N.4.1	410	0,10	0,08	●		○
S.1.1	30	0,04	0,02	●		
S.1.2	30	0,04	0,02	●		
S.2.1	30	0,04	0,02	●		
S.2.2	30	0,04	0,02	●		
S.2.3	30	0,04	0,02	●		
S.3.1	100	0,04	0,02	●		
S.3.2	80	0,04	0,02	●		
S.3.3	60	0,04	0,02	●		
H.1.1	100	0,05	0,03		●	
H.1.2						
H.1.3						
H.1.4						
H.2.1	130	0,05	0,03		●	
H.3.1	100	0,05	0,03		●	
O.1.1	410	0,10	0,08	●	○	○
O.1.2	600	0,10	0,08	●		○
O.2.1						
O.2.2						
O.3.1						

The diameter DC must be used to calculate the speed n.

Cutting data standard values – 3D Finish – Oval shape

Index	v_c (m/min)	52 745 ...																● 1st choice ○ Suitable		
		Ø DC (mm) =																		
		6			8			10			12			16						
		a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,2–0,3	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,2–0,3	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,2–0,3	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,2–0,3	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,2–0,3	Emulsion	Compressed air	MMS
		f_z (mm)																		
P.1.1	280	0,04	0,04	0,04	0,06	0,06	0,05	0,07	0,07	0,06	0,08	0,08	0,07	0,11	0,11	0,10	●	●	○
P.1.2	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.1.3	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.1.4	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.1.5	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.2.1	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.2.2	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●	●	○
P.2.3	210	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,10	0,08	0,06	●	●	○
P.2.4	210	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,10	0,08	0,06	●	●	○
P.3.1	210	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,10	0,08	0,06	●	●	○
P.3.2	200	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05		●	
P.3.3	200	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05		●	
P.4.1	80	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05	●		○
P.4.2	80	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05	●		○
M.1.1	60	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		○
M.2.1	60	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		○
M.3.1	60	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		○
K.1.1	280	0,05	0,04	0,04	0,06	0,06	0,05	0,08	0,07	0,06	0,10	0,08	0,07	0,13	0,11	0,10		●	
K.1.2	280	0,05	0,04	0,04	0,06	0,06	0,05	0,08	0,07	0,06	0,10	0,08	0,07	0,13	0,11	0,10		●	
K.2.1	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08		●	
K.2.2	250	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08		●	
K.3.1	140	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03		●	
K.3.2	140	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03		●	
N.1.1	600	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●		○
N.1.2	600	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,10	0,08	0,06	●		○
N.2.1	410	0,04	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,08	0,07	0,06	0,11	0,10	0,08	●		○
N.2.2																			
N.2.3																			
N.3.1	180	0,05	0,04	0,04	0,06	0,06	0,05	0,08	0,07	0,06	0,10	0,08	0,07	0,13	0,11	0,10	●	○	○
N.3.2	180	0,05	0,04	0,04	0,06	0,06	0,05	0,08	0,07	0,06	0,10	0,08	0,07	0,13	0,11	0,10	●		○
N.3.3	180	0,05	0,04	0,04	0,06	0,06	0,05	0,08	0,07	0,06	0,10	0,08	0,07	0,13	0,11	0,10	●		○
N.4.1	410	0,06	0,05	0,05	0,08	0,06	0,06	0,10	0,08	0,08	0,12	0,10	0,10	0,16	0,13	0,13	●		○
S.1.1	30	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		
S.1.2	30	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		
S.2.1	30	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		
S.2.2	30	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		
S.2.3	30	0,02	0,02	0,01	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,05	0,03	●		
S.3.1	100	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,07	0,06	0,05	0,10	0,08	0,06	●		
S.3.2	80	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05	●		
S.3.3	60	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05	●		
H.1.1	100	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05		●	
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1	130	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05		●	
H.3.1	100	0,03	0,02	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,04	0,08	0,06	0,05		●	
O.1.1	410	0,06	0,05	0,05	0,08	0,06	0,06	0,10	0,08	0,08	0,12	0,10	0,10	0,16	0,13	0,13	●	○	○
O.1.2	600	0,06	0,05	0,05	0,08	0,06	0,06	0,10	0,08	0,08	0,12	0,10	0,10	0,16	0,13	0,13	●		○
O.2.1																			
O.2.2																			
O.3.1																			

The diameter DC must be used to calculate the speed n.

Cutting data standard values – 3D Finish – Taper shape

Index	v_c (m/min)	52 753 ..., 52 755 ...										● 1st choice ○ Suitable		
		Ø DC (mm) =												
		6		8		10		12		16		Emulsion	Compressed air	MMS
		a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,05–0,10	a_e 0,1–0,2	a_e 0,05–0,10	a_e 0,1–0,2			
		f_z (mm)												
P.1.1	280	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.1.2	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.1.3	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.1.4	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.1.5	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.2.1	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.2.2	250	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●	●	○
P.2.3	210	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,08	0,05	●	●	○
P.2.4	210	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,08	0,05	●	●	○
P.3.1	210	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,08	0,05	●	●	○
P.3.2	200	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05		●	
P.3.3	200	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05		●	
P.4.1	80	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	●		○
P.4.2	80	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	●		○
M.1.1	60	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		○
M.2.1	60	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		○
M.3.1	60	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		○
K.1.1	280	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,11	0,08		●	
K.1.2	280	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,11	0,08		●	
K.2.1	250	0,04	0,03	0,05	0,04	0,06	0,05	0,07	0,06	0,10	0,08		●	
K.2.2	250	0,04	0,03	0,05	0,04	0,06	0,05	0,07	0,06	0,10	0,08		●	
K.3.1	140	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03		●	
K.3.2	140	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03		●	
N.1.1	600	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●		○
N.1.2	600	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05	0,08	0,06	●		○
N.2.1	410	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	0,10	0,06	●		○
N.2.2														
N.2.3														
N.3.1	180	0,04	0,03	0,05	0,04	0,06	0,05	0,07	0,06	0,10	0,08	●	○	○
N.3.2	180	0,04	0,03	0,05	0,04	0,06	0,05	0,07	0,06	0,10	0,08	●		○
N.3.3	180	0,04	0,03	0,05	0,04	0,06	0,05	0,07	0,06	0,10	0,08	●		○
N.4.1	410	0,06	0,05	0,08	0,06	0,10	0,08	0,12	0,10	0,16	0,13	●		○
S.1.1	30	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.1.2	30	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.2.1	30	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.2.2	30	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.2.3	30	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.3.1	100	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.3.2	80	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
S.3.3	60	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,02	0,05	0,03	●		
H.1.1	100	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05		●	
H.1.2														
H.1.3														
H.1.4														
H.2.1	130	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05		●	
H.3.1	100	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04	0,06	0,05		●	
O.1.1	410	0,06	0,05	0,08	0,06	0,10	0,08	0,12	0,10	0,16	0,13	●	○	○
O.1.2	600	0,06	0,05	0,08	0,06	0,10	0,08	0,12	0,10	0,16	0,13	●		○
O.2.1														
O.2.2														
O.3.1														

The diameter DC must be used to calculate the speed n.

Cutting data standard values – 3D Finish – Lens shape

Index	v_c (m/min)	52 756 ... Ø DC (mm) = 4		6		8		10		12		● 1st choice ○ Suitable		
		Allowance										Emulsion	Compressed air	MMS
		0,05–0,10	0,1–0,2	0,05–0,10	0,1–0,2	0,05–0,10	0,1–0,2	0,05–0,10	0,1–0,2	0,05–0,10	0,1–0,2			
		f_z (mm)												
P.1.1	280	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.1.2	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.1.3	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.1.4	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.1.5	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.2.1	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.2.2	240	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●	●	○
P.2.3	200	0,02	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	●	●	○
P.2.4	200	0,02	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	●	●	○
P.3.1	200	0,02	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	●	●	○
P.3.2	180	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04		●	
P.3.3	180	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04		●	
P.4.1	120	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	●		○
P.4.2	120	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	●		○
M.1.1	90	0,02	0,01	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,02	●		○
M.2.1	90	0,02	0,01	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,02	●		○
M.3.1	90	0,02	0,01	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,02	●		○
K.1.1	300	0,03	0,02	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07		●	
K.1.2	300	0,03	0,02	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07		●	
K.2.1	270	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06		●	
K.2.2	270	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06		●	
K.3.1	150	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04		●	
K.3.2	150	0,02	0,01	0,02	0,02	0,03	0,02	0,04	0,03	0,05	0,04		●	
N.1.1	900	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●		○
N.1.2	900	0,02	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	●		○
N.2.1	600	0,03	0,02	0,04	0,03	0,06	0,04	0,07	0,05	0,08	0,06	●		○
N.2.2														
N.2.3														
N.3.1	270	0,03	0,02	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	●	○	○
N.3.2	270	0,03	0,02	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	●		○
N.3.3	270	0,03	0,02	0,05	0,04	0,06	0,05	0,08	0,06	0,10	0,07	●		○
N.4.1	600	0,04	0,03	0,06	0,05	0,08	0,06	0,10	0,08	0,12	0,10	●		○
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1	150	0,02	0,02	0,04	0,02	0,05	0,03	0,06	0,04	0,07	0,05	●		
S.3.2	120	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	●		
S.3.3	90	0,02	0,01	0,03	0,02	0,04	0,02	0,05	0,03	0,06	0,04	●		
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

The diameter DC must be used to calculate the speed n.

Cutting data standard values – MonsterMill – FRP CR fine-toothed

Index	Compressed air	Long version	52 598 ...					● 1st choice ○ Suitable		
			Ø DC (mm) =							
			> Ø 5 ≤ Ø 6	> Ø 6 ≤ Ø 8	> Ø 8 ≤ Ø 10	> Ø 10 ≤ Ø 12	> Ø 12 ≤ Ø 14	Emulsion	Compressed air	MMS
			a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC			
	v_c (m/min)	$a_{p\,max.}$ x DC	f (mm/rev)							
O.1.1										
O.1.2										
O.2.1										
O.2.2	200	1,0	0,125	0,150	0,175	0,200	0,225		●	
O.3.1										

The feed must be selected in mm/rev for MonsterMill FRP CR milling cutters.

Cutting data standard values – MonsterMill – FRP CR coarse-toothed

Index	Compressed air	Long version	52 599 ...					● 1st choice ○ Suitable		
			Ø DC (mm) =							
			> Ø 5 ≤ Ø 6	> Ø 6 ≤ Ø 8	> Ø 8 ≤ Ø 10	> Ø 10 ≤ Ø 12	> Ø 12 ≤ Ø 14	Emulsion	Compressed air	MMS
			a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC			
	v_c (m/min)	$a_{p\,max.}$ x DC	f (mm/rev)							
O.1.1										
O.1.2										
O.2.1										
O.2.2	200	1,5	0,100	0,120	0,140	0,160	0,180		●	
O.3.1										

The feed must be selected in mm/rev for MonsterMill FRP CR milling cutters.

Cutting data standard values – MonsterMill – FRP

Index	Compressed air	Long version	52 595 ..., 52 596 ..., 52 597 ...					● 1st choice ○ Suitable		
			Ø DC (mm) =							
			> Ø 5 ≤ Ø 6	> Ø 6 ≤ Ø 8	> Ø 8 ≤ Ø 10	> Ø 10 ≤ Ø 12	> Ø 12 ≤ Ø 14	Emulsion	Compressed air	MMS
			a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC	a_e 0,6–1,0 x DC			
	v_c (m/min)	$a_{p\,max.}$ x DC	f (mm/rev)							
O.1.1										
O.1.2										
O.2.1										
O.2.2	200	1,0	0,018	0,022	0,026	0,03	0,034		●	
O.3.1										

The optimal usage recommendations may differ from those provided here depending on the machining process and application. Please get in touch with your contact at CERATIZIT to determine the best recommendation for your application.

Cutting data standard values – PCD milling cutters

Index	v_c (m/min)	50 011 ... / 50 012 ... / 50 024 ...		50 010 ... / 50 013 ... / 50 025...		50 014 ...		50 015 ...			
											
		$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e
N.1.1	900	0,15xDC	1xDC	1xDC	0,1xDC	0,15xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.1.2	900	0,15xDC	1xDC	1xDC	0,1xDC	0,15xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.2.1	700	0,15xDC	1xDC	1xDC	0,1xDC	0,15xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.2.2	600	0,15xDC	1xDC	1xDC	0,1xDC	0,15xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.2.3	400	0,15xDC	1xDC	1xDC	0,1xDC	0,15xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.3.1	500							0,9xAPMX	0,3xDC	0,1xDC	1xDC
N.3.2											
N.3.3											
N.4.1	900							0,9xAPMX	0,3xDC	0,1xDC	1xDC
O.1.1	120	0,2xDC	1xDC	1xDC	0,1xDC	0,2xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
O.1.2	250	0,2xDC	1xDC	1xDC	0,1xDC	0,2xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
O.2.1											
O.2.2	200–300	0,2xDC	1xDC	1xDC	0,1xDC	0,2xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC
O.3.1	650	0,2xDC	1xDC	1xDC	0,1xDC	0,2xDC	0,1xDC	0,9xAPMX	0,3xDC	0,1xDC	1xDC

Index	v_c (m/min)	50 016 ... / 50 017 ...				50 018 ...				50 020 ...			
													
		$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e
N.1.1	900	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.1.2	900	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.2.1	700	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.2.2	600	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.2.3	400	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.3.1	500	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
N.3.2													
N.3.3													
N.4.1	900	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
O.1.1	120	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
O.1.2	250	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
O.2.1													
O.2.2	200–300	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC
O.3.1	650	0,9xAPMX	0,3xDC	0,1xDC	1xDC	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	1,2xAPMX	0,2xDC	1xDC	1xDC

● 1st choice
○ Suitable

Index	v_c (m/min)	50 019 ... / 50 021... / 50 027... / 50 026... / 50 022...				Ø DC (mm) =						Emulsion	Compressed air	MMS
						40	50	63	80	100	125			
		$a_{p\,max.}$ x DC	a_e	$a_{p\,max.}$ x DC	a_e	f_z (mm)								
N.1.1	2200	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.1.2	2100	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.2.1	1850	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.2.2	1850	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.2.3	1750	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.3.1	1000–1500	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
N.3.2														
N.3.3														
N.4.1	2200	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,150	0,150	0,150	0,150	0,150	0,150	●		○
O.1.1														
O.1.2														
O.2.1														
O.2.2	500–600	0,8xAPMX	0,3xDC	0,1xDC	0,8xDC	0,230	0,230	0,230	0,230	0,230	0,230	●		○
O.3.1														

Cutting data standard values – PCD milling cutters

Index	50 010 ... / 50 011 ... / 50 012 ... / 50 013 ... / 50 014 ... / 50 015 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	2	3	4	5	6	8	10	12	16	20	25	32	Emulsion	Compressed air	MMS
	f_z (mm)														
N.1.1	0,018	0,027	0,035	0,048	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.1.2	0,018	0,027	0,035	0,048	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.1	0,018	0,027	0,035	0,048	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.2	0,018	0,027	0,035	0,048	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.3	0,018	0,027	0,035	0,048	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.3.1							0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.3.2															
N.3.3															
N.4.1							0,070	0,080	0,090	0,120	0,140	0,160	●		○
O.1.1	0,025	0,038	0,050	0,071	0,100	0,150	0,200	0,250	0,300	0,400	0,440	0,460	●		○
O.1.2	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,200	0,220	0,260	●		○
O.2.1															
O.2.2	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,20	0,220	0,260	●		○
O.3.1	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,20	0,220	0,260	●		○

Index	50 016 ... / 50 017 ... / 50 018 ... / 50 020 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	2	3	4	5	6	8	10	12	16	20	25	32	Emulsion	Compressed air	MMS
	f_z (mm)														
N.1.1	0,018	0,027	0,035	0,0475	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.1.2	0,018	0,027	0,035	0,0475	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.1	0,018	0,027	0,035	0,0475	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.2	0,018	0,027	0,035	0,0475	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.2.3	0,018	0,027	0,035	0,0475	0,060	0,065	0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.3.1							0,070	0,080	0,090	0,120	0,140	0,160	●		○
N.3.2															
N.3.3															
N.4.1							0,070	0,080	0,090	0,120	0,140	0,160	●		○
O.1.1	0,025	0,038	0,050	0,0705	0,100	0,150	0,200	0,250	0,300	0,400	0,440	0,460	●		○
O.1.2	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,200	0,220	0,260	●		○
O.2.1															
O.2.2	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,200	0,220	0,260	●		○
O.3.1	0,021	0,031	0,040	0,050	0,060	0,070	0,080	0,115	0,150	0,200	0,220	0,260	●		○

Cutting data standard values – AluLine – micro cutter

Index	$T_x \leq 3xDC$			53 900 ... / 53 901 ... / 53 903 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
	v_c (mm)	$a_{p\,max.}$ x DC	$a_{e\,max.}$ x DC	0,2	> Ø 0,2 ≤ Ø 0,4	> Ø 0,4 ≤ Ø 0,6	> Ø 0,6 ≤ Ø 0,8	> Ø 0,8 ≤ Ø 1,0	> Ø 1,0 ≤ Ø 1,2	> Ø 1,2 ≤ Ø 1,5	> Ø 1,5 ≤ Ø 2,0	> Ø 2,0 ≤ Ø 3,0	Emulsion	Compressed air	MMS
				f_z (mm)											
N.1.1	400	0,15	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.1.2	400	0,15	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.1	400	0,15	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.2	300	0,15	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.3	200	0,15	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.3.1	140	0,08	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.2	100	0,08	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.3	150	0,08	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.4.1															

Plunging angle for ramping and helical milling = 3°

Index	$T_x > 3xDC - 5xDC$			53 900 ... / 53 901 ... / 53 903 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
	v_c (mm)	$a_{p\,max.}$ x DC	$a_{e\,max.}$ x DC	0,2	> Ø 0,2 ≤ Ø 0,4	> Ø 0,4 ≤ Ø 0,6	> Ø 0,6 ≤ Ø 0,8	> Ø 0,8 ≤ Ø 1,0	> Ø 1,0 ≤ Ø 1,2	> Ø 1,2 ≤ Ø 1,5	> Ø 1,5 ≤ Ø 2,0	> Ø 2,0 ≤ Ø 3,0	Emulsion	Compressed air	MMS
				f_z (mm)											
N.1.1	320	0,12	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.1.2	320	0,12	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.1	320	0,12	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.2	240	0,12	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.3	160	0,12	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.3.1	110	0,064	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.2	80	0,064	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.3	120	0,064	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.4.1															

Plunging angle for ramping and helical milling = 2°

Index	$T_x > 5xDC - 7xDC$			53 900 ... / 53 901 ... / 53 903 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
	v_c (mm)	$a_{p\,max.}$ x DC	$a_{e\,max.}$ x DC	0,2	> Ø 0,2 ≤ Ø 0,4	> Ø 0,4 ≤ Ø 0,6	> Ø 0,6 ≤ Ø 0,8	> Ø 0,8 ≤ Ø 1,0	> Ø 1,0 ≤ Ø 1,2	> Ø 1,2 ≤ Ø 1,5	> Ø 1,5 ≤ Ø 2,0	> Ø 2,0 ≤ Ø 3,0	Emulsion	Compressed air	MMS
				f_z (mm)											
N.1.1	240	0,105	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.1.2	240	0,105	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.1	240	0,105	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.2	180	0,105	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.3	120	0,105	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.3.1	85	0,056	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.2	60	0,056	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.3	90	0,056	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.4.1															

Plunging angle for ramping and helical milling = 2°

Cutting data standard values – AluLine – micro cutter

Index	T_x > 7xDC – 9xDC			53 900 ... / 53 901 ... / 53 903 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
	v_c (mm)	$a_{p\,max.}$ x DC	$a_{e\,max.}$ x DC	0,2	> Ø 0,2 ≤ Ø 0,4	> Ø 0,4 ≤ Ø 0,6	> Ø 0,6 ≤ Ø 0,8	> Ø 0,8 ≤ Ø 1,0	> Ø 1,0 ≤ Ø 1,2	> Ø 1,2 ≤ Ø 1,5	> Ø 1,5 ≤ Ø 2,0	> Ø 2,0 ≤ Ø 3,0	Emulsion	Compressed air	MMS
				f_z (mm)											
N.1.1	**160**	**0,09**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.1.2	**160**	**0,09**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.1	**160**	**0,09**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.2	**120**	**0,09**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.3	**80**	**0,09**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.3.1	**55**	**0,048**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.2	**40**	**0,048**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.3	**60**	**0,048**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.4.1															

Plunging angle for ramping and helical milling = 1°

Index	T_x > 9xDC – 12xDC			53 900 ... / 53 901 ... / 53 903 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
	v_c (mm)	$a_{p\,max.}$ x DC	$a_{e\,max.}$ x DC	0,2	> Ø 0,2 ≤ Ø 0,4	> Ø 0,4 ≤ Ø 0,6	> Ø 0,6 ≤ Ø 0,8	> Ø 0,8 ≤ Ø 1,0	> Ø 1,0 ≤ Ø 1,2	> Ø 1,2 ≤ Ø 1,5	> Ø 1,5 ≤ Ø 2,0	> Ø 2,0 ≤ Ø 3,0	Emulsion	Compressed air	MMS
				f_z (mm)											
N.1.1	**120**	**0,075**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.1.2	**120**	**0,075**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.1	**120**	**0,075**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.2	**90**	**0,075**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.2.3	**60**	**0,075**	1,0	0,0085	0,0115	0,0140	0,0170	0,0200	0,0230	0,0280	0,0350	0,0500	●	○	○
N.3.1	**40**	**0,04**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.2	**30**	**0,04**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.3.3	**45**	**0,04**	1,0	0,0050	0,0065	0,0080	0,0100	0,0115	0,0130	0,0160	0,0210	0,0300	●	○	○
N.4.1															

Plunging angle for ramping and helical milling = 1°

Cutting data standard values – AluLine – End mills – ZEFP = 2

Index	Short version		Medium-length version		53 623..., 53 625..., 53 633..., 53 635..., 53 619..., 53 621..., 53 622..., 53 629..., 53 631..., 53 637...																	
					Ø DC (mm) =																	
					2			2,5–3,0			3,5–4,0			4,5–5,0			5,5–6,0			6,5–8,0		
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
					f_z (mm)																	
N.1.1	600	1,0	360	0,7	0,032	0,027	0,021	0,045	0,039	0,030	0,057	0,049	0,038	0,071	0,061	0,047	0,084	0,073	0,056	0,110	0,095	0,073
N.1.2	600	1,0	360	0,7	0,032	0,027	0,021	0,045	0,039	0,030	0,057	0,049	0,038	0,071	0,061	0,047	0,084	0,073	0,056	0,110	0,095	0,073
N.2.1	360	1,0	215	0,7	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063
N.2.2	360	1,0	215	0,7	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063
N.2.3	240	1,0	145	0,7	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063
N.3.1	240	1,0	145	0,7	0,018	0,016	0,012	0,029	0,025	0,019	0,038	0,033	0,025	0,048	0,042	0,032	0,058	0,050	0,039	0,078	0,068	0,052
N.3.2	240	1,0	145	0,7	0,018	0,016	0,012	0,029	0,025	0,019	0,038	0,033	0,025	0,048	0,042	0,032	0,058	0,050	0,039	0,078	0,068	0,052
N.3.3	170	1,0	100	0,7	0,018	0,016	0,012	0,029	0,025	0,019	0,038	0,033	0,025	0,048	0,042	0,032	0,058	0,050	0,039	0,078	0,068	0,052
N.4.1	220	1,0	130	0,7	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063

Cutting data standard values – AluLine – End mills – ZEFP = 3

Index	Type short / medium length		Long version		Extra-long version		53 611..., 53 613..., 53 614..., 53 615..., 53 617..., 53 618..., 53 560..., 53 561..., 53 700..., 53 701..., 53 704..., 53 705..., 53 714..., 53 715..., 53 708..., 53 710..., 53 711...,														
							Ø DC (mm) =														
							2			2,5–3,0			3,5–4,0			4,5–5,0			5,5–6,0		
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
							f_z (mm)														
N.1.1	600	1,0	480	0,8	240	0,6	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047
N.1.2	600	1,0	480	0,8	240	0,6	0,023	0,020	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047
N.2.1	360	1,0	290	0,8	145	0,6	0,023	0,020	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044
N.2.2	360	1,0	290	0,8	145	0,6	0,023	0,020	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044
N.2.3	240	1,0	190	0,8	95	0,6	0,023	0,020	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044
N.3.1	240	1,0	190	0,8	95	0,6	0,015	0,013	0,010	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033
N.3.2	240	1,0	190	0,8	95	0,6	0,015	0,013	0,010	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033
N.3.3	170	1,0	135	0,8	70	0,6	0,015	0,013	0,010	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033
N.4.1	220	1,0	175	0,8	90	0,6	0,023	0,020	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044

Cutting data standard values – AluLine – End mills – ZEFP = 4

Index	Type short / medium length		Long version		Extra-long version		53 702..., 53 703..., 53 706..., 53 707..., 53 562..., 53 563..., 53 564..., 53 565..., 53 566..., 53 567..., 53 568..., 53 569...														
							Ø DC (mm) =														
							2			3,0			4,0			5,0			6,0		
	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
							f_z (mm)														
N.1.1	600	1,0	480	0,8	240	0,6	0,018	0,016	0,012	0,029	0,025	0,019	0,038	0,033	0,025	0,048	0,042	0,032	0,058	0,050	0,039
N.1.2	600	1,0	480	0,8	240	0,6	0,018	0,016	0,012	0,029	0,025	0,019	0,038	0,033	0,025	0,048	0,042	0,032	0,058	0,050	0,039
N.2.1	360	1,0	290	0,8	145	0,6	0,020	0,017	0,013	0,028	0,024	0,019	0,036	0,031	0,024	0,045	0,039	0,030	0,053	0,046	0,035
N.2.2	480	1,0	385	0,8	145	0,6	0,020	0,017	0,013	0,028	0,024	0,019	0,036	0,031	0,024	0,045	0,039	0,030	0,053	0,046	0,035
N.2.3	240	1,0	190	0,8	95	0,6	0,020	0,017	0,013	0,028	0,024	0,019	0,036	0,031	0,024	0,045	0,039	0,030	0,053	0,046	0,035
N.3.1	240	1,0	190	0,8	95	0,6	0,014	0,012	0,009	0,021	0,018	0,014	0,029	0,025	0,019	0,037	0,032	0,025	0,045	0,039	0,030
N.3.2	240	1,0	190	0,8	95	0,6	0,014	0,012	0,009	0,021	0,018	0,014	0,029	0,025	0,019	0,037	0,032	0,025	0,045	0,039	0,030
N.3.3	170	1,0	135	0,8	70	0,6	0,014	0,012	0,009	0,021	0,018	0,014	0,029	0,025	0,019	0,037	0,032	0,025	0,045	0,039	0,030
N.4.1	220	1,0	175	0,8	90	0,6	0,020	0,017	0,013	0,028	0,024	0,019	0,036	0,031	0,024	0,045	0,039	0,030	0,053	0,046	0,035

Cutting data standard values – AluLine – End mills – ZEFP = 2

53 623..., 53 625..., 53 633..., 53 635..., 53 619..., 53 621..., 53 622..., 53 629..., 53 631..., 53 637...

● 1st choice
○ Suitable

Ø DC (mm) =

Index	8,5–10,0			10,5–12,0			12,5–14,0			14,5–16,0			16,5–18,0			18,5–20,0			Emulsion	Compressed air	MMS
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																				
N.1.1	0,137	0,118	0,091	0,162	0,140	0,108	0,189	0,164	0,126	0,203	0,176	0,135	0,216	0,187	0,144	0,230	0,199	0,153	●	○*	○
N.1.2	0,137	0,118	0,091	0,162	0,140	0,108	0,189	0,164	0,126	0,203	0,176	0,135	0,216	0,187	0,144	0,230	0,199	0,153	●	○*	○
N.2.1	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○
N.2.2	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○
N.2.3	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○
N.3.1	0,098	0,085	0,065	0,119	0,103	0,079	0,138	0,120	0,092	0,149	0,129	0,099	0,158	0,137	0,105	0,168	0,146	0,112	●	○*	○
N.3.2	0,098	0,085	0,065	0,119	0,103	0,079	0,138	0,120	0,092	0,149	0,129	0,099	0,158	0,137	0,105	0,168	0,146	0,112	●	○*	○
N.3.3	0,098	0,085	0,065	0,119	0,103	0,079	0,138	0,120	0,092	0,149	0,129	0,099	0,158	0,137	0,105	0,168	0,146	0,112	●	○*	○
N.4.1	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○

* = only suitable for DLC-coated cutters

Cutting data standard values – AluLine – End mills – ZEFP = 3

53 598..., 53 599..., 53 578..., 53 579..., 53 580.../ 53 581..., 53 517..., 53 518..., 53 519..., 53 520..., 53 521..., 53 522..., 53 523..., 53 524...

● 1st choice
○ Suitable

Ø DC (mm) =

Index	6,5–8,0			8,5–10,0			10,5–12,0			12,5–14,0			14,5–16,0			16,5–18,0			18,5–20,0			Emulsion	Compressed air	MMS
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																							
N.1.1	0,095	0,082	0,063	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○
N.1.2	0,095	0,082	0,063	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,194	0,168	0,129	0,206	0,178	0,137	●	○*	○
N.2.1	0,087	0,075	0,058	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,174	0,151	0,116	0,186	0,161	0,124	●	○*	○
N.2.2	0,087	0,075	0,058	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,174	0,151	0,116	0,186	0,161	0,124	●	○*	○
N.2.3	0,087	0,075	0,058	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,174	0,151	0,116	0,186	0,161	0,124	●	○*	○
N.3.1	0,066	0,057	0,044	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,134	0,116	0,089	0,141	0,122	0,094	●	○*	○
N.3.2	0,066	0,057	0,044	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,134	0,116	0,089	0,141	0,122	0,094	●	○*	○
N.3.3	0,066	0,057	0,044	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,134	0,116	0,089	0,141	0,122	0,094	●	○*	○
N.4.1	0,087	0,075	0,058	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,174	0,151	0,116	0,186	0,161	0,124	●	○*	○

* = only suitable for DLC-coated cutters

Cutting data standard values – AluLine – End mills – ZEFP = 4

53 702..., 53 703..., 53 706..., 53 707..., 53 562..., 53 563..., 53 564..., 53 565..., 53 566..., 53 567..., 53 568..., 53 569...

● 1st choice
○ Suitable

Ø DC (mm) =

Index	8,0			8,5–10,0			12,0			14,0			16,0			18,0			20,0			Emulsion	Compressed air	MMS
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)																							
N.1.1	0,078	0,068	0,052	0,098	0,085	0,065	0,119	0,103	0,079	0,138	0,120	0,092	0,149	0,129	0,099	0,158	0,137	0,105	0,168	0,146	0,112	●	○*	○
N.1.2	0,078	0,068	0,052	0,098	0,085	0,065	0,119	0,103	0,079	0,138	0,120	0,092	0,149	0,129	0,099	0,158	0,137	0,105	0,168	0,146	0,112	●	○*	○
N.2.1	0,071	0,061	0,047	0,087	0,075	0,058	0,105	0,091	0,070	0,122	0,105	0,081	0,130	0,112	0,087	0,138	0,120	0,092	0,147	0,127	0,098	●	○*	○
N.2.2	0,071	0,061	0,047	0,087	0,075	0,058	0,105	0,091	0,070	0,122	0,105	0,081	0,130	0,112	0,087	0,138	0,120	0,092	0,147	0,127	0,098	●	○*	○
N.2.3	0,071	0,061	0,047	0,087	0,075	0,058	0,105	0,091	0,070	0,122	0,105	0,081	0,130	0,112	0,087	0,138	0,120	0,092	0,147	0,127	0,098	●	○*	○
N.3.1	0,060	0,052	0,040	0,075	0,065	0,050	0,090	0,078	0,060	0,105	0,091	0,070	0,113	0,098	0,075	0,120	0,104	0,080	0,128	0,111	0,085	●	○*	○
N.3.2	0,060	0,052	0,040	0,075	0,065	0,050	0,090	0,078	0,060	0,105	0,091	0,070	0,113	0,098	0,075	0,120	0,104	0,080	0,128	0,111	0,085	●	○*	○
N.3.3	0,060	0,052	0,040	0,075	0,065	0,050	0,090	0,078	0,060	0,105	0,091	0,070	0,113	0,098	0,075	0,120	0,104	0,080	0,128	0,111	0,085	●	○*	○
N.4.1	0,071	0,061	0,047	0,087	0,075	0,058	0,105	0,091	0,070	0,122	0,105	0,081	0,130	0,112	0,087	0,138	0,120	0,092	0,147	0,127	0,098	●	○*	○

* = only suitable for DLC-coated cutters

Cutting data standard values – AluLine – Rough milling cutters – AL-R

Index	v_c (m/min)	$a_{p\,max}$ x DC	53 640 ...									● 1st choice ○ Suitable		
			Ø DC (mm) =											
			16			20			25					
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
			f_z (mm)											
N.1.1	1200	1,0	0.27	0.21	0.16	0.32	0.25	0.19	0.35	0.27	0.21	●		
N.1.2	1200	1,0	0.27	0.21	0.16	0.32	0.25	0.19	0.35	0.27	0.21	●		
N.2.1	1000	1,0	0.24	0.19	0.14	0.30	0.23	0.18	0.34	0.26	0.20	●		
N.2.2	1000	1,0	0.24	0.19	0.14	0.30	0.23	0.18	0.34	0.26	0.20	●		
N.2.3	900	1,0	0.24	0.19	0.14	0.30	0.23	0.18	0.34	0.26	0.20	●		
N.3.1														
N.3.2														
N.3.3														
N.4.1														

Cutting data for a machine with ≥100 kW drive power
Drive power 70–100 kW – multiply v_c by factor 0.8
Drive power 40–70 kW – multiply v_c by factor 0.6
Drive power 25–40 kW – multiply v_c by factor 0.4

Cutting data standard values – AluLine – Roughing-finishing milling cutters

Index	Short/long version		Medium-length version		53 582 ...														
					Ø DC (mm) =														
					3			4			5			6			8		
					a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
Index	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)														
N.1.1	600	1,0	480	0,8	0,114	0,099	0,076	0,131	0,113	0,087	0,147	0,127	0,098	0,162	0,140	0,108	0,195	0,169	0,130
N.1.2	600	1,0	480	0,8	0,114	0,099	0,076	0,131	0,113	0,087	0,147	0,127	0,098	0,162	0,140	0,108	0,195	0,169	0,130
N.2.1	360	1,0	290	0,8	0,082	0,071	0,055	0,098	0,085	0,065	0,113	0,098	0,075	0,129	0,112	0,086	0,162	0,140	0,108
N.2.2	360	1,0	290	0,8	0,082	0,071	0,055	0,098	0,085	0,065	0,113	0,098	0,075	0,129	0,112	0,086	0,162	0,140	0,108
N.2.3	240	1,0	190	0,8	0,082	0,071	0,055	0,098	0,085	0,065	0,113	0,098	0,075	0,129	0,112	0,086	0,162	0,140	0,108
N.3.1	240	1,0	190	0,8	0,049	0,042	0,033	0,065	0,056	0,043	0,081	0,070	0,054	0,098	0,085	0,065	0,129	0,112	0,086
N.3.2	240	1,0	190	0,8	0,049	0,042	0,033	0,065	0,056	0,043	0,081	0,070	0,054	0,098	0,085	0,065	0,129	0,112	0,086
N.3.3	170	1,0	135	0,8	0,049	0,042	0,033	0,065	0,056	0,043	0,081	0,070	0,054	0,098	0,085	0,065	0,129	0,112	0,086
N.4.1	220	1,0	175	0,8	0,082	0,071	0,055	0,098	0,085	0,065	0,113	0,098	0,075	0,129	0,112	0,086	0,162	0,140	0,108

Cutting data standard values – AluLine – Ball-nosed end mills

Index	Short version		Long version		Extra-long version		53 607 ..., 53 608 ...														
							Ø DC (mm) =														
							3			4			5			6			8		
							a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
Index	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)														
N.1.1	750	0,03	450	0,02	225	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063
N.1.2	750	0,03	450	0,02	225	0,015	0,035	0,030	0,023	0,047	0,040	0,031	0,059	0,051	0,039	0,071	0,061	0,047	0,095	0,082	0,063
N.2.1	600	0,03	360	0,02	180	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044	0,087	0,075	0,058
N.2.2	600	0,03	360	0,02	180	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044	0,087	0,075	0,058
N.2.3	400	0,03	240	0,02	120	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044	0,087	0,075	0,058
N.3.1	180	0,03	110	0,02	55	0,015	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033	0,066	0,057	0,044
N.3.2	180	0,03	110	0,02	55	0,015	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033	0,066	0,057	0,044
N.3.3	230	0,03	140	0,02	70	0,015	0,024	0,021	0,016	0,032	0,028	0,022	0,041	0,035	0,027	0,050	0,043	0,033	0,066	0,057	0,044
N.4.1	350	0,03	210	0,02	105	0,015	0,033	0,029	0,022	0,044	0,038	0,029	0,054	0,047	0,036	0,066	0,057	0,044	0,087	0,075	0,058
O.1.1	65	0,03	40	0,03	40	0,03				0,135	0,104	0,075	0,200	0,149	0,100	0,240	0,179	0,120	0,300	0,224	0,150
O.1.2	240	0,03	145	0,03	145	0,03				0,135	0,104	0,075	0,200	0,149	0,100	0,240	0,179	0,120	0,300	0,224	0,150

Cutting data standard values – AluLine – High-precision finish milling cutters

Index	Short version	Long version	Extra-long version		53 639 ...											
					Ø DC (mm) =											
					6			8			10			12		
					a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC	a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC	a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC	a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC
Index	v_c (m/min)			$a_{p\,max.}$ x DC	f_z (mm)											
N.1.1	500	400	300	2,0	0,036	0,031	0,024	0,047	0,040	0,031	0,056	0,049	0,038	0,067	0,058	0,045
N.1.2	500	400	300	2,0	0,036	0,031	0,024	0,047	0,040	0,031	0,056	0,049	0,038	0,067	0,058	0,045
N.2.1	300	240	180	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.2.2	300	240	180	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.2.3	210	170	125	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.3.1	210	170	125	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.3.2	210	170	125	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.3.3	150	120	90	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036
N.4.1	200	160	120	2,0	0,027	0,023	0,018	0,036	0,031	0,024	0,045	0,039	0,030	0,054	0,047	0,036

Cutting data standard values – AluLine – Roughing-finishing milling cutters

Index	53 582 … Ø DC (mm) = 10			12			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
N.1.1	0,225	0,195	0,150	0,258	0,224	0,172	0,305	0,264	0,203	0,336	0,291	0,224	●		
N.1.2	0,225	0,195	0,150	0,258	0,224	0,172	0,305	0,264	0,203	0,336	0,291	0,224	●		
N.2.1	0,194	0,168	0,129	0,225	0,195	0,150	0,273	0,237	0,182	0,305	0,264	0,203	●		
N.2.2	0,194	0,168	0,129	0,225	0,195	0,150	0,273	0,237	0,182	0,305	0,264	0,203	●		
N.2.3	0,194	0,168	0,129	0,225	0,195	0,150	0,273	0,237	0,182	0,305	0,264	0,203	●		
N.3.1	0,161	0,139	0,107	0,194	0,168	0,129	0,240	0,208	0,160	0,272	0,235	0,181	●		
N.3.2	0,161	0,139	0,107	0,194	0,168	0,129	0,240	0,208	0,160	0,272	0,235	0,181	●		
N.3.3	0,161	0,139	0,107	0,194	0,168	0,129	0,240	0,208	0,160	0,272	0,235	0,181	●		
N.4.1	0,194	0,168	0,129	0,225	0,195	0,150	0,273	0,237	0,182	0,305	0,264	0,203	●		

Cutting data standard values – AluLine – Ball-nosed end mills

Index	53 607 …, 53 608 … Ø DC (mm) = 10			12			14			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																	
N.1.1	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,206	0,178	0,137	●	○	
N.1.2	0,120	0,104	0,080	0,144	0,125	0,096	0,168	0,146	0,112	0,180	0,156	0,120	0,206	0,178	0,137	●	○	
N.2.1	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,186	0,161	0,124	●	○	
N.2.2	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,186	0,161	0,124	●	○	
N.2.3	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,186	0,161	0,124	●	○	
N.3.1	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,141	0,122	0,094	●	○	
N.3.2	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,141	0,122	0,094	●	○	
N.3.3	0,083	0,072	0,055	0,099	0,086	0,066	0,117	0,101	0,078	0,125	0,108	0,083	0,141	0,122	0,094	●	○	
N.4.1	0,110	0,095	0,073	0,132	0,114	0,088	0,153	0,133	0,102	0,164	0,142	0,109	0,186	0,161	0,124	●	○	
O.1.1	0,400	0,298	0,200	0,500	0,373	0,250	0,548	0,424	0,300	0,592	0,452	0,350	0,712	0,581	0,450	●	○	
O.1.2	0,400	0,298	0,200	0,500	0,373	0,250	0,548	0,424	0,300	0,592	0,452	0,350	0,712	0,581	0,450	●	○	

Cutting data standard values – AluLine – High-precision finish milling cutters

Index	53 639 … Ø DC (mm) = 16			10			● 1st choice ○ Suitable		
	a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC	a_e < 0,02 x DC	a_e 0,02–0,04 x DC	a_e 0,05 x DC	Emulsion	Compressed air	MMS
	f_z (mm)								
N.1.1	0,083	0,072	0,055	0,092	0,080	0,062	●		○
N.1.2	0,083	0,072	0,055	0,092	0,080	0,062	●		○
N.2.1	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.2.2	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.2.3	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.3.1	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.3.2	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.3.3	0,068	0,059	0,045	0,077	0,066	0,051	●		○
N.4.1	0,068	0,059	0,045	0,077	0,066	0,051	●		○

Cutting data standard values – Cutters for plastics

Index	Tensile strength N/mm² – HB	50 983 ..., 50 984 ..., 50 985 ..., 50 986 ..., 50 932 ...	50 937 ...	50 936 ...	50 938 ...	50 610 ..., 50 611 ..., 52 76. ...	50 91. ...	50 946 ...	50 948 ...	50 947 ...
		v_c (m/min)								
N.1.1	60 HB					400–450	400–450			
N.1.2	340 N/mm² / 100 HB					400–450	400–450			
N.2.1	250 N/mm² / 75 HB					350–400	350–400			
N.2.2	300 N/mm² / 90 HB				300–400			300–400	300–400	300–400
N.2.3	440 N/mm² / 130 HB				300–400			250–300	250–300	250–300
N.3.1	375 N/mm² / 110 HB					350–400	350–400			
N.3.2	300 N/mm² / 90 HB					400–450	400–450			
N.3.3	340 N/mm² / 100 HB					400–450	400–450			
N.4.1	70 HB				250			250	250	250
O.1.1	≤ 150 N/mm²					500–550	500–550			
O.1.2	≤ 100 N/mm²					500–550	500–550			
O.2.1	≤ 1000 N/mm²	150–200	150–200	500–600	150–200					
O.2.2	≤ 1000 N/mm²	150–200	150–200	500–600	150–200					
O.3.1		300–400	500–600	500–600	300–400					

DC in mm	Plastics, duroplastics, hardwood, pressed cardboard					Plastics, thermoplastics, polycarbonate, non-ferrous metals, hard rubber				
	End mill type W			Ball-nosed end mill type W		End mill type W			Ball-nosed end mill type W	
	Shoulder milling-profiling		Slot milling	Copy milling-line milling		Shoulder milling-profiling		Slot milling	Copy milling-line milling	
	Roughing	Finishing		Roughing	Finishing	Roughing	Finishing		Roughing	Finishing
	a_p = 1,0 x DC	a_p = 1,0 x DC		a_e = 0,5 x DC	a_e = 0,03 x DC	a_e = 1,5 x DC	a_p = 1,0 x DC		a_e = 0,5 x DC	a_e = 0,03 x DC
	a_e = 0,4 x DC	a_e = 0,1 x DC		a_e = 0,5 x DC	a_e = 0,02 x DC	a_e = 0,8 x DC	a_e = 0,1 x DC		a_e = 0,5 x DC	a_e = 0,02 x DC
	v_c (m/min)									
2	0,024	0,018	0,016	0,028	0,024	0,024	0,022	0,017	0,037	0,030
3	0,036	0,027	0,024	0,042	0,036	0,036	0,033	0,026	0,056	0,045
4	0,048	0,036	0,032	0,056	0,048	0,048	0,044	0,034	0,074	0,060
5	0,060	0,045	0,040	0,070	0,060	0,060	0,055	0,043	0,093	0,075
6	0,072	0,054	0,048	0,084	0,072	0,072	0,066	0,051	0,111	0,090
8	0,100	0,070	0,060	0,110	0,100	0,100	0,090	0,070	0,150	0,120
10	0,120	0,090	0,080	0,140	0,120	0,120	0,110	0,090	0,190	0,150
12	0,140	0,110	0,100	0,170	0,140	0,140	0,130	0,100	0,220	0,180
14	0,170	0,130	0,110	0,200	0,170	0,170	0,150	0,120	0,260	0,210
16	0,190	0,140	0,130	0,220	0,190	0,190	0,180	0,140	0,300	0,240
18	0,220	0,160	0,140	0,250	0,220	0,220	0,200	0,150	0,330	0,270
20	0,240	0,180	0,160	0,280	0,240	0,240	0,220	0,170	0,370	0,300

DC in mm	Fiber-reinforced plastics ARP, CFRP, GFRP			
	Cross-pitched end mill			
	Shoulder milling-profiling		Slot milling	
	a_p = 1,0 x DC a_e = 0,4 x DC		a_p = 0,35 x DC	
	Fine	Medium	Fine	Medium
	f (mm/rev)			
2	0,16	0,14	0,14	0,12
3	0,24	0,21	0,21	0,18
4	0,32	0,28	0,28	0,24
5	0,40	0,35	0,35	0,30
6	0,48	0,42	0,42	0,36
8	0,64	0,56	0,56	0,48
10	0,80	0,70	0,70	0,60
12	0,96	0,84	0,84	0,72
16	1,28	1,12	1,12	0,96
20	1,60	1,40	1,40	1,20

→ You can find the recommended feed values here.

Cutting data standard values – AluLine – NC deburring cutters

Index	v_c (m/min)	53 660 ..., 53 661 ..., 53 662 ..., 53 663 ... DLC Ø DC (mm) = 4	6	8	10	12	16	v_c (m/min)	53 664 ..., 53 665 ..., 53 666 ..., 53 667 ... uncoated Ø DC (mm) = 4	6	8	10	12	16	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		f_z (mm)							f_z (mm)								
N.1.1	**300**	0,03	0,04	0,05	0,06	0,07	0,08	195	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.1.2	**300**	0,03	0,04	0,05	0,06	0,07	0,08	195	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.2.1	**260**	0,03	0,04	0,05	0,06	0,07	0,08	170	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.2.2	**280**	0,03	0,04	0,05	0,06	0,07	0,08	180	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.2.3	**250**	0,03	0,04	0,05	0,06	0,07	0,08	165	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.3.1	**110**	0,03	0,04	0,05	0,06	0,07	0,08	75	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.3.2	**140**	0,03	0,04	0,05	0,06	0,07	0,08	90	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.3.3	**120**	0,03	0,04	0,05	0,06	0,07	0,08	80	0,02	0,03	0,04	0,05	0,06	0,07	●	○*	○
N.4.1																	
O.1.1	320	0,03	0,04	0,05	0,06	0,07	0,08	195	0,02	0,03	0,04	0,05	0,06	0,07	●	○	○
O.1.2	320	0,03	0,04	0,05	0,06	0,07	0,08	195	0,02	0,03	0,04	0,05	0,06	0,07	●	○	○
O.2.1																	
O.2.2																	
O.3.1																	

* = only suitable for DLC-coated cutters

Cutting data standard values – BlueLine – NC deburring cutters

Index	v_c (m/min)	52 560 ..., 52 561 ..., 52 562 ..., 52 563 ... Ti2000 Ø DC (mm) = 4	6	8	10	12	16	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		f_z (mm)								
P.3.2	**80**	0,02	0,02	0,025	0,03	0,04	0,05		●	
P.3.3	**70**	0,02	0,02	0,025	0,03	0,04	0,05		●	
H.1.1	120	0,045	0,055	0,06	0,065	0,065	0,07		●	
H.1.2	90	0,04	0,05	0,055	0,06	0,06	0,065		●	
H.1.3	70	0,035	0,045	0,05	0,055	0,055	0,06		●	
H.1.4	50	0,025	0,03	0,04	0,045	0,045	0,05		●	
H.2.1										
H.3.1										

Cutting data standard values – BlueLine – Micro end mills/micro torus cutters

Index	$T_X \leq 2,5 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0	
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	190	0,5	0,0038	0,0045	0,0050	0,0078	0,0093	0,0131	0,0165	0,018	0,0195	0,0210	0,0225	0,0240	●
P.3.3	190	0,5	0,0038	0,0045	0,0050	0,0078	0,0093	0,0131	0,0165	0,018	0,0195	0,0210	0,0225	0,0240	●
H.1.1	120	0,5	0,0038	0,0045	0,0050	0,0078	0,0093	0,0131	0,0165	0,018	0,0195	0,0210	0,0225	0,0240	●
H.1.2	70	0,5	0,0030	0,0360	0,0045	0,0062	0,0074	0,0104	0,0132	0,0144	0,0156	0,0168	0,0180	0,0192	●
H.1.3	50	0,5	0,0025	0,0030	0,0040	0,0052	0,0062	0,0087	0,0110	0,0120	0,0130	0,0140	0,0150	0,0160	●
H.1.4															
H.2.1	190	0,5	0,0038	0,0045	0,0050	0,0078	0,0093	0,0131	0,0165	0,0180	0,0195	0,0210	0,0225	0,0240	●
H.3.1	70	0,5	0,0030	0,0360	0,0045	0,0062	0,0074	0,0104	0,0132	0,0144	0,0156	0,0168	0,0180	0,0192	●

Index	$T_X \leq 2,6–5,0 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0	
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	170	0,5	0,0038	0,0041	0,0045	0,0063	0,0075	0,0102	0,0134	0,0152	0,0158	0,0176	0,0195	0,0195	●
P.3.3	170	0,5	0,0038	0,0041	0,0045	0,0063	0,0075	0,0102	0,0134	0,0152	0,0158	0,0176	0,0195	0,0195	●
H.1.1	108	0,5	0,0038	0,0041	0,0045	0,0063	0,0075	0,0102	0,0134	0,0152	0,0158	0,0176	0,0195	0,0195	●
H.1.2	63	0,5	0,0030	0,0032	0,0036	0,0050	0,0060	0,0082	0,0107	0,0121	0,0126	0,0140	0,0156	0,0156	●
H.1.3	45	0,5	0,0025	0,0027	0,0030	0,0042	0,0050	0,0068	0,0089	0,0101	0,0105	0,0117	0,0130	0,0130	●
H.1.4															
H.2.1	170	0,5	0,0038	0,0041	0,0045	0,0063	0,0075	0,0102	0,0134	0,0152	0,0158	0,0176	0,0195	0,0195	●
H.3.1	63	0,5	0,0030	0,0032	0,0036	0,0050	0,0060	0,0082	0,0107	0,0121	0,0126	0,0140	0,0156	0,0156	●

Index	$T_X \leq 5,1–10,0 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0	
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	150	0,5	0,0030	0,0038	0,0045	0,0060	0,0068	0,0075	0,0083	0,0090	0,0105	0,0113	0,012	0,0128	●
P.3.3	150	0,5	0,0030	0,0038	0,0045	0,0060	0,0068	0,0075	0,0083	0,0090	0,0105	0,0113	0,012	0,0128	●
H.1.1	96	0,5	0,0030	0,0038	0,0045	0,0060	0,0068	0,0075	0,0083	0,0090	0,0105	0,0113	0,0120	0,0128	●
H.1.2	56	0,5	0,0024	0,0030	0,0036	0,0048	0,0054	0,0060	0,0066	0,0072	0,0084	0,0090	0,0096	0,0102	●
H.1.3	40	0,5	0,0020	0,0025	0,0030	0,0040	0,0045	0,0050	0,0055	0,0060	0,0070	0,0075	0,0080	0,0085	●
H.1.4															
H.2.1	150	0,5	0,0030	0,0038	0,0045	0,0060	0,0068	0,0075	0,0083	0,0090	0,0105	0,0113	0,0120	0,0128	●
H.3.1	56	0,5	0,0024	0,0030	0,0036	0,0048	0,0054	0,0060	0,0066	0,0072	0,0084	0,0090	0,0096	0,0102	●

Cutting data standard values – BlueLine – Micro end mills/micro torus cutters

Index	$T_x \leq 10{,}1–15{,}0 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	114	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	0,0066	●
P.3.3	114	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	0,0066	●
H.1.1	72	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	0,0066	●
H.1.2	42	0,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0038	0,0041	0,0043	0,0046	0,0048	0,0050	0,0053	●
H.1.3	30	0,5	0,0010	0,0015	0,0020	0,0025	0,0030	0,0032	0,0034	0,0036	0,0038	0,0040	0,0042	0,0044	●
H.1.4															
H.2.1	114	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	0,0066	●
H.3.1	42	0,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0038	0,0041	0,0043	0,0046	0,0048	0,0050	0,0053	●

Index	$T_x \leq 15{,}1–20{,}0 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	75	0,5	0,0015	0,0015	0,0023	0,003	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	●
P.3.3	75	0,5	0,0015	0,0015	0,0023	0,003	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	●
H.1.1	48	0,5	0,0015	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	●
H.1.2	28	0,5	0,0012	0,0012	0,0018	0,0024	0,003	0,0036	0,0038	0,0041	0,0043	0,0046	0,0048	0,0050	●
H.1.3	20	0,5	0,0010	0,0010	0,0015	0,0020	0,0025	0,0030	0,0032	0,0034	0,0036	0,0038	0,0040	0,0042	●
H.1.4															
H.2.1	75	0,5	0,0015	0,0015	0,0023	0,0030	0,0038	0,0045	0,0048	0,0051	0,0054	0,0057	0,0060	0,0063	●
H.3.1	28	0,5	0,0012	0,0012	0,0018	0,0024	0,0030	0,0036	0,0038	0,0041	0,0043	0,0046	0,0048	0,0050	●

Index	$T_x \leq 20{,}1–30{,}0 \times DC$		52 345 ..., 52 346 ..., 52 347 ..., 52 349 ..., 52 350 ..., 52 351 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	57	0,5	0,0010	0,002	0,0020	0,0030	0,0030	0,0030	0,0040	0,0040	0,0040	0,005	0,0050	0,0050	●
P.3.3	57	0,5	0,0010	0,002	0,0020	0,0030	0,0030	0,0030	0,0040	0,0040	0,0040	0,005	0,0050	0,0050	●
H.1.1	36	0,5	0,0010	0,002	0,0020	0,0030	0,0030	0,0030	0,0040	0,0040	0,0040	0,005	0,0050	0,0050	●
H.1.2	21	0,5	0,0010	0,001	0,0020	0,0020	0,0020	0,0030	0,0030	0,0030	0,0030	0,004	0,0040	0,0040	●
H.1.3	15	0,5	0,0008	0,001	0,0013	0,0017	0,0019	0,0022	0,0025	0,0027	0,0029	0,003	0,0031	0,0032	●
H.1.4															
H.2.1	57	0,5	0,0010	0,002	0,0020	0,0030	0,0030	0,0030	0,0040	0,0040	0,0040	0,005	0,0050	0,0050	●
H.3.1	21	0,5	0,0010	0,001	0,0020	0,0020	0,0020	0,0030	0,0030	0,0030	0,0030	0,004	0,0040	0,0040	●

Cutting data standard values – BlueLine – Micro ball-nosed end mills

Index	$T_X \leq 2,5 \times DC$		52 356 ..., 52 357 ..., 52 358 ..., 52 359 ..., 52 360 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	190	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0053	0,0060	0,0063	0,0066	0,0069	0,0072	0,0075	●
P.3.3	190	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0053	0,0060	0,0063	0,0066	0,0069	0,0072	0,0075	●
H.1.1	120	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0053	0,0060	0,0063	0,0066	0,0069	0,0072	0,0075	●
H.1.2	70	0,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0042	0,0048	0,0050	0,0053	0,0055	0,0058	0,0060	●
H.1.3	50	0,5	0,0010	0,0015	0,0020	0,0025	0,0030	0,0035	0,0040	0,0042	0,0044	0,0046	0,0048	0,0050	●
H.1.4															
H.2.1	190	0,5	0,0015	0,0023	0,0030	0,0038	0,0045	0,0053	0,0060	0,0063	0,0066	0,0069	0,0072	0,0075	●
H.3.1	70	0,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0042	0,0048	0,0050	0,0053	0,0055	0,0058	0,0060	●

Index	$T_X \leq 2,6–5,0 \times DC$		52 356 ..., 52 357 ..., 52 358 ..., 52 359 ..., 52 360 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	170	0,5	0,0011	0,0014	0,0018	0,0023	0,0026	0,0029	0,0032	0,0035	0,0038	0,0041	0,0044	0,0048	●
P.3.3	170	0,5	0,0011	0,0014	0,0018	0,0023	0,0026	0,0029	0,0032	0,0035	0,0038	0,0041	0,0044	0,0048	●
H.1.1	108	0,5	0,0011	0,0014	0,0018	0,0023	0,0026	0,0029	0,0032	0,0035	0,0038	0,0041	0,0044	0,0048	●
H.1.2	63	0,5	0,0008	0,0011	0,0014	0,0018	0,0019	0,0021	0,0023	0,0025	0,0027	0,0029	0,0032	0,0038	●
H.1.3	45	0,5	0,0007	0,0009	0,0012	0,0015	0,0017	0,0019	0,0021	0,0023	0,0025	0,0027	0,0029	0,0032	●
H.1.4															
H.2.1	170	0,5	0,0011	0,0014	0,0018	0,0023	0,0026	0,0029	0,0032	0,0035	0,0038	0,0041	0,0044	0,0048	●
H.3.1	63	0,5	0,0008	0,0011	0,0014	0,0018	0,0019	0,0021	0,0023	0,0025	0,0027	0,0029	0,0032	0,0038	●

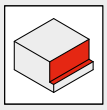
Index	$T_X \leq 5,1–10,0 \times DC$		52 356 ..., 52 357 ..., 52 358 ..., 52 359 ..., 52 360 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	150	0,5	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	0,0039	●
P.3.3	150	0,5	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	0,0039	●
H.1.1	96	0,5	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,003	0,0033	0,0036	0,0039	●
H.1.2	56	0,5	0,0005	0,0007	0,0010	0,0012	0,0014	0,0017	0,0019	0,0022	0,0024	0,0026	0,0029	0,0031	●
H.1.3	40	0,5	0,0004	0,0006	0,0008	0,0010	0,0012	0,0014	0,0016	0,0018	0,0020	0,0022	0,0024	0,0026	●
H.1.4															
H.2.1	150	0,5	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	0,0039	●
H.3.1	56	0,5	0,0005	0,0007	0,0010	0,0012	0,0014	0,0017	0,0019	0,0022	0,0024	0,0026	0,0029	0,0031	●

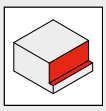
Cutting data standard values – BlueLine – Micro ball-nosed end mills

Index	T_x ≤ 10,1–15,0 x DC		52 356 ..., 52 357 ..., 52 358 ..., 52 359 ..., 52 360 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0	
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	114	0,5	0,0003	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	●
P.3.3	114	0,5	0,0003	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	●
H.1.1	72	0,5	0,0003	0,0006	0,0008	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	●
H.1.2	42	0,5	0,0002	0,0005	0,0007	0,0010	0,0012	0,0014	0,0017	0,0019	0,0022	0,0022	0,0026	0,0029	●
H.1.3	30	0,5	0,0002	0,0004	0,0006	0,0008	0,0010	0,0012	0,0014	0,0016	0,0018	0,0020	0,0022	0,0024	●
H.1.4															
H.2.1	114	0,5	0,0003	0,0006	0,0008	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,0030	0,0033	0,0036	●
H.3.1	42	0,5	0,0002	0,0005	0,0007	0,0010	0,0012	0,0014	0,0017	0,0019	0,0022	0,0022	0,0026	0,0029	●

Index	T_x ≤ 15,1–20,0 x DC		52 356 ..., 52 357 ..., 52 358 ..., 52 359 ..., 52 360 ...											Compressed air
			Ø DC (mm) =											
			0,2	0,3	0,4–0,5	0,6–0,7	0,8–0,9	1,0	1,2–1,4	1,5	1,6–1,8	2,0	2,5	3,0	
			a_e 0,05 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)											
P.3.2	114	0,5	0,0002	0,0004	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,003	0,0033	●
P.3.3	114	0,5	0,0002	0,0004	0,0006	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,003	0,0033	●
H.1.1	72	0,5	0,0002	0,0004	0,0005	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,003	0,0033	●
H.1.2	42	0,5	0,0001	0,0003	0,0004	0,0007	0,0009	0,0011	0,0014	0,0016	0,0019	0,0019	0,0023	0,0026	●
H.1.3	30	0,5	0,0001	0,0002	0,0003	0,0005	0,0007	0,0009	0,0011	0,0013	0,0015	0,0017	0,0019	0,0021	●
H.1.4															
H.2.1	114	0,5	0,0002	0,0004	0,0005	0,0009	0,0012	0,0015	0,0018	0,0021	0,0024	0,0027	0,003	0,0033	●
H.3.1	42	0,5	0,0001	0,0003	0,0004	0,0007	0,0009	0,0011	0,0014	0,0016	0,0019	0,0021	0,0023	0,0026	●

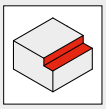
Cutting data standard values – BlueLine – End mills

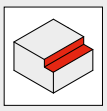
Index	52 140 ... 52 141 ...	52 133 ... 52 134 ... 52 324 ...		52 133 ..., 52 134 ..., 52 140 ..., 52 141 ..., 52 324 ...									Compressed air
				Ø DC (mm) =									
				3	4	5	6	8	10	12	16	20	
				a_e 0,05 x DC									
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	190	160	1,0	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
P.3.3	190	160	1,0	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
H.1.1	160	140	1,0	0,013	0,013	0,016	0,018	0,020	0,023	0,025	0,029	0,032	●
H.1.2	**140**	**130**	1,0	0,011	0,011	0,014	0,016	0,018	0,020	0,022	0,025	0,027	●
H.1.3	**100**	**90**	1,0	0,010	0,010	0,012	0,014	0,016	0,018	0,020	0,023	0,025	●
H.1.4													
H.2.1	**190**	**160**	1,0	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
H.3.1	**140**	**130**	1,0	0,011	0,011	0,014	0,016	0,018	0,020	0,022	0,025	0,027	●

Index		52 135 ..., 52 136 ..., 52 325 ...									Compressed air
		Ø DC (mm) =									
		3	4	5	6	8	10	12	16	20	
		a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)								
P.3.2	140	1,0	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
P.3.3	140	1,0	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
H.1.1	125	1,0	0,008	0,009	0,011	0,014	0,016	0,02	0,023	0,026	0,028	●
H.1.2	**115**	1,0	0,007	0,008	0,009	0,012	0,014	0,017	0,02	0,023	0,025	●
H.1.3	**80**	1,0	0,005	0,006	0,007	0,01	0,012	0,015	0,017	0,019	0,02	●
H.1.4												
H.2.1	**140**	1,0	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
H.3.1	**115**	1,0	0,007	0,008	0,009	0,012	0,014	0,017	0,02	0,023	0,025	●

Index			52 344 ...																	
			Ø DC (mm) =																	
			0,5			1,0–1,5			2,0–2,5			3,0–3,5			4,0			5,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)																	
P.3.2	**120**	0,5	0,006	0,004	0,004	0,008	0,006	0,005	0,011	0,008	0,006	0,016	0,012	0,009	0,022	0,017	0,012	0,027	0,020	0,014
P.3.3	**120**	0,5	0,006	0,004	0,004	0,008	0,006	0,005	0,011	0,008	0,006	0,016	0,012	0,009	0,022	0,017	0,012	0,027	0,020	0,014
H.1.1	**80**	0,5	0,006	0,004	0,004	0,008	0,006	0,005	0,011	0,008	0,006	0,016	0,012	0,009	0,022	0,017	0,012	0,027	0,020	0,014
H.1.2	**60**	0,5	0,004	0,004	0,003	0,006	0,005	0,004	0,009	0,007	0,005	0,013	0,010	0,007	0,017	0,013	0,010	0,022	0,016	0,011
H.1.3	**50**	0,5	0,004	0,003	0,002	0,005	0,004	0,003	0,007	0,006	0,004	0,011	0,008	0,006	0,014	0,011	0,008	0,018	0,013	0,009
H.1.4																				
H.2.1	**120**	0,5	0,006	0,004	0,004	0,008	0,006	0,005	0,011	0,008	0,006	0,016	0,012	0,009	0,022	0,017	0,012	0,027	0,020	0,014
H.3.1	**60**	0,5	0,004	0,004	0,003	0,006	0,005	0,004	0,009	0,007	0,005	0,013	0,010	0,007	0,017	0,013	0,010	0,022	0,016	0,011

Cutting data standard values – BlueLine – End mills

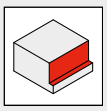
Index	52 140 ... 52 141 ...	52 133 ... 52 134 ... 52 324 ...		52 133 ..., 52 134 ..., 52 140 ..., 52 141 ..., 52 324 ...									Compressed air
				Ø DC (mm) =									
				3	4	5	6	8	10	12	16	20	
				a_e 0,6–1,0 x DC									
	v_c (m/min)		$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	190	160	0,05	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
P.3.3	190	160	0,05	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
H.1.1	160	140	0,05	0,013	0,013	0,016	0,018	0,020	0,023	0,025	0,029	0,032	●
H.1.2	**140**	**130**	0,05	0,011	0,011	0,014	0,016	0,018	0,020	0,022	0,025	0,027	●
H.1.3	**100**	**90**	0,05	0,010	0,010	0,012	0,014	0,016	0,018	0,020	0,023	0,025	●
H.1.4													
H.2.1	**190**	**160**	0,05	0,018	0,020	0,022	0,024	0,025	0,030	0,035	0,038	0,040	●
H.3.1	**140**	**130**	0,05	0,011	0,011	0,014	0,016	0,018	0,020	0,022	0,025	0,027	●

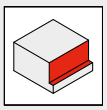
Index		52 135 ..., 52 136 ..., 52 325 ...								Compressed air
		Ø DC (mm) =								
		3	4	5	6	8	10	12	16	20	
		a_e 0,6–1,0 x DC								
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)								
P.3.2	140	0,05	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
P.3.3	140	0,05	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
H.1.1	125	0,05	0,008	0,009	0,011	0,014	0,016	0,02	0,023	0,026	0,028	●
H.1.2	**115**	0,05	0,007	0,008	0,009	0,012	0,014	0,017	0,02	0,023	0,025	●
H.1.3	**80**	0,05	0,005	0,006	0,007	0,01	0,012	0,015	0,017	0,019	0,02	●
H.1.4												
H.2.1	**140**	0,05	0,011	0,013	0,015	0,019	0,022	0,027	0,032	0,034	0,035	●
H.3.1	**115**	0,05	0,007	0,008	0,009	0,012	0,014	0,017	0,02	0,023	0,025	●

Index	52 344 ...																		Compressed air
	Ø DC (mm) =																		
	6,0			8,0			10,0			12,0			16,0			20,0			
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	
	f_z (mm)																		
P.3.2	0,036	0,027	0,018	0,048	0,036	0,024	0,054	0,040	0,027	0,06	0,045	0,030	0,076	0,058	0,045	0,095	0,077	0,060	●
P.3.3	0,036	0,027	0,018	0,048	0,036	0,024	0,054	0,040	0,027	0,06	0,045	0,030	0,076	0,058	0,045	0,095	0,077	0,060	●
H.1.1	0,036	0,027	0,018	0,048	0,036	0,024	0,054	0,040	0,027	0,06	0,045	0,030	0,076	0,058	0,045	0,095	0,077	0,060	●
H.1.2	0,029	0,021	0,014	0,038	0,029	0,019	0,043	0,032	0,022	0,048	0,036	0,024	0,061	0,046	0,036	0,076	0,062	0,048	●
H.1.3	0,024	0,018	0,012	0,032	0,024	0,016	0,036	0,027	0,018	0,040	0,030	0,020	0,051	0,039	0,030	0,063	0,052	0,040	●
H.1.4																			
H.2.1	0,036	0,027	0,018	0,048	0,036	0,024	0,054	0,040	0,027	0,060	0,045	0,030	0,076	0,058	0,045	0,095	0,077	0,060	●
H.3.1	0,029	0,021	0,014	0,038	0,029	0,019	0,043	0,032	0,022	0,048	0,036	0,024	0,061	0,046	0,036	0,076	0,062	0,048	●

Cutting data standard values – BlueLine – End mills

Index	v_c (m/min)	$a_{p\,max.}$ x DC	52 348 ... Ø DC (mm) = 6		8		10		12		16		20		Compressed air
			a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,05 x DC	a_e 0,1 x DC	
			f_z (mm)												
P.3.2	120	2,0	0,025	0,021	0,029	0,024	0,031	0,027	0,036	0,032	0,042	0,038	0,049	0,045	●
P.3.3	120	2,0	0,025	0,021	0,029	0,024	0,031	0,027	0,036	0,032	0,042	0,038	0,049	0,045	●
H.1.1	100	2,0	0,025	0,021	0,029	0,024	0,031	0,027	0,036	0,032	0,042	0,038	0,049	0,045	●
H.1.2	90	2,0	0,021	0,017	0,024	0,019	0,027	0,022	0,030	0,025	0,035	0,030	0,041	0,036	●
H.1.3	60	2,0	0,014	0,011	0,016	0,013	0,018	0,015	0,021	0,018	0,025	0,022	0,030	0,027	●
H.1.4															
H.2.1	120	2,0	0,025	0,021	0,029	0,024	0,031	0,027	0,036	0,032	0,042	0,038	0,049	0,045	●
H.3.1	90	2,0	0,021	0,017	0,024	0,019	0,027	0,022	0,030	0,025	0,035	0,030	0,041	0,036	●

Index			52 353 ... Ø DC (mm) = 1	2	3	4	5	6	8	10	12	16	Compressed air
			a_e 0,05 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.3.2	200	0,5	0,008	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	●
P.3.3	200	0,5	0,008	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	●
H.1.1	170	0,5	0,008	0,150	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	●
H.1.2	150	0,5	0,006	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,108	●
H.1.3	110	0,5	0,005	0,010	0,020	0,030	0,040	0,050	0,060	0,070	0,080	0,090	●
H.1.4													
H.2.1	200	0,5	0,008	0,150	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	●
H.3.1	150	0,5	0,006	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,108	●

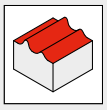
Index			52 354 ... Ø DC (mm) = 1	2	3	4	5	6	8	10	12	16	Compressed air
			a_e 0,05 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.3.2	200	0,5	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
P.3.3	200	0,5	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.1.1	170	0,5	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.1.2	150	0,5	0,004	0,006	0,012	0,018	0,024	0,030	0,036	0,042	0,048	0,054	●
H.1.3	110	0,5	0,003	0,005	0,010	0,015	0,020	0,025	0,03	0,035	0,040	0,045	●
H.1.4													
H.2.1	200	0,5	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.3.1	150	0,5	0,004	0,006	0,012	0,018	0,024	0,030	0,036	0,042	0,048	0,054	●

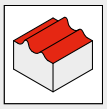
Cutting data standard values – BlueLine – End mills

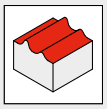
Index			52 353 ...										Compressed air
			Ø DC (mm) =										
			1	2	3	4	5	6	8	10	12	16	
			a_e 0,6–1,0 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.3.2	200	0,05	0,008	0,015	0,030	0,045	0,06	0,075	0,090	0,105	0,120	0,135	●
P.3.3	200	0,05	0,008	0,015	0,030	0,045	0,06	0,075	0,090	0,105	0,120	0,135	●
H.1.1	170	0,05	0,008	0,015	0,030	0,045	0,06	0,075	0,090	0,105	0,120	0,135	●
H.1.2	150	0,05	0,006	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,108	●
H.1.3	110	0,05	0,005	0,010	0,020	0,030	0,040	0,050	0,060	0,070	0,080	0,090	●
H.1.4													
H.2.1	200	0,05	0,008	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	●
H.3.1	150	0,05	0,006	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,108	●

Index			52 354 ...										Compressed air
			Ø DC (mm) =										
			1	2	3	4	5	6	8	10	12	16	
			a_e 0,6–1,0 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										
P.3.2	200	0,05	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
P.3.3	200	0,05	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.1.1	170	0,05	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.1.2	150	0,05	0,004	0,006	0,012	0,018	0,024	0,030	0,036	0,042	0,048	0,054	●
H.1.3	110	0,05	0,003	0,005	0,010	0,015	0,020	0,025	0,030	0,035	0,040	0,045	●
H.1.4													
H.2.1	200	0,05	0,005	0,008	0,015	0,023	0,030	0,038	0,045	0,053	0,060	0,068	●
H.3.1	150	0,05	0,004	0,006	0,012	0,018	0,024	0,030	0,036	0,042	0,048	0,054	●

Cutting data standard values – BlueLine – Ball-nosed end mills

Index			52 258 ..., 52 259 ...									
			Ø DC (mm) =									
			0,1–0,5	0,6–1,0	1,5–2,0	2,5	3,0	4,0	5,0	6,0	8,0	10,0
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	190	0,05	0,008	0,010	0,012	0,016	0,020	0,025	0,030	0,040	0,050	0,060
P.3.3	190	0,05	0,008	0,010	0,012	0,016	0,020	0,025	0,030	0,040	0,050	0,060
H.1.1	165	0,05	0,004	0,005	0,006	0,008	0,010	0,014	0,017	0,028	0,038	0,048
H.1.2	**145**	**0,05**	0,004	0,004	0,005	0,006	0,008	0,012	0,015	0,025	0,035	0,045
H.1.3	**105**	**0,05**	0,003	0,004	0,005	0,005	0,006	0,010	0,014	0,022	0,030	0,040
H.1.4												
H.2.1	**190**	**0,05**	0,008	0,010	0,012	0,016	0,020	0,025	0,030	0,040	0,050	0,060
H.3.1	**145**	**0,05**	0,004	0,004	0,005	0,006	0,008	0,012	0,015	0,025	0,035	0,045

Index			52 256 ..., 52 257 ..., 52 302 ..., 52 303 ..., 52 404 ..., 52 405 ...									
			Ø DC (mm) =									
			0,1–0,5	0,6–1,0	1,1–1,5	1,6–2,0	2,5	3,0	4,0	5,0	6,0	7,0
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	200	0,05	0,010	0,012	0,015	0,019	0,025	0,030	0,033	0,036	0,040	0,040
P.3.3	200	0,05	0,010	0,012	0,015	0,019	0,025	0,030	0,033	0,036	0,040	0,040
H.1.1	170	0,05	0,005	0,006	0,006	0,008	0,011	0,015	0,020	0,024	0,027	0,035
H.1.2	**150**	0,05	0,005	0,006	0,006	0,008	0,010	0,013	0,018	0,022	0,025	0,032
H.1.3	**110**	0,05	0,004	0,005	0,005	0,007	0,009	0,013	0,016	0,021	0,025	0,030
H.1.4												
H.2.1	**200**	0,05	0,010	0,012	0,015	0,019	0,025	0,030	0,033	0,036	0,040	0,040
H.3.1	**150**	0,05	0,005	0,006	0,006	0,008	0,010	0,013	0,018	0,022	0,025	0,032

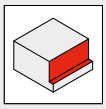
Index			52 355 ...											Compressed air
			Ø DC (mm) =											
			0,6–0,8	1,0	1,2–1,5	2,0	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	
			a_e 0,05 x DC												
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)												
P.3.2	**200**	0,05	0,006	0,008	0,010	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,120	●
P.3.3	**200**	0,05	0,006	0,008	0,010	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,120	●
H.1.1	**170**	0,05	0,006	0,008	0,010	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,105	●
H.1.2	**150**	0,05	0,004	0,006	0,008	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,100	●
H.1.3	**110**	0,05	0,004	0,005	0,007	0,010	0,020	0,030	0,040	0,050	0,060	0,070	0,080	0,090	●
H.1.4															
H.2.1	**200**	0,05	0,006	0,008	0,010	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,120	●
H.3.1	**150**	0,05	0,004	0,006	0,008	0,012	0,024	0,036	0,048	0,060	0,072	0,084	0,096	0,100	●

Cutting data standard values – BlueLine – Ball-nosed end mills

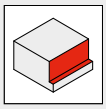
Index	52 258 ..., 52 259 ...			Compressed air
	Ø DC (mm) =			
	12,0	16,0	20,0	
	a_e 0,05 x DC			
	f_z (mm)			
P.3.2	0,070	0,090	0,10	●
P.3.3	0,070	0,090	0,10	●
H.1.1	0,058	0,078	0,09	●
H.1.2	0,055	0,075	0,08	●
H.1.3	0,050	0,070	0,07	●
H.1.4				
H.2.1	0,070	0,090	0,10	●
H.3.1	0,055	0,075	0,08	●

Index	52 258 ..., 52 259 ...							Compressed air
	Ø DC (mm) =							
	8,0	9,0	10,0	12,0	14,0	16,0	20,0	
	a_e 0,05 x DC							
	f_z (mm)							
P.3.2	0,050	0,06	0,07	0,08	0,09	0,100	0,120	●
P.3.3	0,050	0,06	0,07	0,08	0,09	0,100	0,120	●
H.1.1	0,042	0,048	0,058	0,068	0,078	0,088	0,105	●
H.1.2	0,039	0,045	0,055	0,065	0,075	0,085	0,100	●
H.1.3	0,035	0,040	0,050	0,060	0,070	0,080	0,090	●
H.1.4								
H.2.1	0,050	0,060	0,070	0,080	0,090	0,100	0,120	●
H.3.1	0,039	0,045	0,055	0,065	0,075	0,085	0,100	●

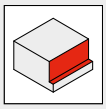
Cutting data standard values – BlueLine – Torus cutters



Index	v_c (m/min)	$a_{p\,max.}$ x DC	52 304 ... Ø DC (mm) = 0,5–1,5	2,0–3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	Compressed air
			a_e 0,05 x DC									
			f_z (mm)									
P.3.2	190	1,0	0,012	0,028	0,055	0,055	0,065	0,075	0,090	0,100	0,120	●
P.3.3	190	1,0	0,012	0,028	0,055	0,055	0,065	0,075	0,090	0,100	0,120	●
H.1.1	160	1,0	0,007	0,023	0,040	0,040	0,055	0,070	0,082	0,090	0,110	●
H.1.2	**140**	1,0	0,006	0,020	0,038	0,038	0,052	0,065	0,080	0,085	0,105	●
H.1.3	**100**	1,0	0,005	0,018	0,035	0,035	0,050	0,060	0,075	0,080	0,100	●
H.1.4												
H.2.1	**190**	1,0	0,012	0,028	0,055	0,055	0,065	0,075	0,090	0,100	0,120	●
H.3.1	**140**	1,0	0,006	0,020	0,038	0,038	0,052	0,065	0,080	0,085	0,105	●

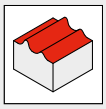


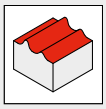
Index	v_c (m/min)	$a_{p\,max.}$ x DC	52 305 ... Ø DC (mm) = 1,0–1,5	2,0	3,0	4,0	5,30	6,0	Compressed air
			a_e 0,05 x DC						
			f_z (mm)						
P.3.2	190	1,0	0,010	0,025	0,025	0,050	0,050	0,060	●
P.3.3	190	1,0	0,010	0,025	0,025	0,050	0,050	0,060	●
H.1.1	160	1,0	0,005	0,020	0,020	0,035	0,035	0,050	●
H.1.2	**140**	1,0	0,004	0,017	0,017	0,033	0,033	0,053	●
H.1.3	**100**	1,0	0,003	0,015	0,015	0,030	0,030	0,005	●
H.1.4									
H.2.1	**190**	1,0	0,010	0,025	0,025	0,050	0,050	0,060	●
H.3.1	**140**	1,0	0,004	0,017	0,017	0,033	0,033	0,053	●

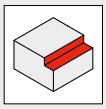


Index	v_c (m/min)	$a_{p\,max.}$ x DC	52 361 ... Ø DC (mm) = 0,8–1,0	1,2–1,5	2,0	3,0	4,0	6,0	8,0	10,0	12,0	Compressed air
			a_e 0,05 x DC									
			f_z (mm)									
P.3.2	200	0,5	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
P.3.3	200	0,5	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
H.1.1	170	0,5	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
H.1.2	**150**	0,5	0,006	0,008	0,012	0,024	0,036	0,060	0,072	0,084	0,096	●
H.1.3	**110**	0,5	0,005	0,007	0,010	0,020	0,030	0,050	0,060	0,070	0,080	●
H.1.4												
H.2.1	**200**	0,5	0,008	0,010	0,015	0,03	0,045	0,075	0,090	0,105	0,120	●
H.3.1	**150**	0,5	0,006	0,008	0,012	0,024	0,036	0,060	0,072	0,084	0,096	●

Cutting data standard values – BlueLine – Torus cutters

Index			52 304 ...									Compressed air
			Ø DC (mm) =									
			0,5–1,5	2,0–3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	190	0,05	0,016	0,032	0,060	0,060	0,080	0,090	0,100	0,120	0,140	●
P.3.3	190	0,05	0,016	0,032	0,060	0,060	0,080	0,090	0,100	0,120	0,140	●
H.1.1	160	0,05	0,011	0,028	0,050	0,050	0,070	0,080	0,090	0,100	0,130	●
H.1.2	140	0,05	0,010	0,025	0,044	0,044	0,070	0,075	0,088	0,085	0,125	●
H.1.3	100	0,05	0,009	0,021	0,040	0,040	0,065	0,070	0,085	0,080	0,120	●
H.1.4												
H.2.1	190	0,05	0,016	0,032	0,060	0,060	0,080	0,090	0,100	0,120	0,140	●
H.3.1	140	0,05	0,010	0,025	0,044	0,044	0,070	0,075	0,088	0,085	0,125	●

Index			52 305 ...						Compressed air
			Ø DC (mm) =						
			1,0–1,5	2,0	3,0	4,0	5,30	6,0	
			a_e 0,05 x DC						
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)						
P.3.2	190	0,05	0,014	0,030	0,030	0,055	0,055	0,070	●
P.3.3	190	0,05	0,014	0,030	0,030	0,055	0,055	0,070	●
H.1.1	160	0,05	0,009	0,025	0,025	0,045	0,045	0,060	●
H.1.2	140	0,05	0,008	0,022	0,022	0,040	0,040	0,058	●
H.1.3	100	0,05	0,007	0,018	0,018	0,035	0,035	0,050	●
H.1.4									
H.2.1	190	0,05	0,014	0,030	0,030	0,055	0,055	0,070	●
H.3.1	140	0,05	0,008	0,022	0,022	0,040	0,040	0,058	●

Index			52 361 ...									Compressed air
			Ø DC (mm) =									
			0,8–1,0	1,2–1,5	2,0	3,0	4,0	6,0	8,0	10,0	12,0	
			a_e 0,05 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									
P.3.2	200	0,05	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
P.3.3	200	0,05	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
H.1.1	170	0,05	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
H.1.2	150	0,05	0,006	0,008	0,012	0,024	0,036	0,060	0,072	0,084	0,096	●
H.1.3	110	0,05	0,005	0,007	0,010	0,020	0,030	0,050	0,060	0,070	0,080	●
H.1.4												
H.2.1	200	0,05	0,008	0,010	0,015	0,030	0,045	0,075	0,090	0,105	0,120	●
H.3.1	150	0,05	0,006	0,008	0,012	0,024	0,036	0,060	0,072	0,084	0,096	●

Cutting data standard values – Micro cutters – 2.2xDC

Index	52 802 ..., 52 804 ..., 52 806 ...																	
	Ø DC (mm) = 0,2–0,4						Ø DC (mm) = 0,5–0,7						Ø DC (mm) = 0,8–0,9					
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC
	$a_{p\,max.}$	0,02	0,02	0,02	0,01	0,01	$a_{p\,max.}$	0,1	0,1	0,1	0,1	0,05	$a_{p\,max.}$	0,2	0,2	0,2	0,2	0,12
	$n_{min.}$	30.000					$n_{min.}$	12.000					$n_{min.}$	8.000				
	n	v_f (mm/min)					n	v_f (mm/min)					n	v_f (mm/min)				
P.1.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.1.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.1.3	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.1.4	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.1.5	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.2.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.2.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.2.3	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.2.4	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.3.1	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.3.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.3.3	50.000	201	175	151	125	101	50.000	237	206	178	147	119	50.000	420	365	315	260	210
P.4.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
P.4.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
M.1.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
M.2.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
M.3.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
K.1.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
K.1.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
K.2.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
K.2.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	485	422	364	301	242
K.3.1	50.000	141	123	106	88	71	50.000	175	152	131	109	88	32.000	285	248	213	176	142
K.3.2	50.000	141	123	106	88	71	50.000	175	152	131	109	88	32.000	285	248	213	176	142
N.1.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
N.1.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	44.000	485	422	364	301	242
N.3.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
N.3.3	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
N.4.1	50.000	212	185	159	132	106	50.000	250	218	188	155	125	50.000	531	462	398	329	266
S.1.1	50.000	46	40	35	29	23	30.000	55	48	41	34	27	19.000	69	60	51	43	34
S.1.2	50.000	46	40	35	29	23	30.000	55	48	41	34	27	19.000	69	60	51	43	34
S.2.1	50.000	72	62	54	44	36	50.000	89	77	66	55	44	25.000	91	79	68	56	45
S.2.2	50.000	46	40	35	29	23	30.000	55	48	41	34	27	19.000	69	60	51	43	34
S.2.3	50.000	54	47	41	34	27	30000	66	57	49	41	33	12.000	78	68	59	49	39
S.3.1	50.000	114	99	85	71	57	50.000	164	143	123	102	82	44.000	114	99	85	71	57
S.3.2	50.000	114	99	85	71	57	50.000	164	143	123	102	82	44.000	164	143	123	102	82
S.3.3	50.000	70	61	53	43	35	50.000	85	74	64	53	42	38.000	101	88	76	63	51
H.1.1	50.000	219	191	164	136	110	50.000	232	202	174	144	116	50.000	388	338	291	241	194
H.1.2	50.000	201	175	151	125	101	50.000	285	248	213	176	142	38.000	336	292	252	208	168
H.1.3	50.000	114	99	85	71	57	50.000	134	117	101	83	67	25.000	156	136	117	97	78
H.1.4	50.000	107	93	80	67	54	50.000	126	110	95	78	63	25.000	141	123	106	88	71
H.2.1	50.000	219	191	164	136	110	50.000	232	202	174	144	116	50.000	388	338	291	241	194
H.3.1	50.000	201	175	151	125	101	50.000	285	248	213	176	142	38.000	336	292	252	208	168
O.1.1	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
O.1.2	50.000	232	202	174	144	116	50.000	274	238	205	170	137	50.000	582	506	436	361	291
O.2.1	50.000	212	185	159	132	106	50.000	200	174	150	124	100	38.000	316	275	237	196	158
O.2.2	50.000	212	185	159	132	106	50.000	200	174	150	124	100	38.000	316	275	237	196	158
O.3.1																		

Cutting data standard values – Micro cutters – 2.2xDC

Index	52 802 ..., 52 804 ..., 52 806 ...												● 1st choice ○ Suitable		
	Ø DC (mm) = 1,0–1,4						Ø DC (mm) = 1,5–1,7						Emulsion	Compressed air	MMS
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6 –1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC			
	$a_{p\,max.}$	0,3	0,3	0,3	0,3	0,2	$a_{p\,max.}$	0,45	0,45	0,45	0,45	0,3			
	$n_{min.}$	6.500					$n_{min.}$	6.500							
	n	v_f (mm/min)					n	v_f (mm/min)							
P.1.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●	○	○
P.1.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●	○	○
P.1.3	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●	○	○
P.1.4	50.000	671	584	503	416	335	33.000	1039	904	779	644	520	●	○	○
P.1.5	50.000	671	584	503	416	335	33.000	1039	904	779	644	520	●	○	○
P.2.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600		●	○
P.2.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600		●	○
P.2.3	50.000	671	584	503	416	335	33.000	1039	904	779	644	520		●	○
P.2.4	50.000	671	584	503	416	335	33.000	1039	904	779	644	520		●	○
P.3.1	50.000	671	584	503	416	335	33.000	1039	904	779	644	520		●	○
P.3.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600		●	○
P.3.3	50.000	671	584	503	416	335	33.000	1039	904	779	644	520		●	○
P.4.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600		●	○
P.4.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600		●	○
M.1.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●		○
M.2.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●		○
M.3.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	●		○
K.1.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	○	●	
K.1.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	○	●	
K.2.1	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	○	●	
K.2.2	50.000	775	674	581	480	387	33.000	1200	1044	900	744	600	○	●	
K.3.1	50.000	389	338	292	241	194	21.000	548	477	411	340	274		●	
K.3.2	25000	389	338	292	241	194	21.000	548	477	411	340	274		●	
N.1.1	50.000	930	809	697	576	465	50.000	1500	1305	1125	930	750	●		○
N.1.2	50.000	930	809	697	576	465	50.000	1500	1305	1125	930	750	●		○
N.2.1															
N.2.2															
N.2.3															
N.3.1	44.000	775	674	581	480	387	29.000	1160	1009	870	719	580	●		○
N.3.2	50.000	930	809	697	576	465	38.000	1400	1218	1050	868	700	●		○
N.3.3	50.000	930	809	697	576	465	38.000	1400	1218	1050	868	700	●		○
N.4.1	50.000	849	738	636	526	424	38.000	1388	1207	1041	860	694	●		○
S.1.1	15.000	99	86	74	61	49	12.000	170	148	127	105	85	●		○
S.1.2	15.000	99	86	74	61	49	12.000	170	148	127	105	85	●		○
S.2.1	25.000	152	132	114	94	76	16.000	294	256	220	182	147	●		○
S.2.2	15.000	99	86	74	61	49	12.000	170	148	127	105	85	●		○
S.2.3	12.000	131	114	99	82	66	8.000	255	221	191	158	127	●		○
S.3.1	44.000	170	148	127	105	85	29.000	329	286	246	204	164	●		○
S.3.2	44.000	247	215	186	153	124	29.000	365	318	274	226	183	●		○
S.3.3	38.000	170	148	127	105	85	25.000	329	286	246	204	164	●		○
H.1.1	50.000	620	539	465	384	310	33.000	850	740	638	527	425		●	
H.1.2	38.000	537	467	402	333	268	25.000	779	678	585	483	390		●	
H.1.3	25.000	235	204	176	146	117	16.000	346	301	260	215	173		●	
H.1.4	25.000	221	193	166	137	111	16.000	327	284	245	202	163		●	
H.2.1	50.000	620	539	465	384	310	33.000	850	740	638	527	425		●	
H.3.1	38.000	537	467	402	333	268	25.000	779	678	585	483	390		●	
O.1.1	50.000	930	809	697	576	465	38.000	1520	1322	1140	942	760	●	○	○
O.1.2	50.000	930	809	697	576	465	33.000	1320	1148	990	818	660	●	○	○
O.2.1	38.000	495	431	371	307	247	25.000	685	596	513	424	342	●	○	○
O.2.2	38.000	495	431	371	307	247	25.000	685	596	513	424	342	●	○	○
O.3.1															

Cutting data standard values – Micro cutters – 2.2xDC

Index	52 802 ..., 52 804 ..., 52 806 ...												● 1st choice ○ Suitable		
	Ø DC (mm) = 1,8–1,9						Ø DC (mm) = 2,0						Emulsion	Compressed air	MMS
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC			
	$a_{p\,max.}$	0,54	0,54	0,54	0,54	0,36	$a_{p\,max.}$	0,6	0,6	0,6	0,6	0,4			
	$n_{min.}$	5.500					$n_{min.}$	5.000							
	n	v_f (mm/min)					n	v_f (mm/min)							
P.1.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●	○	○
P.1.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●	○	○
P.1.3	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●	○	○
P.1.4	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●	○	○
P.1.5	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●	○	○
P.2.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.2.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.2.3	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.2.4	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.3.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.3.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.3.3	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.4.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
P.4.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750		●	○
M.1.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●		○
M.2.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●		○
M.3.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	●		○
K.1.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	○	●	
K.1.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	○	●	
K.2.1	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	○	●	
K.2.2	**29.000**	1300	1131	975	806	650	**25.000**	1500	1300	1125	930	750	○	●	
K.3.1	**18.000**	630	548	473	391	315	**12.000**	750	650	550	450	350		●	
K.3.2	**18.000**	630	548	473	391	315	**12.000**	750	650	550	450	350		●	
N.1.1	**44.000**	1800	1566	1350	1116	900	**25.000**	1500	1300	1125	930	750	●		○
N.1.2	**44.000**	1800	1566	1350	1116	900	**25.000**	1500	1300	1125	930	750	●		○
N.2.1															
N.2.2															
N.2.3															
N.3.1	**25.000**	1250	1088	938	775	625	**19.000**	1140	990	855	700	570	●		○
N.3.2	**32.000**	1520	1322	1140	942	760	**25.000**	1500	1300	1125	930	750	●		○
N.3.3	**32.000**	1520	1322	1140	942	760	**25.000**	1500	1300	1125	930	750	●		○
N.4.1	**33.000**	1560	1357	1170	967	780	**25.000**	1500	1300	1125	930	750	●		○
S.1.1	**10.000**	280	244	210	174	140	**7.500**	300	260	230	200	160	●		○
S.1.2	**10.000**	280	244	210	174	140	**7.500**	300	260	230	200	160	●		○
S.2.1	**14.000**	420	365	315	260	210	**12.500**	500	400	350	300	250	●		○
S.2.2	**10.000**	280	244	210	174	140	**7.500**	300	260	230	200	160	●		○
S.2.3	**7.000**	370	322	278	229	185	**6.000**	300	260	230	200	160	●		○
S.3.1	**25.000**	400	348	300	248	200	**25.000**	1500	1300	1125	930	750	●		○
S.3.2	**25.000**	480	418	360	298	240	**25.000**	1500	1300	1125	930	750	●		○
S.3.3	**22.000**	380	331	285	236	190	**25.000**	1500	1300	1125	930	750	●		○
H.1.1	29.000	1200	1044	900	744	600	25.000	1500	1300	1125	930	750		●	
H.1.2	22.000	1000	870	750	620	500	19.000	1140	990	855	700	570		●	
H.1.3	14.000	420	365	315	260	210	19.000	1140	990	855	700	570		●	
H.1.4	14.000	420	365	315	260	210	19.000	1140	990	855	700	570		●	
H.2.1	29.000	1200	1044	900	744	600	25.000	1500	1300	1125	930	750		●	
H.3.1	22.000	1000	870	750	620	500	19.000	1140	990	855	700	570		●	
O.1.1	33.000	1560	1357	1170	967	780	19.000	1140	990	855	700	570	●	○	○
O.1.2	28.000	1400	1218	1050	868	700	19.000	1140	990	855	700	570	●	○	○
O.2.1	22.000	800	696	600	496	400	12.000	720	630	540	450	360	●	○	○
O.2.2	22.000	800	696	600	496	400	12.000	720	630	540	450	360	●	○	○
O.3.1															

Cutting data standard values – Micro cutters – 5xDC

Index	52 802 ..., 52 804 ..., 52 806 ...																● 1st choice ○ Suitable		
	Ø DC (mm) = 0,2–0,4 mm					Ø DC (mm) = 0,5–0,7 mm					Ø DC (mm) = 0,8–0,9 mm								
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC			
	$a_{p\ max.}$	0,012				$a_{p\ max.}$	0,06				$a_{p\ max.}$	0,12				0,064			
	$n_{min.}$	30.000				$n_{min.}$	12.000				$n_{min.}$	8.000							
	n	v_f (mm/min)				n	v_f (mm/min)				n	v_f (mm/min)					Emulsion	Compressed air	MMS
P.1.1	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242	●	○	○
P.1.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242	●	○	○
P.1.3	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242	●	○	○
P.1.4	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165	●	○	○
P.1.5	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165	●	○	○
P.2.1	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242		●	○
P.2.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242		●	○
P.2.3	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165		●	○
P.2.4	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165		●	○
P.3.1	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165		●	○
P.3.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242		●	○
P.3.3	**50.000**	201	175	151	125	**50.000**	237	206	178	147	**31.000**	330	287	248	205	165		●	○
P.4.1	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242		●	○
P.4.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**44.000**	485	422	364	301	242		●	○
M.1.1	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**31.000**	346	301	260	215	173	●		○
M.2.1	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**31.000**	346	301	260	215	173	●		○
M.3.1	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**31.000**	346	301	260	215	173	●		○
K.1.1	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**50.000**	416	362	312	258	208	○	●	
K.1.2	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**50.000**	416	362	312	258	208	○	●	
K.2.1	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**50.000**	416	362	312	258	208	○	●	
K.2.2	**50.000**	232	202	174	144	**50.000**	219	191	164	136	**50.000**	416	362	312	258	208	○	●	
K.3.1	**50.000**	141	123	106	88	**50.000**	175	152	131	109	**25.000**	240	209	180	149	120		●	
K.3.2	**50.000**	141	123	106	88	**50.000**	175	152	131	109	**25.000**	240	209	180	149	120		●	
N.1.1	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**50.000**	554	482	416	344	277	●		○
N.1.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**50.000**	554	482	416	344	277	●		○
N.2.1																			
N.2.2																			
N.2.3																			
N.3.1	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**38.000**	485	422	364	301	242	●		○
N.3.2	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**50.000**	554	482	416	344	277	●		○
N.3.3	**50.000**	232	202	174	144	**50.000**	274	238	205	170	**50.000**	554	482	416	344	277	●		○
N.4.1	**50.000**	212	185	159	132	**50.000**	250	218	188	155	**50.000**	506	440	379	314	253	●		○
S.1.1	**50.000**	55	48	41	32	**31.000**	58	51	44	36	**15.000**	98	85	73	61	49	●		○
S.1.2	**50.000**	55	48	41	32	**31.000**	58	51	44	36	**15.000**	98	85	73	61	49	●		○
S.2.1	**50.000**	63	54	47	39	**44.000**	76	66	57	47	**22.000**	91	79	68	56	45	●		○
S.2.2	**50.000**	55	47	40	32	**31.000**	58	51	44	36	**15.000**	98	85	73	61	49	●		○
S.2.3	**50.000**	46	40	35	29	**25.000**	55	48	41	34	**12.000**	78	68	59	49	39	●		○
S.3.1	**50.000**	60	61	48	41	**50.000**	71	62	53	44	**38.000**	114	99	85	71	57	●		○
S.3.2	**50.000**	60	61	48	41	**50.000**	71	62	53	44	**38.000**	126	110	95	78	63	●		○
S.3.3	**50.000**	60	52	45	37	**50.000**	71	62	49	39	**31.000**	89	77	66	55	44	●		○
H.1.1	50.000	95	83	71	59	50.000	134	117	101	83	31.000	180	157	135	112	90		●	
H.1.2	50.000	95	83	71	59	44.000	134	117	101	83	22.000	180	157	135	112	90		●	
H.1.3	50.000	89	78	67	55	44.000	126	110	95	78	22.000	170	148	127	105	85		●	
H.1.4																			
H.2.1	50.000	155	135	116	96	50.000	164	143	123	102	44.000	346	301	260	215	173		●	
H.3.1	50.000	95	83	71	59	50.000	134	117	101	83	31.000	180	157	135	112	90		●	
O.1.1	50.000	232	202	174	144	50.000	274	238	205	170	50.000	554	482	416	344	277	●	○	○
O.1.2	50.000	232	202	174	144	50.000	274	238	205	170	44.000	554	482	416	344	277	●	○	○
O.2.1	50.000	141	123	106	88	50.000	200	174	150	124	31.000	316	275	237	196	158	●	○	○
O.2.2	50.000	141	123	106	88	50.000	200	174	150	124	31.000	316	275	237	196	158	●	○	○
O.3.1																			

a_e= 0.6–1.0 x DC: If values are missing, only trochoidal slot milling and profiling are permitted. Otherwise, there is the risk of tool breakage.

Cutting data standard values – Micro cutters – 5xDC

Index	52 802 ..., 52 804 ..., 52 806 ...																	
	Ø DC (mm) = 1,0–1,4						Ø DC (mm) = 1,5–1,7						Ø DC (mm) = 1,8–1,9					
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC
	$a_{p\ max.}$	0,3				0,2	$a_{p\ max.}$	0,3				0,2	$a_{p\ max.}$	0,54				0,36
	$n_{min.}$	6.500					$n_{min.}$	6.500					$n_{min.}$	5.500				
	n	v_f (mm/min)					n	v_f (mm/min)					n	v_f (mm/min)				
P.1.1	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.1.2	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.1.3	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.1.4	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.1.5	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.2.1	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.2.2	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.2.3	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.2.4	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.3.1	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.3.2	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.3.3	31.000	416	362	312	258	208	21.000	693	603	520	430	346	18.000	850	740	638	527	425
P.4.1	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
P.4.2	44.000	682	593	511	423	341	29.000	1160	1009	870	719	580	25.000	1250	1088	938	775	625
M.1.1	31.000	480	418	360	298	240	21.000	800	696	600	496	400	18.000	850	740	638	527	425
M.2.1	31.000	480	418	360	298	240	21.000	800	696	600	496	400	18.000	850	740	638	527	425
M.3.1	31.000	480	418	360	298	240	21.000	800	696	600	496	400	18.000	850	740	638	527	425
K.1.1	50.000	620	539	465	384	310	33.000	1000	870	750	620	500	28.000	1320	1148	990	818	660
K.1.2	50.000	620	539	465	384	310	33.000	1000	870	750	620	500	28.000	1320	1148	990	818	660
K.2.1	50.000	620	539	465	384	310	33.000	1000	870	750	620	500	28.000	1320	1148	990	818	660
K.2.2	50.000	620	539	465	384	310	33.000	1000	870	750	620	500	28.000	1320	1148	990	818	660
K.3.1	25.000	297	258	223	184	148	16.000	411	357	308	255	205	14.000	480	418	360	298	240
K.3.2	25.000	297	258	223	184	148	16.000	411	357	308	255	205	14.000	480	418	360	298	240
N.1.1	50.000	775	674	581	480	387	42.000	1200	1044	900	744	600	36.000	1500	1305	1125	930	750
N.1.2	50.000	775	674	581	480	387	42.000	1200	1044	900	744	600	36.000	1500	1305	1125	930	750
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	38.000	697	607	523	432	349	25.000	1000	870	750	620	500	22.000	1100	957	825	682	550
N.3.2	50.000	930	809	697	576	465	33.000	1320	1148	990	818	660	28.000	1400	1218	1050	868	700
N.3.3	50.000	930	809	697	576	465	33.000	1320	1148	990	818	660	28.000	1400	1218	1050	868	700
N.4.1	50.000	849	738	636	526	424	33.000	1205	1048	904	747	602	28.000	1400	1218	1050	868	700
S.1.1	15.000	120	105	90	75	60	10.000	184	160	138	114	92	8.000	280	244	210	174	140
S.1.2	15.000	120	105	90	75	60	10.000	184	160	138	114	92	8.000	280	244	210	174	140
S.2.1	22.000	114	99	85	71	57	14.000	196	170	147	121	98	12.000	300	261	225	186	150
S.2.2	15.000	120	105	90	75	60	10.000	184	160	138	114	92	8.000	280	244	210	174	140
S.2.3	12.000	131	114	99	82	66	8.000	170	148	127	105	85	7.000	240	209	180	149	120
S.3.1	38.000	156	135	117	96	78	25.000	274	238	205	170	137	22.000	380	331	285	236	190
S.3.2	38.000	212	185	159	132	106	25.000	365	318	274	226	183	22.000	450	392	338	279	225
S.3.3	31.000	127	111	95	79	64	21.000	201	175	151	125	100	18.000	300	261	225	186	150
H.1.1	31.000	201	175	151	125	101	21.000	346	301	260	215	173	16.000	500	435	375	310	250
H.1.2	22.000	235	204	176	146	117	14.000	346	301	260	215	173	12.000	450	392	338	279	225
H.1.3	22.000	221	193	166	137	111	14.000	327	284	245	202	163	12.000	450	392	338	279	225
H.1.4																		
H.2.1	44.000	426	371	320	264	213	29.000	600	522	450	372	300	25.000	800	696	600	496	400
H.3.1	31.000	201	175	151	125	101	21.000	346	301	260	215	173	16.000	500	435	375	310	250
O.1.1	50.000	930	809	697	576	465	33.000	1320	1148	990	818	660	28.000	1400	1218	1050	868	700
O.1.2	44.000	813	708	610	504	407	29.000	1160	1009	870	719	580	25.000	1200	1044	900	744	600
O.2.1	31.000	438	381	329	272	219	21.000	575	500	431	357	288	18.000	650	566	488	403	325
O.2.2	31.000	438	381	329	272	219	21.000	575	500	431	357	288	18.000	650	566	488	403	325
O.3.1																		

Cutting data standard values – Micro cutters – 5xDC

Index	52 802 ..., 52 804 ..., 52 806 ...						● 1st choice ○ Suitable		
	Ø DC (mm) = 2,0								
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,6–1,0 x DC	Emulsion	Compressed air	MMS
	$a_{p\,max.}$	0,6				0,4			
	$n_{min.}$	5.000							
	n	v_f (mm/min)							
P.1.1	22.000	1320	1148	990	818	660	●	○	○
P.1.2	22.000	1320	1148	990	818	660	●	○	○
P.1.3	22.000	1320	1148	990	818	660	●	○	○
P.1.4	15.000	900	783	675	558	450	●	○	○
P.1.5	15.000	900	783	675	558	450	●	○	○
P.2.1	22.000	1320	1148	990	818	660		●	○
P.2.2	22.000	1320	1148	990	818	660		●	○
P.2.3	15.000	900	783	675	558	450		●	○
P.2.4	15.000	900	783	675	558	450		●	○
P.3.1	15.000	900	783	675	558	450		●	○
P.3.2	22.000	1320	1148	990	818	660		●	○
P.3.3	15.000	900	783	675	558	450		●	○
P.4.1	22.000	1320	1148	990	818	660		●	○
P.4.2	22.000	1320	1148	990	818	660		●	○
M.1.1	15.000	900	783	675	558	450	●		○
M.2.1	15.000	900	783	675	558	450	●		○
M.3.1	15.000	900	783	675	558	450	●		○
K.1.1	25.000	1500	1305	1125	930	750	○	●	
K.1.2	25.000	1500	1305	1125	930	750	○	●	
K.2.1	25.000	1500	1305	1125	930	750	○	●	
K.2.2	25.000	1500	1305	1125	930	750	○	●	
K.3.1	12.000	520	452	390	322	260		●	
K.3.2	12.000	520	452	390	322	260		●	
N.1.1	31.000	1860	1618	1395	1153	930	●		○
N.1.2	31.000	1860	1618	1395	1153	930	●		○
N.2.1									
N.2.2									
N.2.3									
N.3.1	19.000	1140	992	855	707	570	●		○
N.3.2	25.000	1500	1305	1125	930	750	●		○
N.3.3	25.000	1500	1305	1125	930	750	●		○
N.4.1	25.000	1500	1305	1125	930	750	●		○
S.1.1	7.000	300	261	225	186	150	●		○
S.1.2	7.000	300	261	225	186	150	●		○
S.2.1	11.000	400	348	300	248	200	●		○
S.2.2	7.000	300	261	225	186	150	●		○
S.2.3	6.000	260	226	195	161	130	●		○
S.3.1	19.000	420	365	315	260	210	●		○
S.3.2	19.000	500	435	375	310	250	●		○
S.3.3	15.000	400	348	300	248	200	●		○
H.1.1	15.000	500	435	375	310	250		●	
H.1.2	11.000	480	418	360	298	240		●	
H.1.3	11.000	480	418	360	298	240		●	
H.1.4									
H.2.1	22.000	1000	870	750	620	500		●	
H.3.1	15.000	500	435	375	310	250		●	
O.1.1	25.000	1500	1305	1125	930	750	●	○	○
O.1.2	22.000	1320	1148	990	818	660	●	○	○
O.2.1	15.000	660	574	495	409	330	●	○	○
O.2.2	15.000	660	574	495	409	330	●	○	○
O.3.1									

Cutting data standard values – Micro cutters – 10xDC

Index	52 802 ..., 52 804 ..., 52 806 ...																	
		Ø DC (mm) = 0,2–0,4				Ø DC (mm) = 0,5–0,7					Ø DC (mm) = 0,8–0,9				Ø DC (mm) = 1,0–1,4			
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC
	$a_{p\ max.}$	0,006	0,006	0,006	0,006	0,015	0,015	0,015	0,015	$a_{p\ max.}$	0,024	0,024	0,024	0,024	0,03	0,03	0,03	0,03
	$n_{min.}$	30.000				12.000				$n_{min.}$	8.000				6.500			
	n	v_f (mm/min)								n	v_f (mm/min)							
P.1.1	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.1.2	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.1.3	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.1.4	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.1.5	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.2.1	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.2.2	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.2.3	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.2.4	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.3.1	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.3.2	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.3.3	50.000	201	175	151	125	190	165	142	118	25.000	300	261	225	186	335	292	252	208
P.4.1	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
P.4.2	50.000	232	202	174	144	274	238	205	170	38.000	450	392	338	279	589	512	442	365
M.1.1	50.000	155	135	116	96	219	191	164	136	25.000	312	271	234	193	387	337	290	240
M.2.1	50.000	155	135	116	96	219	191	164	136	25.000	312	271	234	193	387	337	290	240
M.3.1	50.000	155	135	116	96	219	191	164	136	25.000	312	271	234	193	387	337	290	240
K.1.1	50.000	232	202	174	144	274	238	205	170	44.000	485	422	364	301	682	593	511	423
K.1.2	50.000	232	202	174	144	274	238	205	170	44.000	485	422	364	301	682	593	511	423
K.2.1	50.000	232	202	174	144	274	238	205	170	44.000	485	422	364	301	682	593	511	423
K.2.2	50.000	232	202	174	144	274	238	205	170	44.000	485	422	364	301	682	593	511	423
K.3.1	50.000	141	123	106	88	150	131	113	93	19.000	215	187	161	133	269	234	202	167
K.3.2	50.000	141	123	106	88	150	131	113	93	19.000	215	187	161	133	269	234	202	167
N.1.1	50.000	232	202	174	144	438	381	329	272	50.000	693	603	520	430	930	809	697	576
N.1.2	50.000	232	202	174	144	438	381	329	272	50.000	693	603	520	430	930	809	697	576
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	50.000	232	202	174	144	274	238	205	170	31.000	402	350	301	249	480	418	360	298
N.3.2	50.000	232	202	174	144	274	238	205	170	44.000	416	362	312	258	542	472	407	336
N.3.3	50.000	232	202	174	144	274	238	205	170	44.000	416	362	312	258	542	472	407	336
N.4.1	50.000	212	185	159	132	300	261	225	186	44.000	506	440	379	314	742	646	557	460
S.1.1	50.000	46	40	35	29	55	48	41	34	12.000	69	60	51	43	88	76	66	54
S.1.2	50.000	46	40	35	29	55	48	41	34	12.000	69	60	51	43	88	76	66	54
S.2.1	50.000	54	47	40	33	63	55	47	39	19.000	102	89	76	63	126	110	95	78
S.2.2	50.000	46	40	35	29	55	48	41	34	12.000	69	60	51	43	88	76	66	54
S.2.3	50.000	46	40	35	29	55	48	41	34	12.000	59	51	44	36	82	71	62	51
S.3.1	50.000	60	52	45	37	71	62	53	44	31.000	101	88	76	63	141	123	106	88
S.3.2	50.000	60	52	45	37	71	62	53	44	31.000	101	88	76	63	177	154	133	110
S.3.3	50.000	60	52	45	37	71	62	53	44	25.000	89	77	66	55	141	123	106	88
H.1.1	50.000	47	41	36	29	67	58	50	42	25.000	90	78	68	56	101	88	75	62
H.1.2	50.000	47	41	36	29	67	58	50	42	19.000	90	78	68	56	101	88	75	62
H.1.3	50.000	45	39	34	28	63	55	47	39	19.000	85	74	64	53	95	83	71	59
H.1.4																		
H.2.1	50.000	77	67	58	48	82	71	62	51	38.000	173	151	130	107	194	168	145	120
H.3.1	50.000	47	41	36	29	67	58	50	42	25.000	90	78	68	56	101	88	75	62
O.1.1	50.000	232	202	174	144	329	286	246	204	44.000	554	482	416	344	813	708	610	504
O.1.2	50.000	232	202	174	144	329	286	246	204	38.000	554	482	416	344	705	613	529	437
O.2.1	50.000	141	123	106	88	200	174	150	124	25.000	285	248	213	176	339	295	255	210
O.2.2	50.000	141	123	106	88	200	174	150	124	25.000	285	248	213	176	339	295	255	210
O.3.1																		

a_e= 0.6–1.0 x DC: If values are missing, only trochoidal slot milling and profiling are permitted. Otherwise, there is the risk of tool breakage.

Cutting data standard values – Micro cutters – 10xDC

Index	52 802 ..., 52 804 ..., 52 806 ...															● 1st choice ○ Suitable		
	Ø DC (mm) = 1,5–1,7					Ø DC (mm) = 1,8–1,9					Ø DC (mm) = 2,0							
	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC	a_e	0,1 x DC	0,2 x DC	0,3 x DC	0,4 x DC			
	$a_{p\ max.}$	0,06	0,06	0,06	0,06	$a_{p\ max.}$	0,072	0,072	0,072	0,072	$a_{p\ max.}$	0,08	0,08	0,08	0,08			
	$n_{min.}$	6.500				$n_{min.}$	5.500				$n_{min.}$	5.000						
	n	v_f (mm/min)				n	v_f (mm/min)				n	v_f (mm/min)				Emulsion	Compressed air	MMS
P.1.1	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707	●	○	○
P.1.2	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707	●	○	○
P.1.3	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707	●	○	○
P.1.4	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446	●	○	○
P.1.5	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446	●	○	○
P.2.1	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707		●	○
P.2.2	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707		●	○
P.2.3	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446		●	○
P.2.4	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446		●	○
P.3.1	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446		●	○
P.3.2	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707		●	○
P.3.3	**16.000**	554	482	416	344	**14.000**	680	592	510	422	**12.000**	720	626	540	446		●	○
P.4.1	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707		●	○
P.4.2	**25.000**	1000	870	750	620	**22.000**	1080	940	810	670	**19.000**	1140	992	855	707		●	○
M.1.1	**16.000**	600	522	450	372	**14.000**	650	566	488	403	**12.000**	720	626	540	446	●		○
M.2.1	**16.000**	600	522	450	372	**14.000**	650	566	488	403	**12.000**	720	626	540	446	●		○
M.3.1	**16.000**	600	522	450	372	**14.000**	650	566	488	403	**12.000**	720	626	540	446	●		○
K.1.1	**29.000**	1160	1009	870	719	**25.000**	1240	1079	930	769	**22.000**	1320	1148	990	818	○	●	
K.1.2	**29.000**	1160	1009	870	719	**25.000**	1240	1079	930	769	**22.000**	1320	1148	990	818	○	●	
K.2.1	**29.000**	1160	1009	870	719	**25.000**	1240	1079	930	769	**22.000**	1320	1148	990	818	○	●	
K.2.2	**29.000**	1160	1009	870	719	**25.000**	1240	1079	930	769	**22.000**	1320	1148	990	818	○	●	
K.3.1	**12.000**	329	286	246	204	**10.000**	380	331	285	236	**9.000**	390	339	293	242		●	
K.3.2	**12.000**	329	286	246	204	**10.000**	380	331	285	236	**9.000**	390	339	293	242		●	
N.1.1	**38.000**	1520	1322	1140	942	**33.000**	1600	1392	1200	992	**28.000**	1680	1462	1260	1042	●		○
N.1.2	**38.000**	1520	1322	1140	942	**33.000**	1600	1392	1200	992	**28.000**	1680	1462	1260	1042	●		○
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	**21.000**	800	696	600	496	**18.000**	850	740	638	527	**15.000**	900	783	675	558	●		○
N.3.2	**29.000**	900	783	675	558	**25.000**	1000	870	750	620	**22.000**	1140	992	855	707	●		○
N.3.3	**29.000**	900	783	675	558	**25.000**	1000	870	750	620	**22.000**	1140	992	855	707	●		○
N.4.1	**29.000**	1059	921	794	657	**25.000**	1200	1044	900	744	**22.000**	1320	1148	990	818	●		○
S.1.1	**8.000**	127	111	95	79	**7.000**	220	191	165	136	**6.000**	250	218	188	155	●		○
S.1.2	**8.000**	127	111	95	79	**7.000**	220	191	165	136	**6.000**	250	218	188	155	●		○
S.2.1	**12.000**	204	178	153	127	**10.000**	300	261	225	186	**9.000**	350	305	263	217	●		○
S.2.2	**8.000**	127	111	95	79	**7.000**	220	191	165	136	**6.000**	250	218	188	155	●		○
S.2.3	**8.000**	106	92	80	66	**7.000**	200	174	150	124	**6.000**	220	191	165	136	●		○
S.3.1	**21.000**	228	199	171	141	**18.000**	300	261	225	186	**15.000**	380	331	285	236	●		○
S.3.2	**21.000**	274	238	205	170	**18.000**	400	348	300	248	**15.000**	450	392	338	279	●		○
S.3.3	**16.000**	237	206	178	147	**14.000**	300	261	225	186	**12.000**	380	331	285	236	●		○
H.1.1	16.000	173	151	130	107	14.000	200	174	150	124	12.000	240	209	180	149		●	
H.1.2	12.000	173	151	130	107	10.000	200	174	150	124	9.000	240	209	180	149		●	
H.1.3	12.000	163	142	122	101	10.000	200	174	150	124	9.000	240	209	180	149		●	
H.1.4																		
H.2.1	25.000	300	261	225	186	21.000	400	348	300	248	19.000	500	435	375	310		●	
H.3.1	16.000	173	151	130	107	14.000	200	174	150	124	12.000	240	209	180	149		●	
O.1.1	29.000	1160	1009	870	719	25.000	1200	1044	900	744	22.000	1320	1148	990	818	●	○	○
O.1.2	25.000	1000	870	750	620	18.000	1000	870	750	620	19.000	1140	992	855	707	●	○	○
O.2.1	16.000	438	381	329	272	14.000	500	435	375	310	12.000	520	452	390	322	●	○	○
O.2.2	16.000	438	381	329	272	14.000	500	435	375	310	12.000	520	452	390	322	●	○	○
O.3.1																		

a_e= 0.6–1.0 x DC: If values are missing, only trochoidal slot milling and profiling are permitted. Otherwise, there is the risk of tool breakage.

Cutting data standard values – MultiLock – Ball-nosed end mills

Index	53 803 ..., 53 804 ...						● 1st choice ○ Suitable		
	CTC5240	CTPX225	Ø DC (mm) = 12	16	20	25	Emulsion	Compressed air	MMS
	v_c (m/min)		a_e / a_p= 0,05 x DC f_z (mm)						
P.1.1		180	0,12	0,15	0,18	0,20	●	○	○
P.1.2		160	0,13	0,16	0,19	0,21	●	○	○
P.1.3		160	0,13	0,16	0,19	0,21	●	○	○
P.1.4		140	0,10	0,13	0,16	0,18	●	○	○
P.1.5		140	0,10	0,13	0,16	0,18	●	○	○
P.2.1		150	0,10	0,13	0,16	0,18	●	○	○
P.2.2		150	0,10	0,13	0,16	0,18	●	○	○
P.2.3		90	0,09	0,10	0,13	0,14	●	○	○
P.2.4		90	0,09	0,10	0,13	0,14	●	○	○
P.3.1		80	0,07	0,09	0,11	0,12	●	○	○
P.3.2		80	0,07	0,09	0,11	0,12	●	○	○
P.3.3		80	0,07	0,09	0,11	0,12	●	○	○
P.4.1		60	0,09	0,10	0,13	0,14	●		○
P.4.2		50	0,09	0,10	0,13	0,14	●		○
M.1.1		50	0,07	0,09	0,11	0,12	●		○
M.2.1		40	0,06	0,08	0,10	0,11	●		○
M.3.1		50	0,07	0,09	0,11	0,12	●		○
K.1.1		150	0,13	0,17	0,21	0,23	●	○	○
K.1.2		120	0,12	0,15	0,18	0,20	●	○	○
K.2.1		140	0,13	0,16	0,19	0,21	●	○	○
K.2.2		120	0,10	0,13	0,16	0,18	●	○	○
K.3.1		120	0,13	0,16	0,19	0,21	●	○	○
K.3.2		100	0,12	0,15	0,18	0,20	●	○	○
N.1.1		500	0,20	0,25	0,30	0,33	●		○
N.1.2		450	0,20	0,25	0,30	0,33	●		○
N.2.1									
N.2.2		380	0,19	0,24	0,28	0,31	●		○
N.2.3		150	0,16	0,20	0,24	0,26	●		○
N.3.1		220	0,13	0,17	0,21	0,23	●		○
N.3.2		190	0,13	0,17	0,21	0,23	●		○
N.3.3		250	0,13	0,16	0,19	0,21	●		○
N.4.1									
S.1.1	60		0,08	0,11	0,16	0,17	●		
S.1.2									
S.2.1	60		0,08	0,11	0,16	0,17	●		
S.2.2	60		0,08	0,11	0,16	0,17	●		
S.2.3									
S.3.1	140		0,11	0,16	0,21	0,22	●		
S.3.2	100		0,08	0,11	0,16	0,17	●		
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting data standard values – MultiLock – Torus cutters

Index	CTC5240	CTPX225	53 805 ..., 53 806 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
			12		16		20		25				
			a_e = 0,1–0,3 x DC	a_e = 0,3–0,6 x DC	a_e = 0,1–0,3 x DC	a_e = 0,3–0,6 x DC	a_e = 0,1–0,3 x DC	a_e = 0,3–0,6 x DC	a_e = 0,1–0,3 x DC	a_e = 0,3–0,6 x DC			
			$a_{p\,max.}$ (mm) =										
			3,0		4,5		6,0		8,0				
	v_c (m/min)		f_z (mm)								Emulsion	Compressed air	MMS
P.1.1		180	0,08	0,05	0,11	0,07	0,14	0,08	0,15	0,08	●	○	○
P.1.2		160	0,09	0,05	0,12	0,07	0,15	0,09	0,17	0,09	●	○	○
P.1.3		160	0,09	0,05	0,12	0,07	0,15	0,09	0,17	0,09	●	○	○
P.1.4		140	0,07	0,04	0,10	0,06	0,13	0,08	0,14	0,08	●	○	○
P.1.5		140	0,07	0,04	0,10	0,06	0,13	0,08	0,14	0,08	●	○	○
P.2.1		150	0,07	0,04	0,10	0,06	0,13	0,08	0,14	0,08	●	○	○
P.2.2		150	0,07	0,04	0,10	0,06	0,13	0,08	0,14	0,08	●	○	○
P.2.3		90	0,06	0,03	0,08	0,05	0,10	0,06	0,11	0,06	●	○	○
P.2.4		90	0,06	0,03	0,08	0,05	0,10	0,06	0,11	0,06	●	○	○
P.3.1		80	0,05	0,03	0,07	0,04	0,09	0,06	0,10	0,06	●	○	○
P.3.2		80	0,05	0,03	0,07	0,04	0,09	0,06	0,10	0,06	●	○	○
P.3.3		80	0,05	0,03	0,07	0,04	0,09	0,06	0,10	0,06	●	○	○
P.4.1		60	0,06	0,05	0,08	0,07	0,10	0,09	0,11	0,09	●		○
P.4.2		50	0,06	0,05	0,08	0,07	0,10	0,09	0,11	0,09	●		○
M.1.1		50	0,05	0,04	0,07	0,06	0,09	0,08	0,10	0,08	●		○
M.2.1		40	0,04	0,03	0,06	0,05	0,08	0,07	0,09	0,07	●		○
M.3.1		50	0,05	0,04	0,07	0,06	0,09	0,08	0,10	0,08	●		○
K.1.1		150	0,09	0,06	0,13	0,08	0,16	0,10	0,18	0,10	●	○	○
K.1.2		120	0,08	0,05	0,11	0,07	0,14	0,08	0,15	0,08	●	○	○
K.2.1		140	0,09	0,05	0,12	0,07	0,15	0,09	0,17	0,09	●	○	○
K.2.2		120	0,07	0,04	0,10	0,06	0,13	0,08	0,14	0,08	●	○	○
K.3.1		120	0,09	0,05	0,12	0,07	0,15	0,09	0,17	0,09	●	○	○
K.3.2		100	0,08	0,05	0,11	0,07	0,14	0,08	0,15	0,08	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2		220	0,09	0,06	0,13	0,08	0,16	0,10	0,18	0,10	●		○
N.3.3													
N.4.1													
S.1.1	60		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.1.2	60		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.2.1	60		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.2.2	60		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.2.3	60		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.3.1	140		0,10	0,05	0,15	0,08	0,2	0,11	0,22	0,13	●		
S.3.2	100		0,07	0,04	0,10	0,06	0,15	0,08	0,17	0,10	●		
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Plunging angle for ramping = 1.9°
Plunging angle for helical milling = 1.5°
Bore diameter during helical milling = D_{min} 1.7xDC / D_{max} 1.95xDC
For ramping and helical milling, multiply f_z by 0.5

Cutting data standard values – MultiLock – HFC milling cutters

Index	CTC5240	CTPX225	53 801 ..., 53 802 ...												● 1st choice ○ Suitable		
			Ø DC (mm) =														
			12			16			20			25					
			a_e x DC =														
			0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0			
			$a_{p\,max.}$ (mm) =														
			0,5			0,8			0,8			0,8					
	v_c (m/min)		f_z (mm)												Emulsion	Compressed air	MMS
P.1.1		200	0,45	0,36	0,26	0,63	0,47	0,30	0,81	0,60	0,38	0,89	0,63	0,38	●	○	○
P.1.2		180	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●	○	○
P.1.3		180	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●	○	○
P.1.4		150	0,41	0,33	0,24	0,57	0,42	0,27	0,74	0,54	0,35	0,82	0,58	0,35	●	○	○
P.1.5		150	0,41	0,33	0,24	0,57	0,42	0,27	0,74	0,54	0,35	0,82	0,58	0,35	●	○	○
P.2.1		170	0,41	0,33	0,24	0,57	0,42	0,27	0,74	0,54	0,35	0,82	0,58	0,35	●	○	○
P.2.2		170	0,41	0,33	0,24	0,57	0,42	0,27	0,74	0,54	0,35	0,82	0,58	0,35	●	○	○
P.2.3		100	0,33	0,26	0,20	0,46	0,34	0,22	0,59	0,44	0,28	0,65	0,47	0,28	●	○	○
P.2.4		100	0,33	0,26	0,20	0,46	0,34	0,22	0,59	0,44	0,28	0,65	0,47	0,28	●	○	○
P.3.1		90	0,29	0,23	0,17	0,41	0,30	0,19	0,52	0,38	0,25	0,57	0,41	0,25	●	○	○
P.3.2		90	0,29	0,23	0,17	0,41	0,30	0,19	0,52	0,38	0,25	0,57	0,41	0,25	●	○	○
P.3.3		90	0,29	0,23	0,17	0,41	0,30	0,19	0,52	0,38	0,25	0,57	0,41	0,25	●	○	○
P.4.1		70	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●		○
P.4.2		60	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●		○
M.1.1		55	0,29	0,23	0,17	0,41	0,30	0,19	0,52	0,38	0,24	0,57	0,40	0,24	●		○
M.2.1		40	0,25	0,20	0,15	0,35	0,26	0,17	0,44	0,33	0,21	0,49	0,35	0,21	●		○
M.3.1		60	0,29	0,23	0,17	0,41	0,30	0,19	0,52	0,38	0,24	0,57	0,40	0,24	●		○
K.1.1		170	0,53	0,42	0,32	0,74	0,55	0,35	0,96	0,71	0,45	1,06	0,75	0,45	●	○	○
K.1.2		130	0,45	0,36	0,26	0,63	0,47	0,3	0,81	0,59	0,38	0,89	0,63	0,38	●	○	○
K.2.1		150	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●	○	○
K.2.2		130	0,41	0,33	0,24	0,57	0,42	0,27	0,74	0,54	0,35	0,82	0,58	0,35	●	○	○
K.3.1		130	0,50	0,39	0,29	0,69	0,51	0,33	0,89	0,65	0,41	0,98	0,69	0,41	●	○	○
K.3.2		110	0,45	0,36	0,26	0,63	0,47	0,30	0,81	0,59	0,38	0,89	0,63	0,38	●	○	○
N.1.1																	
N.1.2																	
N.2.1																	
N.2.2																	
N.2.3																	
N.3.1																	
N.3.2																	
N.3.3																	
N.4.1																	
S.1.1	60		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.1.2	60		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.2.1	60		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.2.2	60		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.2.3	60		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.3.1	140		0,18	0,15	0,11	0,20	0,15	0,11	0,21	0,18	0,14	0,23	0,19	0,16	●		
S.3.2	100		0,25	0,19	0,14	0,26	0,19	0,12	0,28	0,22	0,17	0,29	0,24	0,18	●		
S.3.3	140		0,18	0,15	0,11	0,20	0,15	0,11	0,22	0,18	0,14	0,23	0,20	0,16	●		
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

Plunging angle for ramping and helical milling = 1.9°
Bore diameter during helical milling = D_{min} 1.6xDC / D_{max} 1.95xDC
For ramping and helical milling, multiply f_z by 0.5

Cutting data standard values – MultiLock – Deburring cutters

Index	CTPX225	53800 ...		● 1st choice ○ Suitable		
		Ø DC (mm) =				
		12	16			
		a_e x DC =				
		0,1–0,2	0,1–0,3			
		$a_{p\,max.}$ (mm) =				
		4	6			
	v_c (m/min)	f_z (mm)		Emulsion	Compressed air	MMS
P.1.1	200	0,09	0,12	●	○	○
P.1.2	180	0,10	0,13	●	○	○
P.1.3	180	0,10	0,13	●	○	○
P.1.4	150	0,08	0,11	●	○	○
P.1.5	150	0,08	0,11	●	○	○
P.2.1	170	0,08	0,11	●	○	○
P.2.2	170	0,08	0,11	●	○	○
P.2.3	100	0,07	0,09	●	○	○
P.2.4	100	0,07	0,09	●	○	○
P.3.1	90	0,06	0,08	●	○	○
P.3.2	90	0,06	0,08	●	○	○
P.3.3	90	0,06	0,08	●	○	○
P.4.1	70	0,07	0,09	●		○
P.4.2	60	0,07	0,09	●		○
M.1.1	60	0,06	0,08	●		○
M.2.1	40	0,05	0,07	●		○
M.3.1	60	0,06	0,08	●		○
K.1.1	170	0,11	0,14	●	○	○
K.1.2	130	0,09	0,12	●	○	○
K.2.1	150	0,10	0,13	●	○	○
K.2.2	130	0,08	0,11	●	○	○
K.3.1	130	0,10	0,13	●	○	○
K.3.2	110	0,09	0,12	●	○	○
N.1.1	550	0,16	0,21	●		
N.1.2	500	0,16	0,21	●		
N.2.1						
N.2.2	420	0,15	0,20	●		
N.2.3	170	0,13	0,17	●		
N.3.1	240	0,11	0,14	●		
N.3.2	210	0,11	0,14	●		
N.3.3	280	0,10	0,13	●		
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

Cutting data standard values – MultiChange – PCR-UNI

Index	52 871 ...													
	Correction factor f_z and v_c Holders				Feed rate values for the extra-short and short holder									
						Ø DC (mm) =					Ø DC (mm) =			
						10,0	12,0	16,0	20,0		10,0	12,0	16,0	20,0
						a_e 0,25xDC					a_e 1xDC			
	Medium-length version	Long version	Extra-long version	$a_{p\,max.}$	v_c (m/min)	f_z (mm)				v_c (m/min)	f_z (mm)			
P.1.1	0,9	0,7*	0,6*	0,56	490	0,057	0,065	0,080	0,091	240	0,028	0,033	0,040	0,046
P.1.2	0,9	0,7*	0,6*	0,56	470	0,054	0,062	0,076	0,087	230	0,027	0,031	0,038	0,044
P.1.3	0,9	0,7*	0,6*	0,56	445	0,052	0,059	0,073	0,083	220	0,026	0,030	0,036	0,041
P.1.4	0,9	0,7*	0,6*	0,56	425	0,049	0,056	0,069	0,079	205	0,025	0,028	0,034	0,039
P.1.5	0,9	0,7*	0,6*	0,56	400	0,047	0,053	0,065	0,075	195	0,023	0,027	0,033	0,037
P.2.1	0,9	0,7*	0,6*	0,56	445	0,057	0,065	0,080	0,091	220	0,028	0,033	0,040	0,046
P.2.2	0,9	0,7*	0,6*	0,56	405	0,052	0,059	0,073	0,083	200	0,026	0,030	0,036	0,041
P.2.3	0,9	0,7*	0,6*	0,56	365	0,047	0,053	0,065	0,075	180	0,023	0,027	0,033	0,037
P.2.4	0,9	0,7*	0,6*	0,56	285	0,043	0,050	0,060	0,069	140	0,022	0,025	0,030	0,035
P.3.1	0,9	0,7*	0,6*	0,56	265	0,050	0,057	0,070	0,080	130	0,025	0,029	0,035	0,040
P.3.2	0,9	0,7*	0,6*	0,56	245	0,047	0,054	0,067	0,076	120	0,024	0,027	0,033	0,038
P.3.3	0,9	0,7*	0,6*	0,56	225	0,045	0,051	0,063	0,072	110	0,022	0,026	0,031	0,036
P.4.1	0,9	0,7*	0,6*	0,56	180	0,034	0,040	0,048	0,055	90	0,017	0,020	0,024	0,028
P.4.2	0,9	0,7*	0,6*	0,56	180	0,034	0,040	0,048	0,055	90	0,017	0,020	0,024	0,028
M.1.1	0,9	0,7*	0,6*	0,56	120	0,030	0,035	0,042	0,048	60	0,015	0,017	0,021	0,024
M.2.1	0,9	0,7*	0,6*	0,56	115	0,025	0,029	0,035	0,040	55	0,012	0,014	0,018	0,020
M.3.1	0,9	0,7*	0,6*	0,56	120	0,026	0,030	0,036	0,041	60	0,013	0,015	0,018	0,021
K.1.1	0,9	0,7*	0,6*	0,56	485	0,086	0,099	0,121	0,138	240	0,043	0,050	0,060	0,069
K.1.2	0,9	0,7*	0,6*	0,56	365	0,060	0,069	0,085	0,097	180	0,030	0,035	0,042	0,048
K.2.1	0,9	0,7*	0,6*	0,56	445	0,073	0,084	0,103	0,118	220	0,037	0,042	0,051	0,059
K.2.2	0,9	0,7*	0,6*	0,56	365	0,060	0,069	0,085	0,097	180	0,030	0,035	0,042	0,048
K.3.1	0,9	0,7*	0,6*	0,56	325	0,060	0,069	0,085	0,097	160	0,030	0,035	0,042	0,048
K.3.2	0,9	0,7*	0,6*	0,56	305	0,052	0,059	0,073	0,083	150	0,026	0,030	0,036	0,041

* = profiling and trochoidal milling

Cutting data standard values – MultiChange – PCR-ALU

Index	52 872 ...													
	Correction factor f_z and v_c Holders				Feed rate values for the extra-short and short holder									
						Ø DC (mm) =					Ø DC (mm) =			
						10,0	12,0	16,0	20,0		10,0	12,0	16,0	20,0
						a_e 0,25xDC					a_e 1xDC			
	Medium-length version	Long version	Extra-long version	$a_{p\,max.}$	v_c (m/min)	f_z (mm)				v_c (m/min)	f_z (mm)			
N.1.1	0,9	0,7*	0,6*	0,56	1035	0,169	0,194	0,237	0,271	675	0,084	0,097	0,119	0,136
N.1.2	0,9	0,7*	0,6*	0,56	945	0,154	0,177	0,216	0,247	610	0,077	0,088	0,108	0,123
N.2.1	0,9	0,7*	0,6*	0,56	625	0,161	0,185	0,226	0,259	405	0,081	0,093	0,113	0,129
N.2.2	0,9	0,7*	0,6*	0,56	500	0,169	0,194	0,237	0,271	325	0,084	0,097	0,119	0,136
N.2.3	0,9	0,7*	0,6*	0,56	360	0,184	0,212	0,259	0,296	235	0,092	0,106	0,129	0,148
N.3.1	0,9	0,7*	0,6*	0,56	450	0,077	0,088	0,108	0,123	295	0,038	0,044	0,054	0,062
N.3.2	0,9	0,7*	0,6*	0,56	270	0,123	0,141	0,173	0,197	175	0,061	0,071	0,086	0,099
N.3.3	0,9	0,7*	0,6*	0,56	360	0,123	0,141	0,173	0,197	235	0,061	0,071	0,086	0,099
N.4.1														

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

** Width of cut per helical revolution

Cutting data standard values – MultiChange – PCR-UNI

Index	52 871 ... Ramping Max. angle	Drilling f_z factor	Helical milling $\alpha_{R\,max.}$**	Max. plunging angle $D_{min.}$ 1,5 x DC	Max. plunging angle $D_{max.}$ 1,8 x DC	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	45°	0,9	0,56xDC	20°	13°	○	●	○
P.1.2	45°	0,9	0,56xDC	20°	13°	○	●	○
P.1.3	45°	0,9	0,56xDC	20°	13°	○	●	○
P.1.4	45°	0,9	0,56xDC	20°	13°	○	●	○
P.1.5	45°	0,9	0,56xDC	20°	13°	○	●	○
P.2.1	45°	0,8	0,56xDC	20°	13°	○	●	○
P.2.2	45°	0,8	0,56xDC	20°	13°	○	●	○
P.2.3	45°	0,8	0,56xDC	20°	13°	○	●	○
P.2.4	45°	0,7	0,56xDC	20°	13°	○	●	○
P.3.1	30°	0,8	0,56xDC	20°	13°	●		○
P.3.2	30°	0,7	0,56xDC	20°	13°	●		○
P.3.3	30°	0,7	0,56xDC	20°	13°	●		○
P.4.1	15°		0,56xDC	20°	13°	●		○
P.4.2	15°		0,56xDC	20°	13°	●		○
M.1.1	15°		0,4xDC	14°	9°	●		
M.2.1	15°		0,4xDC	14°	9°	●		
M.3.1	15°		0,4xDC	14°	9°	●		
K.1.1	45°	0,8	0,56xDC	20	13		●	
K.1.2	45°	0,8	0,56xDC	20	13		●	
K.2.1	45°	0,8	0,56xDC	20	13		●	
K.2.2	45°	0,8	0,56xDC	20	13		●	
K.3.1	45°	0,8	0,56xDC	20	13		●	
K.3.2	45°	0,8	0,56xDC	20	13		●	

Cutting data standard values – MultiChange – PCR-ALU

Index	52 872 ... Ramping Max. angle	Drilling f_z factor	Helical milling $\alpha_{R\,max.}$**	Max. plunging angle $D_{min.}$ 1,5 x DC	Max. plunging angle $D_{max.}$ 1,8 x DC	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
N.1.1	45°	0,9	0,56xDC	20°	13°	●		○
N.1.2	45°	0,9	0,56xDC	20°	13°	●		○
N.2.1	45°	0,9	0,56xDC	20°	13°	●		○
N.2.2	45°	0,9	0,56xDC	20°	13°	●		○
N.2.3	45°	0,9	0,56xDC	20°	13°	●		○
N.3.1	45°	0,9	0,56xDC	20°	13°	●		○
N.3.2	45°	0,9	0,56xDC	20°	13°	●		○
N.3.3	45°	0,9	0,56xDC	20°	13°	●		○
N.4.1								

The machining parameters must be reduced in the case of unstable applications.

** Width of cut per helical revolution

Cutting data standard values – MultiChange – End milling heads

● 1st choice
○ Suitable

Index	52 860 ..., 52 861 ...																						
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	Feed rate values for the extra-short and short holder															Emulsion	Compressed air	MMS
					Ø DC (mm) =																		
					8			10			12			16			20						
					$a_{p\,max.}$ =																		
					5,2	4,4	3,6	6,5	5,5	4,5	7,8	6,6	5,4	10,4	8,8	7,2	13	11	9				
					a_e x DC =																		
					0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0				
					f_z (mm)																		
P.1.1	0,9	0,7*	0,6*	175	0,05	0,04	0,02	0,06	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	0,09	0,07	0,05	○	●	○
P.1.2	0,9	0,7*	0,6*	165	0,05	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,03	0,08	0,06	0,04	0,09	0,07	0,04	○	●	○
P.1.3	0,9	0,7*	0,6*	160	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,04	0,03	0,07	0,05	0,04	0,08	0,06	0,04	○	●	○
P.1.4	0,9	0,7*	0,6*	150	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	○	●	○
P.1.5	0,9	0,7*	0,6*	145	0,04	0,03	0,02	0,05	0,04	0,02	0,05	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	○	●	○
P.2.1	0,9	0,7*	0,6*	160	0,05	0,04	0,02	0,06	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	0,09	0,07	0,05	○	●	○
P.2.2	0,9	0,7*	0,6*	145	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,04	0,03	0,07	0,05	0,04	0,08	0,06	0,04	○	●	○
P.2.3	0,9	0,7*	0,6*	130	0,04	0,03	0,02	0,05	0,04	0,02	0,05	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	○	●	○
P.2.4	0,9	0,7*	0,6*	100	0,04	0,03	0,02	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,03	0,07	0,05	0,04	○	●	○
P.3.1	0,9	0,7*	0,6*	95	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,04	0,03	0,07	0,05	0,04	0,08	0,06	0,04	●		○
P.3.2	0,9	0,7*	0,6*	85	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,04	0,03	0,07	0,05	0,03	0,08	0,06	0,04	●		○
P.3.3	0,9	0,7*	0,6*	80	0,04	0,03	0,02	0,05	0,03	0,02	0,05	0,04	0,03	0,06	0,05	0,03	0,07	0,05	0,04	●		○
P.4.1	0,9	0,7*	0,6*	65	0,03	0,02	0,01	0,03	0,03	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,04	0,03	●		○
P.4.2	0,9	0,7*	0,6*	65	0,03	0,02	0,01	0,03	0,03	0,02	0,04	0,03	0,02	0,05	0,04	0,02	0,06	0,04	0,03	●		○
M.1.1																						
M.2.1																						
M.3.1																						
K.1.1	0,9	0,7*	0,6*	175	0,07	0,05	0,04	0,09	0,07	0,04	0,10	0,07	0,05	0,12	0,09	0,06	0,14	0,10	0,07		●	
K.1.2	0,9	0,7*	0,6*	130	0,05	0,04	0,03	0,06	0,05	0,03	0,07	0,05	0,04	0,09	0,06	0,04	0,10	0,07	0,05		●	
K.2.1	0,9	0,7*	0,6*	160	0,06	0,05	0,03	0,07	0,06	0,04	0,09	0,06	0,04	0,10	0,08	0,05	0,12	0,09	0,06		●	
K.2.2	0,9	0,7*	0,6*	130	0,05	0,04	0,03	0,06	0,05	0,03	0,07	0,05	0,04	0,09	0,06	0,04	0,10	0,07	0,05		●	
K.3.1	0,9	0,7*	0,6*	115	0,05	0,04	0,03	0,06	0,05	0,03	0,07	0,05	0,04	0,09	0,06	0,04	0,10	0,07	0,05		●	
K.3.2	0,9	0,7*	0,6*	110	0,04	0,03	0,02	0,05	0,04	0,03	0,06	0,04	0,03	0,07	0,05	0,04	0,08	0,06	0,04		●	
N.1.1																						
N.1.2																						
N.2.1																						
N.2.2																						
N.2.3																						
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O.1.1																						
O.1.2																						
O.2.1																						
O.2.2																						
O.3.1																						

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Roughing-finishing milling heads

Index	52 862 ...														● 1st choice ○ Suitable		
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	Feed rate values for the extra-short and short holder										Emulsion	Compressed air	MMS
					Ø DC (mm) =												
					8		10		12		16		20				
					$a_{p\,max.}$ =												
					7,5		9,4		11,3		15,0		18,8				
					a_e x DC =												
					0,1–0,2	0,3–0,4	0,1–0,2	0,3–0,4	0,1–0,2	0,3–0,4	0,1–0,2	0,3–0,4	0,1–0,2	0,3–0,4			
					f_z (mm)												
P.1.1	0,9	0,7*	0,6*	225	0,04	0,03	0,05	0,04	0,06	0,04	0,08	0,05	0,09	0,06	○	●	○
P.1.2	0,9	0,7*	0,6*	215	0,04	0,03	0,05	0,04	0,06	0,04	0,07	0,05	0,08	0,06	○	●	○
P.1.3	0,9	0,7*	0,6*	205	0,04	0,03	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06	○	●	○
P.1.4	0,9	0,7*	0,6*	195	0,04	0,03	0,05	0,03	0,05	0,04	0,06	0,05	0,07	0,05	○	●	○
P.1.5	0,9	0,7*	0,6*	185	0,04	0,03	0,04	0,03	0,05	0,04	0,06	0,04	0,07	0,05	○	●	○
P.2.1	0,9	0,7*	0,6*	205	0,04	0,03	0,05	0,04	0,06	0,04	0,08	0,05	0,09	0,06	○	●	○
P.2.2	0,9	0,7*	0,6*	185	0,04	0,03	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06	○	●	○
P.2.3	0,9	0,7*	0,6*	170	0,04	0,03	0,04	0,03	0,05	0,04	0,06	0,04	0,07	0,05	○	●	○
P.2.4	0,9	0,7*	0,6*	130	0,03	0,02	0,04	0,03	0,05	0,03	0,06	0,04	0,06	0,05	○	●	○
P.3.1	0,9	0,7*	0,6*	120	0,04	0,03	0,05	0,03	0,05	0,04	0,07	0,05	0,08	0,05	●		○
P.3.2	0,9	0,7*	0,6*	110	0,04	0,03	0,04	0,03	0,05	0,04	0,06	0,04	0,07	0,05	●		○
P.3.3	0,9	0,7*	0,6*	105	0,04	0,02	0,04	0,03	0,05	0,03	0,06	0,04	0,07	0,05	●		○
P.4.1	0,9	0,7*	0,6*	85	0,03	0,02	0,03	0,02	0,04	0,03	0,05	0,03	0,05	0,04	●		○
P.4.2	0,9	0,7*	0,6*	85	0,03	0,02	0,03	0,02	0,04	0,03	0,05	0,03	0,05	0,04	●		○
M.1.1	0,9	0,7*	0,6*	55	0,02	0,02	0,03	0,02	0,03	0,02	0,04	0,03	0,05	0,03	●		
M.2.1	0,9	0,7*	0,6*	50	0,02	0,01	0,02	0,02	0,03	0,02	0,03	0,02	0,04	0,03	●		
M.3.1	0,9	0,7*	0,6*	55	0,02	0,01	0,02	0,02	0,03	0,02	0,03	0,02	0,04	0,03	●		
K.1.1	0,9	0,7*	0,6*	225	0,07	0,05	0,08	0,06	0,09	0,07	0,11	0,08	0,13	0,09		●	
K.1.2	0,9	0,7*	0,6*	170	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,09	0,06		●	
K.2.1	0,9	0,7*	0,6*	205	0,06	0,04	0,07	0,05	0,08	0,06	0,10	0,07	0,11	0,08		●	
K.2.2	0,9	0,7*	0,6*	170	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,09	0,06		●	
K.3.1	0,9	0,7*	0,6*	150	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06	0,09	0,06		●	
K.3.2	0,9	0,7*	0,6*	140	0,04	0,03	0,05	0,03	0,06	0,04	0,07	0,05	0,08	0,06		●	
N.1.1	0,9	0,7*	0,6*	785	0,08	0,05	0,09	0,06	0,10	0,07	0,13	0,09	0,15	0,10	●		○
N.1.2	0,9	0,7*	0,6*	715	0,07	0,05	0,08	0,06	0,09	0,07	0,12	0,08	0,13	0,09	●		○
N.2.1	0,9	0,7*	0,6*	475	0,07	0,05	0,09	0,06	0,10	0,07	0,12	0,09	0,14	0,10	●		○
N.2.2	0,9	0,7*	0,6*	380	0,08	0,05	0,09	0,06	0,10	0,07	0,13	0,09	0,15	0,10	●		○
N.2.3	0,9	0,7*	0,6*	275	0,08	0,06	0,10	0,07	0,11	0,08	0,14	0,10	0,16	0,11	●		○
N.3.1	0,9	0,7*	0,6*	340	0,03	0,02	0,04	0,03	0,05	0,03	0,06	0,04	0,07	0,05	●		○
N.3.2	0,9	0,7*	0,6*	205	0,06	0,04	0,07	0,05	0,08	0,05	0,09	0,07	0,11	0,07	●		○
N.3.3	0,9	0,7*	0,6*	275	0,06	0,04	0,07	0,05	0,08	0,05	0,09	0,07	0,11	0,07	●		○
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
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H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – HFC milling heads

Index	52 864 ... Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	$a_{p\,max.}$ x DCX	Feed rate values for the extra-short and short holder: Ø DCX (mm) = 8 / a_e x DCX = 0,1–0,2	0,3–0,4	0,6–1,0	Ø DCX (mm) = 10 / a_e x DCX = 0,1–0,2	0,3–0,4	0,6–1,0	Ø DCX (mm) = 12 / a_e x DCX = 0,1–0,2	0,3–0,4	0,6–1,0	Ø DCX (mm) = 16 / a_e x DCX = 0,1–0,2	0,3–0,4	0,6–1,0	Ø DCX (mm) = 20 / a_e x DCX = 0,1–0,2	0,3–0,4	0,6–1,0	● 1st choice ○ Suitable: Emulsion	Compressed air	MMS
						f_z (mm)																	
P.1.1	0,9	0,7*	0,6*	175	0,05	0,44	0,31	0,20	0,53	0,37	0,24	0,61	0,43	0,27	0,74	0,52	0,33	0,85	0,60	0,38	○	●	○
P.1.2	0,9	0,7*	0,6*	165	0,05	0,42	0,30	0,19	0,50	0,36	0,22	0,58	0,41	0,26	0,71	0,50	0,32	0,81	0,57	0,36	○	●	○
P.1.3	0,9	0,7*	0,6*	160	0,05	0,40	0,28	0,18	0,48	0,34	0,21	0,55	0,39	0,25	0,67	0,48	0,30	0,77	0,54	0,34	○	●	○
P.1.4	0,9	0,7*	0,6*	150	0,05	0,38	0,27	0,17	0,45	0,32	0,20	0,52	0,37	0,23	0,64	0,45	0,29	0,73	0,52	0,33	○	●	○
P.1.5	0,9	0,7*	0,6*	145	0,05	0,36	0,25	0,16	0,43	0,30	0,19	0,50	0,35	0,22	0,60	0,43	0,27	0,69	0,49	0,31	○	●	○
P.2.1	0,9	0,7*	0,6*	160	0,05	0,44	0,31	0,20	0,53	0,37	0,24	0,61	0,43	0,27	0,74	0,52	0,33	0,85	0,60	0,38	○	●	○
P.2.2	0,9	0,7*	0,6*	145	0,05	0,40	0,28	0,18	0,48	0,34	0,21	0,55	0,39	0,25	0,67	0,48	0,30	0,77	0,54	0,34	○	●	○
P.2.3	0,9	0,7*	0,6*	130	0,05	0,36	0,25	0,16	0,43	0,30	0,19	0,50	0,35	0,22	0,60	0,43	0,27	0,69	0,49	0,31	○	●	○
P.2.4	0,9	0,7*	0,6*	100	0,05	0,33	0,24	0,15	0,40	0,28	0,18	0,46	0,32	0,21	0,56	0,40	0,25	0,64	0,45	0,29	○	●	○
P.3.1	0,9	0,7*	0,6*	95	0,05	0,39	0,27	0,17	0,46	0,33	0,21	0,53	0,38	0,24	0,65	0,46	0,29	0,74	0,53	0,33	●		○
P.3.2	0,9	0,7*	0,6*	85	0,05	0,37	0,26	0,16	0,44	0,31	0,20	0,50	0,36	0,23	0,62	0,44	0,28	0,70	0,50	0,32	●		○
P.3.3	0,9	0,7*	0,6*	80	0,05	0,35	0,24	0,15	0,41	0,29	0,19	0,48	0,34	0,21	0,58	0,41	0,26	0,67	0,47	0,30	●		○
P.4.1	0,9	0,7*	0,6*	65	0,05	0,27	0,19	0,12	0,32	0,23	0,14	0,37	0,26	0,16	0,45	0,32	0,20	0,51	0,36	0,23	●		○
P.4.2	0,9	0,7*	0,6*	65	0,05	0,27	0,19	0,12	0,32	0,23	0,14	0,37	0,26	0,16	0,45	0,32	0,20	0,51	0,36	0,23	●		○
M.1.1	0,9	0,7*	0,6*	45	0,05	0,23	0,16	0,10	0,28	0,20	0,12	0,32	0,23	0,14	0,39	0,28	0,18	0,45	0,32	0,20	●		
M.2.1	0,9	0,7*	0,6*	40	0,05	0,19	0,14	0,09	0,23	0,16	0,10	0,27	0,19	0,12	0,32	0,23	0,15	0,37	0,26	0,17	●		
M.3.1	0,9	0,7*	0,6*	45	0,05	0,20	0,14	0,09	0,24	0,17	0,11	0,28	0,19	0,12	0,34	0,24	0,15	0,38	0,27	0,17	●		
K.1.1	0,9	0,7*	0,6*	175	0,05	0,67	0,47	0,30	0,80	0,56	0,36	0,92	0,65	0,41	1,12	0,79	0,50	1,28	0,91	0,57		●	
K.1.2	0,9	0,7*	0,6*	130	0,05	0,47	0,33	0,21	0,56	0,39	0,25	0,64	0,45	0,29	0,78	0,55	0,35	0,90	0,63	0,40		●	
K.2.1	0,9	0,7*	0,6*	160	0,05	0,57	0,40	0,25	0,68	0,48	0,30	0,78	0,55	0,35	0,95	0,67	0,43	1,09	0,77	0,49		●	
K.2.2	0,9	0,7*	0,6*	130	0,05	0,47	0,33	0,21	0,56	0,39	0,25	0,64	0,45	0,29	0,78	0,55	0,35	0,90	0,63	0,40		●	
K.3.1	0,9	0,7*	0,6*	115	0,05	0,47	0,33	0,21	0,56	0,39	0,25	0,64	0,45	0,29	0,78	0,55	0,35	0,90	0,63	0,40		●	
K.3.2	0,9	0,7*	0,6*	110	0,05	0,40	0,28	0,18	0,48	0,34	0,21	0,55	0,39	0,25	0,67	0,48	0,30	0,77	0,54	0,34		●	
N.1.1																							
N.1.2																							
N.2.1																							
N.2.2																							
N.2.3																							
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O.2.1																							
O.2.2																							
O.3.1																							

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Finish milling heads

Index	52 863 ...									● 1st choice ○ Suitable		
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	Feed rate values for the extra-short and short holder					Emulsion	Compressed air	MMS
					Ø DC (mm) =							
					8	10	12	16	20			
					$a_{p\,max.}$ =							
					7,5	9,4	11,3	15,0	18,8			
					a_e x DC =							
					0,1–0,2							
					f_z (mm)							
P.1.1	**0,9**	**0,7***	**0,6***	**405**	0,04	0,05	0,06	0,08	0,09	○	●	○
P.1.2	**0,9**	**0,7***	**0,6***	**385**	0,04	0,05	0,06	0,07	0,08	○	●	○
P.1.3	**0,9**	**0,7***	**0,6***	**365**	0,04	0,05	0,06	0,07	0,08	○	●	○
P.1.4	**0,9**	**0,7***	**0,6***	**350**	0,04	0,05	0,05	0,06	0,07	○	●	○
P.1.5	**0,9**	**0,7***	**0,6***	**330**	0,04	0,04	0,05	0,06	0,07	○	●	○
P.2.1	**0,9**	**0,7***	**0,6***	**365**	0,04	0,05	0,06	0,08	0,09	○	●	○
P.2.2	**0,9**	**0,7***	**0,6***	**335**	0,04	0,05	0,06	0,07	0,08	○	●	○
P.2.3	**0,9**	**0,7***	**0,6***	**300**	0,04	0,04	0,05	0,06	0,07	○	●	○
P.2.4	**0,9**	**0,7***	**0,6***	**235**	0,03	0,04	0,05	0,06	0,06	○	●	○
P.3.1	**0,9**	**0,7***	**0,6***	**215**	0,04	0,05	0,05	0,07	0,08	●		○
P.3.2	**0,9**	**0,7***	**0,6***	**200**	0,04	0,04	0,05	0,06	0,07	●		○
P.3.3	**0,9**	**0,7***	**0,6***	**185**	0,04	0,04	0,05	0,06	0,07	●		○
P.4.1	**0,9**	**0,7***	**0,6***	**150**	0,03	0,03	0,04	0,05	0,05	●		○
P.4.2	**0,9**	**0,7***	**0,6***	**150**	0,03	0,03	0,04	0,05	0,05	●		○
M.1.1	0,9	0,7*	0,6*	100	0,02	0,03	0,03	0,04	0,05	●		
M.2.1	0,9	0,7*	0,6*	95	0,02	0,02	0,03	0,03	0,04	●		
M.3.1	0,9	0,7*	0,6*	100	0,02	0,02	0,03	0,03	0,04	●		
K.1.1	**0,9**	**0,7***	**0,6***	**400**	0,07	0,08	0,09	0,11	0,13		●	
K.1.2	**0,9**	**0,7***	**0,6***	**300**	0,05	0,06	0,07	0,08	0,09		●	
K.2.1	**0,9**	**0,7***	**0,6***	**365**	0,06	0,07	0,08	0,10	0,11		●	
K.2.2	**0,9**	**0,7***	**0,6***	**300**	0,05	0,06	0,07	0,08	0,09		●	
K.3.1	**0,9**	**0,7***	**0,6***	**265**	0,05	0,06	0,07	0,08	0,09		●	
K.3.2	**0,9**	**0,7***	**0,6***	**250**	0,04	0,05	0,06	0,07	0,08		●	
N.1.1												
N.1.2												
N.2.1												
N.2.2												
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H.3.1												
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O.1.2												
O.2.1												
O.2.2												
O.3.1												

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Radius-torus milling heads

Index	52 865 ..., 52 866 ...																			● 1st choice ○ Suitable		
					Feed rate values for the extra-short and short holder																	
					Ø DC (mm) =																	
					8			10			12			16			20					
					$a_{p\,max.}$ =																	
					4,8	1,6	0,8	5,6	2,0	1,0	6,8	2,4	1,2	9,0	3,2	1,6	11,3	4,0	2,0			
					a_e x DC =																	
					0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0	0,1–0,2	0,3–0,4	0,6–1,0			
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	f_z (mm)															Emulsion	Compressed air	MMS
P.1.1	0,9	0,7*	0,6*	110	0,027	0,025	0,018	0,032	0,030	0,022	0,037	0,034	0,025	0,045	0,042	0,031	0,051	0,048	0,035	○	●	○
P.1.2	0,9	0,7*	0,6*	105	0,025	0,024	0,017	0,030	0,028	0,021	0,035	0,032	0,024	0,043	0,040	0,029	0,049	0,045	0,033	○	●	○
P.1.3	0,9	0,7*	0,6*	100	0,024	0,022	0,017	0,029	0,027	0,020	0,033	0,031	0,023	0,041	0,038	0,028	0,046	0,043	0,032	○	●	○
P.1.4	0,9	0,7*	0,6*	95	0,023	0,021	0,016	0,027	0,026	0,019	0,032	0,029	0,022	0,039	0,036	0,026	0,044	0,041	0,030	○	●	○
P.1.5	0,9	0,7*	0,6*	90	0,022	0,020	0,015	0,026	0,024	0,018	0,030	0,028	0,020	0,037	0,034	0,025	0,042	0,039	0,029	○	●	○
P.2.1	0,9	0,7*	0,6*	100	0,027	0,025	0,018	0,032	0,030	0,022	0,037	0,034	0,025	0,045	0,042	0,031	0,051	0,048	0,035	○	●	○
P.2.2	0,9	0,7*	0,6*	90	0,024	0,022	0,017	0,029	0,027	0,020	0,033	0,031	0,023	0,041	0,038	0,028	0,046	0,043	0,032	○	●	○
P.2.3	0,9	0,7*	0,6*	80	0,022	0,020	0,015	0,026	0,024	0,018	0,030	0,028	0,020	0,037	0,034	0,025	0,042	0,039	0,029	○	●	○
P.2.4	0,9	0,7*	0,6*	65	0,020	0,019	0,014	0,024	0,022	0,016	0,028	0,026	0,019	0,034	0,031	0,023	0,039	0,036	0,026	○	●	○
P.3.1	0,9	0,7*	0,6*	60	0,023	0,022	0,016	0,028	0,026	0,019	0,032	0,030	0,022	0,039	0,037	0,027	0,045	0,042	0,031	●		○
P.3.2	0,9	0,7*	0,6*	55	0,022	0,021	0,015	0,026	0,025	0,018	0,030	0,028	0,021	0,037	0,035	0,025	0,043	0,040	0,029	●		○
P.3.3	0,9	0,7*	0,6*	50	0,021	0,019	0,014	0,025	0,023	0,017	0,029	0,027	0,020	0,035	0,033	0,024	0,040	0,037	0,028	●		○
P.4.1	0,9	0,7*	0,6*	40	0,016	0,015	0,011	0,019	0,018	0,013	0,022	0,021	0,015	0,027	0,025	0,019	0,031	0,029	0,021	●		○
P.4.2	0,9	0,7*	0,6*	40	0,016	0,015	0,011	0,019	0,018	0,013	0,022	0,021	0,015	0,027	0,025	0,019	0,031	0,029	0,021	●		○
M.1.1	0,9	0,7*	0,6*	27	0,014	0,013	0,010	0,017	0,016	0,012	0,019	0,018	0,013	0,024	0,022	0,016	0,027	0,025	0,019	●		
M.2.1	0,9	0,7*	0,6*	25	0,012	0,011	0,008	0,014	0,013	0,010	0,016	0,015	0,011	0,020	0,018	0,013	0,022	0,021	0,015	●		
M.3.1	0,9	0,7*	0,6*	27	0,012	0,011	0,008	0,014	0,013	0,010	0,017	0,015	0,011	0,020	0,019	0,014	0,023	0,022	0,016	●		
K.1.1	0,9	0,7*	0,6*	110	0,040	0,037	0,028	0,048	0,045	0,033	0,055	0,052	0,038	0,068	0,063	0,046	0,077	0,072	0,053		●	
K.1.2	0,9	0,7*	0,6*	80	0,028	0,026	0,019	0,034	0,031	0,023	0,039	0,036	0,027	0,047	0,044	0,032	0,054	0,050	0,037		●	
K.2.1	0,9	0,7*	0,6*	100	0,034	0,032	0,023	0,041	0,038	0,028	0,047	0,044	0,032	0,057	0,054	0,039	0,066	0,061	0,045		●	
K.2.2	0,9	0,7*	0,6*	80	0,028	0,026	0,019	0,034	0,031	0,023	0,039	0,036	0,027	0,047	0,044	0,032	0,054	0,050	0,037		●	
K.3.1	0,9	0,7*	0,6*	70	0,028	0,026	0,019	0,034	0,031	0,023	0,039	0,036	0,027	0,047	0,044	0,032	0,054	0,050	0,037		●	
K.3.2	0,9	0,7*	0,6*	70	0,024	0,022	0,017	0,029	0,027	0,020	0,033	0,031	0,023	0,041	0,038	0,028	0,046	0,043	0,032		●	
N.1.1	0,9	0,7*	0,6*	420	0,045	0,042	0,031	0,054	0,050	0,037	0,062	0,058	0,042	0,076	0,071	0,052	0,087	0,081	0,059	●		○
N.1.2	0,9	0,7*	0,6*	380	0,041	0,038	0,028	0,049	0,046	0,034	0,056	0,053	0,039	0,069	0,064	0,047	0,079	0,073	0,054	●		○
N.2.1	0,9	0,7*	0,6*	255	0,043	0,040	0,029	0,052	0,048	0,035	0,059	0,055	0,041	0,072	0,067	0,050	0,083	0,077	0,057	●		○
N.2.2	0,9	0,7*	0,6*	205	0,045	0,042	0,031	0,054	0,050	0,037	0,062	0,058	0,042	0,076	0,071	0,052	0,087	0,081	0,059	●		○
N.2.3	0,9	0,7*	0,6*	145	0,049	0,046	0,034	0,059	0,055	0,040	0,068	0,063	0,046	0,083	0,077	0,057	0,095	0,088	0,065	●		○
N.3.1	0,9	0,7*	0,6*	185	0,020	0,019	0,014	0,025	0,023	0,017	0,028	0,026	0,019	0,034	0,032	0,024	0,039	0,037	0,027	●		○
N.3.2	0,9	0,7*	0,6*	110	0,033	0,031	0,022	0,039	0,037	0,027	0,045	0,042	0,031	0,055	0,051	0,038	0,063	0,059	0,043	●		○
N.3.3	0,9	0,7*	0,6*	145	0,033	0,031	0,022	0,039	0,037	0,027	0,045	0,042	0,031	0,055	0,051	0,038	0,063	0,059	0,043	●		○
N.4.1																						
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* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Radius-torus milling heads – HSC machining

Index	52 865 ..., 52 866 ...									● 1st choice ○ Suitable		
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	Feed rate values for the extra-short and short holder Ø DC (mm) = 8 a_e/a_p = 0,04 f_z (mm)	Ø DC (mm) = 10 a_e/a_p = 0,05 f_z (mm)	Ø DC (mm) = 12 a_e/a_p = 0,06 f_z (mm)	Ø DC (mm) = 16 a_e/a_p = 0,08 f_z (mm)	Ø DC (mm) = 20 a_e/a_p = 0,10 f_z (mm)	Emulsion	Compressed air	MMS
P.1.1	0,9	0,7*	0,6*	385	0,11	0,11	0,11	0,11	0,11	○	●	○
P.1.2	0,9	0,7*	0,6*	365	0,10	0,11	0,11	0,11	0,11	○	●	○
P.1.3	0,9	0,7*	0,6*	350	0,10	0,10	0,10	0,10	0,10	○	●	○
P.1.4	0,9	0,7*	0,6*	330	0,09	0,10	0,10	0,10	0,10	○	●	○
P.1.5	0,9	0,7*	0,6*	315	0,09	0,09	0,09	0,09	0,09	○	●	○
P.2.1	0,9	0,7*	0,6*	350	0,11	0,11	0,11	0,11	0,11	○	●	○
P.2.2	0,9	0,7*	0,6*	315	0,10	0,10	0,10	0,10	0,10	○	●	○
P.2.3	0,9	0,7*	0,6*	285	0,09	0,09	0,09	0,09	0,09	○	●	○
P.2.4	0,9	0,7*	0,6*	220	0,08	0,08	0,09	0,09	0,08	○	●	○
P.3.1	0,9	0,7*	0,6*	205	0,09	0,10	0,10	0,10	0,10	●		○
P.3.2	0,9	0,7*	0,6*	190	0,09	0,09	0,09	0,09	0,09	●		○
P.3.3	0,9	0,7*	0,6*	175	0,08	0,09	0,09	0,09	0,09	●		○
P.4.1	0,9	0,7*	0,6*	140	0,07	0,07	0,07	0,07	0,07	●		○
P.4.2	0,9	0,7*	0,6*	140	0,07	0,07	0,07	0,07	0,07	●		○
M.1.1	0,9	0,7*	0,6*	95	0,06	0,06	0,06	0,06	0,06	●		
M.2.1	0,9	0,7*	0,6*	90	0,05	0,05	0,05	0,05	0,05	●		
M.3.1	0,9	0,7*	0,6*	95	0,05	0,05	0,05	0,05	0,05	●		
K.1.1	0,9	0,7*	0,6*	380	0,16	0,17	0,17	0,17	0,17		●	
K.1.2	0,9	0,7*	0,6*	285	0,11	0,12	0,12	0,12	0,12		●	
K.2.1	0,9	0,7*	0,6*	350	0,14	0,14	0,14	0,15	0,14		●	
K.2.2	0,9	0,7*	0,6*	285	0,11	0,12	0,12	0,12	0,12		●	
K.3.1	0,9	0,7*	0,6*	255	0,11	0,12	0,12	0,12	0,12		●	
K.3.2	0,9	0,7*	0,6*	235	0,10	0,10	0,10	0,10	0,10		●	
N.1.1	0,9	0,7*	0,6*	840	0,18	0,19	0,19	0,19	0,19	●		○
N.1.2	0,9	0,7*	0,6*	765	0,17	0,17	0,17	0,17	0,17	●		○
N.2.1	0,9	0,7*	0,6*	510	0,17	0,18	0,18	0,18	0,18	●		○
N.2.2	0,9	0,7*	0,6*	405	0,18	0,19	0,19	0,19	0,19	●		○
N.2.3	0,9	0,7*	0,6*	290	0,20	0,21	0,21	0,21	0,20	●		○
N.3.1	0,9	0,7*	0,6*	365	0,08	0,09	0,09	0,09	0,09	●		○
N.3.2	0,9	0,7*	0,6*	220	0,13	0,14	0,14	0,14	0,14	●		○
N.3.3	0,9	0,7*	0,6*	290	0,13	0,14	0,14	0,14	0,14	●		○
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1				150	0,083	0,086	0,087	0,087	0,085	●		
O.1.2				100	0,083	0,086	0,087	0,087	0,085	●		
O.2.1												
O.2.2												
O.3.1												

* = profiling and trochoidal milling

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Torus milling heads

Index	52 870 ...												● 1st choice ○ Suitable		
	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	Feed rate values for the extra-short and short holder								Emulsion	Compressed air	MMS
					Ø DC (mm) =										
					10		12		16		20				
					$a_{p\,max.}$ =										
					5,0	3,0	6,0	3,6	8,0	4,8	10,0	6,0			
					a_e x DC										
					f_z (mm)										
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1	**0,9**	**0,7**	**0,6**	**840**	0,187	0,216	0,215	0,248	0,263	0,303	0,301	0,346	●		
N.1.2	**0,9**	**0,7**	**0,6**	**765**	0,170	0,196	0,196	0,225	0,239	0,275	0,273	0,315	●		
N.2.1	**0,9**	**0,7**	**0,6**	**510**	0,179	0,206	0,206	0,237	0,251	0,289	0,287	0,331	●		
N.2.2	**0,9**	**0,7**	**0,6**	**405**	0,187	0,216	0,215	0,248	0,263	0,303	0,301	0,346	●		
N.2.3	**0,9**	**0,7**	**0,6**	**295**	0,204	0,235	0,235	0,271	0,287	0,331	0,328	0,378	●		
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Quarter round milling heads

Index	v_c (m/min)	52 869 ...												● 1st choice ○ Suitable		
		Ø DCX (mm) =														
		8		10		12			16			20				
		PRFRAD =														
		0,5	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,0	6,0	Emulsion	Compressed air	MMS
		f_z (mm)														
P.1.1	150	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,07	0,07	0,06	0,08	0,08	○	●	○
P.1.2	170	0,03	0,03	0,04	0,04	0,06	0,05	0,05	0,08	0,08	0,07	0,09	0,09	○	●	○
P.1.3	130	0,03	0,04	0,03	0,05	0,05	0,04	0,04	0,08	0,07	0,07	0,09	0,08	○	●	○
P.1.4	120	0,03	0,04	0,03	0,05	0,05	0,04	0,04	0,08	0,07	0,07	0,09	0,08	○	●	○
P.1.5	170	0,03	0,03	0,04	0,04	0,06	0,05	0,05	0,08	0,08	0,07	0,09	0,09	○	●	○
P.2.1	130	0,03	0,02	0,03	0,03	0,05	0,04	0,04	0,06	0,06	0,05	0,07	0,07	○	●	○
P.2.2	130	0,03	0,02	0,03	0,03	0,05	0,04	0,04	0,06	0,06	0,05	0,07	0,07	○	●	○
P.2.3	120	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,08	0,07	0,07	0,09	0,08	○	●	○
P.2.4	120	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,08	0,07	0,07	0,09	0,08	○	●	○
P.3.1	80	0,02	0,02	0,03	0,02	0,03	0,03	0,03	0,05	0,05	0,04	0,06	0,06	○	●	○
P.3.2	70	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	○	●	○
P.3.3	70	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	○	●	○
P.4.1	70	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	○	●	○
P.4.2	70	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	○	●	○
M.1.1	40	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	●		
M.2.1	40	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	●		
M.3.1	40	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	●		
K.1.1	130	0,03	0,03	0,04	0,04	0,06	0,05	0,05	0,08	0,08	0,07	0,09	0,09		●	
K.1.2	100	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,07	0,07	0,06	0,08	0,08		●	
K.2.1	120	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,08	0,07	0,07	0,09	0,08		●	
K.2.2	100	0,03	0,02	0,03	0,03	0,05	0,04	0,04	0,06	0,06	0,05	0,07	0,07		●	
K.3.1	100	0,03	0,03	0,04	0,03	0,05	0,05	0,04	0,08	0,07	0,07	0,09	0,08		●	
K.3.2	90	0,03	0,02	0,03	0,03	0,05	0,04	0,04	0,06	0,06	0,05	0,07	0,07		●	
N.1.1	430	0,05	0,04	0,06	0,05	0,09	0,08	0,07	0,12	0,11	0,1	0,14	0,13	●		○
N.1.2	380	0,05	0,04	0,06	0,05	0,09	0,08	0,07	0,12	0,11	0,1	0,14	0,13	●		○
N.2.1	260	0,05	0,04	0,05	0,05	0,08	0,07	0,06	0,11	0,1	0,09	0,12	0,12	●		○
N.2.2	320	0,05	0,04	0,06	0,05	0,08	0,07	0,07	0,11	0,11	0,1	0,13	0,12	●		○
N.2.3	130	0,04	0,03	0,05	0,04	0,07	0,06	0,05	0,1	0,09	0,08	0,11	0,1	●		○
N.3.1	190	0,03	0,03	0,04	0,04	0,06	0,05	0,05	0,08	0,08	0,07	0,09	0,09	●		○
N.3.2	170	0,02	0,02	0,02	0,02	0,03	0,03	0,03	0,04	0,04	0,04	0,05	0,05	●		○
N.3.3	140	0,02	0,02	0,02	0,02	0,03	0,03	0,02	0,04	0,04	0,04	0,05	0,05	●		○
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1																
S.3.2																
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values – MultiChange – Deburring milling heads

Index	Correction factor f_z and v_c medium holder	Correction factor f_z and v_c long holder	Correction factor f_z and v_c extra-long holder	v_c (m/min)	52 867 ...				52 868 ...				● 1st choice ○ Suitable		
					Feed rate values for the extra-short and short holder										
					Ø DCX (mm) =				Ø DCX (mm) =						
					10	12	16	20	10	12	16	20			
					$a_{p\,max.}$ (mm) =				$a_{p\,max.}$ (mm) =						
					5,0	6,0	4,8	6,0	1,25	1,5	2,0	2,5			
					a_e 0,1– 0,2 x DCX				a_e 0,1– 0,2 x DCX						
					f_z (mm)								Emulsion	Compressed air	MMS
P.1.1	0,9	0,7	0,6	200	0,06	0,07	0,08	0,09	0,06	0,07	0,08	0,09	○	●	○
P.1.2	0,9	0,7	0,6	190	0,06	0,06	0,08	0,09	0,06	0,06	0,08	0,09	○	●	○
P.1.3	0,9	0,7	0,6	185	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08	○	●	○
P.1.4	0,9	0,7	0,6	175	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08	○	●	○
P.1.5	0,9	0,7	0,6	165	0,05	0,05	0,07	0,08	0,05	0,05	0,07	0,08	○	●	○
P.2.1	0,9	0,7	0,6	185	0,06	0,07	0,08	0,09	0,06	0,07	0,08	0,09	○	●	○
P.2.2	0,9	0,7	0,6	165	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08	○	●	○
P.2.3	0,9	0,7	0,6	150	0,05	0,05	0,07	0,08	0,05	0,05	0,07	0,08	○	●	○
P.2.4	0,9	0,7	0,6	115	0,04	0,05	0,06	0,07	0,04	0,05	0,06	0,07	○	●	○
P.3.1	0,9	0,7	0,6	110	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08	●		○
P.3.2	0,9	0,7	0,6	100	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08	●		○
P.3.3	0,9	0,7	0,6	90	0,05	0,05	0,06	0,07	0,05	0,05	0,06	0,07	●		○
P.4.1	0,9	0,7	0,6	75	0,04	0,04	0,05	0,06	0,04	0,04	0,05	0,06	●		○
P.4.2	0,9	0,7	0,6	75	0,04	0,04	0,05	0,06	0,04	0,04	0,05	0,06	●		○
M.1.1	0,9	0,7	0,6	50	0,03	0,04	0,04	0,05	0,03	0,04	0,04	0,05	●		
M.2.1	0,9	0,7	0,6	45	0,03	0,03	0,04	0,04	0,03	0,03	0,04	0,04	●		
M.3.1	0,9	0,7	0,6	50	0,03	0,03	0,04	0,04	0,03	0,03	0,04	0,04	●		
K.1.1	0,9	0,7	0,6	200	0,09	0,10	0,12	0,14	0,09	0,10	0,12	0,14		●	
K.1.2	0,9	0,7	0,6	150	0,06	0,07	0,09	0,10	0,06	0,07	0,09	0,10		●	
K.2.1	0,9	0,7	0,6	185	0,07	0,09	0,11	0,12	0,07	0,09	0,11	0,12		●	
K.2.2	0,9	0,7	0,6	150	0,06	0,07	0,09	0,10	0,06	0,07	0,09	0,10		●	
K.3.1	0,9	0,7	0,6	135	0,06	0,07	0,09	0,10	0,06	0,07	0,09	0,10		●	
K.3.2	0,9	0,7	0,6	125	0,05	0,06	0,07	0,08	0,05	0,06	0,07	0,08		●	
N.1.1	0,9	0,7	0,6	550	0,10	0,11	0,14	0,16	0,10	0,11	0,14	0,16	●		○
N.1.2	0,9	0,7	0,6	500	0,09	0,10	0,13	0,14	0,09	0,10	0,13	0,14	●		○
N.2.1	0,9	0,7	0,6	330	0,09	0,11	0,13	0,15	0,09	0,11	0,13	0,15	●		○
N.2.2	0,9	0,7	0,6	265	0,10	0,11	0,14	0,16	0,10	0,11	0,14	0,16	●		○
N.2.3	0,9	0,7	0,6	190	0,11	0,12	0,15	0,17	0,11	0,12	0,15	0,17	●		○
N.3.1	0,9	0,7	0,6	240	0,04	0,05	0,06	0,07	0,04	0,05	0,06	0,07	●		○
N.3.2	0,9	0,7	0,6	145	0,07	0,08	0,10	0,12	0,07	0,08	0,10	0,12	●		○
N.3.3	0,9	0,7	0,6	190	0,07	0,08	0,10	0,12	0,07	0,08	0,10	0,12	●		○
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

The machining parameters must be reduced in the case of unstable applications.

Cutting data standard values for end mills

Index	Extra-long version		54 092 ...									● 1st choice ○ Suitable		
			Ø DC (mm) =											
			3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0			
			a_e 0,1 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									Emulsion	Compressed air	MMS
P.1.1	65	1,5	0,014	0,017	0,021	0,024	0,031	0,038	0,045	0,055	0,062	●	○	○
P.1.2	55	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.1.3	55	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.1.4	50	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.1.5	50	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.2.1	55	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.2.2	40	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.2.3	40	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.2.4	35	1,5	0,011	0,014	0,017	0,021	0,027	0,033	0,04	0,05	0,056	●	○	○
P.3.1														
P.3.2														
P.3.3														
P.4.1	30	1,5	0,008	0,01	0,013	0,015	0,02	0,025	0,03	0,038	0,042	●		
P.4.2	25	1,5	0,008	0,01	0,013	0,015	0,02	0,025	0,03	0,038	0,042	●		
M.1.1	25	1,5	0,008	0,01	0,013	0,015	0,02	0,025	0,03	0,038	0,042	●		
M.2.1	30	1,5	0,008	0,01	0,013	0,015	0,02	0,025	0,03	0,038	0,042	●		
M.3.1	30	1,5	0,008	0,01	0,013	0,015	0,02	0,025	0,03	0,038	0,042	●		
K.1.1	80	1,5	0,022	0,028	0,033	0,039	0,05	0,061	0,072	0,089	0,1	●	○	○
K.1.2	70	1,5	0,022	0,028	0,033	0,039	0,05	0,061	0,072	0,089	0,1	●	○	○
K.2.1	80	1,5	0,018	0,021	0,025	0,029	0,036	0,043	0,051	0,062	0,07	●	○	○
K.2.2	70	1,5	0,018	0,021	0,025	0,029	0,036	0,043	0,051	0,062	0,07	●	○	○
K.3.1	80	1,5	0,022	0,028	0,033	0,039	0,05	0,061	0,072	0,089	0,1	●	○	○
K.3.2	70	1,5	0,022	0,028	0,033	0,039	0,05	0,061	0,072	0,089	0,1	●	○	○
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1	120	1,5	0,014	0,019	0,025	0,03	0,04	0,05	0,06	0,075	0,085	●	○	○
N.3.2	120	1,5	0,014	0,019	0,025	0,03	0,04	0,05	0,06	0,075	0,085	●	○	○
N.3.3	85	1,5	0,014	0,019	0,025	0,03	0,04	0,05	0,06	0,075	0,085	●	○	○
N.4.1														
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1														
S.3.2														
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	Short version	Long version	$a_{p\,max.}$ x DC	54 069 ..., 54 079 ..., 54 080 ..., 54 081 ..., 54 083 ..., 54 084 ..., 54 085 ..., 54 086 ...															
				Ø DC (mm) =															
				0,5–0,6			0,7–0,8			0,9–1,0			1,1–1,2			1,3–1,5		
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			f_z (mm)															
P.1.1	130	110	1,0	0,017	0,014	0,009	0,018	0,014	0,009	0,02	0,016	0,01	0,022	0,018	0,011	0,024	0,019	0,012
P.1.2	100	90	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.1.3	100	90	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.1.4	90	80	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.1.5	90	80	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.2.1	100	90	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.2.2	80	70	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.2.3	80	70	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.2.4	60	55	1,0	0,011	0,009	0,006	0,012	0,01	0,006	0,014	0,011	0,007	0,015	0,012	0,008	0,017	0,014	0,009
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	60	50	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
P.4.2	40	40	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
M.1.1	40	40	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
M.2.1	60	50	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
M.3.1	60	50	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
K.1.1	150	130	1,0	0,027	0,021	0,013	0,029	0,024	0,015	0,032	0,026	0,016	0,035	0,028	0,017	0,038	0,03	0,019
K.1.2	140	120	1,0	0,027	0,021	0,013	0,029	0,024	0,015	0,032	0,026	0,016	0,035	0,028	0,017	0,038	0,03	0,019
K.2.1	150	130	1,0	0,021	0,017	0,011	0,022	0,018	0,011	0,024	0,019	0,012	0,026	0,021	0,013	0,028	0,022	0,014
K.2.2	140	120	1,0	0,021	0,017	0,011	0,022	0,018	0,011	0,024	0,019	0,012	0,026	0,021	0,013	0,028	0,022	0,014
K.3.1	150	130	1,0	0,027	0,021	0,013	0,029	0,024	0,015	0,032	0,026	0,016	0,035	0,028	0,017	0,038	0,03	0,019
K.3.2	140	120	1,0	0,027	0,021	0,013	0,029	0,024	0,015	0,032	0,026	0,016	0,035	0,028	0,017	0,038	0,03	0,019
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	240	200	1,0	0,025	0,02	0,012	0,026	0,021	0,013	0,028	0,022	0,014	0,03	0,024	0,015	0,033	0,026	0,016
N.3.2	240	200	1,0	0,025	0,02	0,012	0,026	0,021	0,013	0,028	0,022	0,014	0,03	0,024	0,015	0,033	0,026	0,016
N.3.3	160	140	1,0	0,025	0,02	0,012	0,026	0,021	0,013	0,028	0,022	0,014	0,03	0,024	0,015	0,033	0,026	0,016
N.4.1																		
S.1.1	30	30	1,0	0,003	0,002	0,002	0,004	0,003	0,002	0,005	0,004	0,003	0,006	0,005	0,003	0,007	0,006	0,004
S.1.2	30	30	1,0	0,003	0,002	0,002	0,004	0,003	0,002	0,005	0,004	0,003	0,006	0,005	0,003	0,007	0,006	0,004
S.2.1	30	30	1,0	0,003	0,002	0,002	0,004	0,003	0,002	0,005	0,004	0,003	0,006	0,005	0,003	0,007	0,006	0,004
S.2.2	30	30	1,0	0,003	0,002	0,002	0,004	0,003	0,002	0,005	0,004	0,003	0,006	0,005	0,003	0,007	0,006	0,004
S.2.3	30	30	1,0	0,003	0,002	0,002	0,004	0,003	0,002	0,005	0,004	0,003	0,006	0,005	0,003	0,007	0,006	0,004
S.3.1	60	50	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
S.3.2	20	20	1,0	0,006	0,005	0,003	0,007	0,006	0,004	0,008	0,006	0,004	0,01	0,008	0,005	0,012	0,01	0,006
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	54 069 ..., 54 079 ..., 54 080 ..., 54 081 ..., 54 083 ..., 54 084 ..., 54 085 ..., 54 086 ...															● 1st choice ○ Suitable		
	Ø DC (mm) =																	
	1,6–2,0			2,1–3,0			3,1–4,0			4,1–5,0			6,0					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																	
P.1.1	0,028	0,022	0,014	0,035	0,028	0,018	0,042	0,034	0,021	0,05	0,04	0,025	0,058	0,046	0,029	●	○	○
P.1.2	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.1.3	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.1.4	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.1.5	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.2.1	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.2.2	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.2.3	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.2.4	0,02	0,016	0,01	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	●	○	○
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
P.4.2	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
M.1.1	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
M.2.1	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
M.3.1	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
K.1.1	0,044	0,035	0,022	0,056	0,045	0,028	0,068	0,054	0,034	0,08	0,064	0,04	0,092	0,074	0,046	●	○	○
K.1.2	0,044	0,035	0,022	0,056	0,045	0,028	0,068	0,054	0,034	0,08	0,064	0,04	0,092	0,074	0,046	●	○	○
K.2.1	0,032	0,026	0,016	0,04	0,032	0,02	0,048	0,038	0,024	0,056	0,045	0,028	0,064	0,051	0,032	●	○	○
K.2.2	0,032	0,026	0,016	0,04	0,032	0,02	0,048	0,038	0,024	0,056	0,045	0,028	0,064	0,051	0,032	●	○	○
K.3.1	0,044	0,035	0,022	0,056	0,045	0,028	0,068	0,054	0,034	0,08	0,064	0,04	0,092	0,074	0,046	●	○	○
K.3.2	0,044	0,035	0,022	0,056	0,045	0,028	0,068	0,054	0,034	0,08	0,064	0,04	0,092	0,074	0,046	●	○	○
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	0,038	0,03	0,019	0,046	0,037	0,023	0,056	0,045	0,028	0,064	0,051	0,032	0,074	0,059	0,037	●		
N.3.2	0,038	0,03	0,019	0,046	0,037	0,023	0,056	0,045	0,028	0,064	0,051	0,032	0,074	0,059	0,037	●		
N.3.3	0,038	0,03	0,019	0,046	0,037	0,023	0,056	0,045	0,028	0,064	0,051	0,032	0,074	0,059	0,037	●		
N.4.1																		
S.1.1	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015	●		
S.1.2	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015	●		
S.2.1	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015	●		
S.2.2	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015	●		
S.2.3	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015	●		
S.3.1	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
S.3.2	0,015	0,012	0,008	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	Short version	Long version	$a_{p\,max.}$ x DC	54 069 ..., 54 079 ..., 54 080 ..., 54 081 ..., 54 083 ..., 54 084 ..., 54 085 ..., 54 086 ...									● 1st choice ○ Suitable		
				Ø DC (mm) =											
				8,0			10,0			12,0					
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	v_c (m/min)			f_z (mm)											
P.1.1	130	110	1,0	0,072	0,058	0,036	0,086	0,069	0,043	0,102	0,082	0,051	●	○	○
P.1.2	100	90	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.1.3	100	90	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.1.4	90	80	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.1.5	90	80	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.2.1	100	90	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.2.2	80	70	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.2.3	80	70	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.2.4	60	55	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,089	0,071	0,045	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	60	50	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
P.4.2	40	40	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
M.1.1	40	40	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
M.2.1	60	50	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
M.3.1	60	50	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
K.1.1	150	130	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,164	0,131	0,082	●	○	○
K.1.2	140	120	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,164	0,131	0,082	●	○	○
K.2.1	150	130	1,0	0,079	0,063	0,04	0,095	0,076	0,048	0,11	0,088	0,055	●	○	○
K.2.2	140	120	1,0	0,079	0,063	0,04	0,095	0,076	0,048	0,11	0,088	0,055	●	○	○
K.3.1	150	130	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,164	0,131	0,082	●	○	○
K.3.2	140	120	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,164	0,131	0,082	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	240	200	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,128	0,102	0,064	●		
N.3.2	240	200	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,128	0,102	0,064	●		
N.3.3	160	140	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,128	0,102	0,064	●		
N.4.1															
S.1.1	30	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,06	0,048	0,03	●		
S.1.2	30	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,06	0,048	0,03	●		
S.2.1	30	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,06	0,048	0,03	●		
S.2.2	30	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,06	0,048	0,03	●		
S.2.3	30	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,06	0,048	0,03	●		
S.3.1	60	50	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
S.3.2	20	20	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,04	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	Extra-long version		54 082 ..., 54 087 ...							● 1st choice ○ Suitable		
			Ø DC (mm) =									
			3,0	4,0	5,0	6,0	8,0	10,0	12,0			
			a_e 0,2 x DC									
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)							Emulsion	Compressed air	MMS
P.1.1	130	1,0	0,072	0,058	0,036	0,086	0,069	0,043	0,051	●	○	○
P.1.2	100	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.1.3	100	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.1.4	90	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.1.5	90	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.2.1	100	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.2.2	80	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.2.3	80	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.2.4	60	1,0	0,062	0,05	0,031	0,075	0,06	0,038	0,045	●	○	○
P.3.1												
P.3.2												
P.3.3												
P.4.1	60	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
P.4.2	40	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
M.1.1	40	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
M.2.1	60	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
M.3.1	60	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
K.1.1	150	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,082	●	○	○
K.1.2	140	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,082	●	○	○
K.2.1	150	1,0	0,079	0,063	0,04	0,095	0,076	0,048	0,055	●	○	○
K.2.2	140	1,0	0,079	0,063	0,04	0,095	0,076	0,048	0,055	●	○	○
K.3.1	150	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,082	●	○	○
K.3.2	140	1,0	0,116	0,093	0,058	0,14	0,112	0,07	0,082	●	○	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	240	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,064	●		
N.3.2	240	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,064	●		
N.3.3	160	1,0	0,092	0,074	0,046	0,11	0,088	0,055	0,064	●		
N.4.1												
S.1.1	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,03	●		
S.1.2	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,03	●		
S.2.1	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,03	●		
S.2.2	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,03	●		
S.2.3	30	1,0	0,04	0,032	0,02	0,05	0,04	0,025	0,03	●		
S.3.1	60	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
S.3.2	20	1,0	0,054	0,043	0,027	0,066	0,053	0,033	0,04	●		
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	Short version	Long version	$a_{p\,max.}$ x DC	54 088 ..., 54 089 ..., 54 090 ..., 54 091 ...														
				Ø DC (mm) =														
				1,0			1,5			2,0			2,5–3,0			4,0		
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			f_z (mm)														
P.1.1	200	170	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.1.2	190	160	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.1.3	190	160	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.1.4	180	150	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.1.5	180	150	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.2.1	190	160	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.2.2	180	150	1,0	0,014	0,011	0,007	0,022	0,018	0,011	0,03	0,024	0,015	0,038	0,03	0,019	0,046	0,037	0,023
P.2.3	170	145	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.2.4	160	135	1,0	0,014	0,011	0,007	0,022	0,018	0,011	0,03	0,024	0,015	0,038	0,03	0,019	0,046	0,037	0,023
P.3.1	170	145	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.3.2	160	135	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.3.3	130	110	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
P.4.1	90	80	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
P.4.2	70	65	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
M.1.1	90	80	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
M.2.1	90	80	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
M.3.1	90	80	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
K.1.1	190	160	1,0	0,026	0,021	0,013	0,037	0,03	0,019	0,048	0,038	0,024	0,06	0,048	0,03	0,07	0,056	0,035
K.1.2	170	145	1,0	0,026	0,021	0,013	0,037	0,03	0,019	0,048	0,038	0,024	0,06	0,048	0,03	0,07	0,056	0,035
K.2.1	180	150	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
K.2.2	160	135	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
K.3.1	170	145	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
K.3.2	150	130	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	330	280	1,0	0,026	0,021	0,013	0,037	0,03	0,019	0,048	0,038	0,024	0,06	0,048	0,03	0,07	0,056	0,035
N.3.2	330	280	1,0	0,026	0,021	0,013	0,037	0,03	0,019	0,048	0,038	0,024	0,06	0,048	0,03	0,07	0,056	0,035
N.3.3	270	225	1,0	0,026	0,021	0,013	0,037	0,03	0,019	0,048	0,038	0,024	0,06	0,048	0,03	0,07	0,056	0,035
N.4.1																		
S.1.1	30	25	0,5	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015
S.1.2	30	25	0,5	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015
S.2.1	30	25	0,5	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015
S.2.2	30	25	0,5	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015
S.2.3	30	25	0,5	0,01	0,008	0,005	0,015	0,012	0,008	0,02	0,016	0,01	0,025	0,02	0,013	0,03	0,024	0,015
S.3.1	80	70	1,0	0,018	0,014	0,009	0,028	0,022	0,014	0,038	0,03	0,019	0,049	0,039	0,025	0,06	0,048	0,03
S.3.2	40	40	1,0	0,01	0,008	0,005	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,03	0,019
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	54 088 ..., 54 089 ..., 54 090 ..., 54 091 ...															● 1st choice ○ Suitable		
	Ø DC (mm) =																	
	5,0			6,0			8,0			10,0			12,0					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)																	
P.1.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.1.2	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.1.3	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.1.4	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.1.5	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.2.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.2.2	0,062	0,05	0,031	0,078	0,062	0,039							0,094	0,075	0,047	●	○	○
P.2.3	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.2.4	0,062	0,05	0,031	0,078	0,062	0,039							0,094	0,075	0,047	●	○	○
P.3.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.3.2	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.3.3	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	○	○
P.4.1	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
P.4.2	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
M.1.1	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
M.2.1	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
M.3.1	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
K.1.1	0,094	0,075	0,047	0,116	0,093	0,058							0,14	0,112	0,07	●	●	●
K.1.2	0,094	0,075	0,047	0,116	0,093	0,058							0,14	0,112	0,07	●	●	●
K.2.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	●	●
K.2.2	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	●	●
K.3.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	●	●
K.3.2	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●	●	●
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	0,094	0,075	0,047	0,116	0,093	0,058							0,14	0,112	0,07	●		
N.3.2	0,094	0,075	0,047	0,116	0,093	0,058							0,14	0,112	0,07	●		
N.3.3	0,094	0,075	0,047	0,116	0,093	0,058							0,14	0,112	0,07	●		
N.4.1																		
S.1.1	0,04	0,032	0,02	0,05	0,04	0,025							0,06	0,048	0,03	●		
S.1.2	0,04	0,032	0,02	0,05	0,04	0,025							0,06	0,048	0,03	●		
S.2.1	0,04	0,032	0,02	0,05	0,04	0,025							0,06	0,048	0,03	●		
S.2.2	0,04	0,032	0,02	0,05	0,04	0,025							0,06	0,048	0,03	●		
S.2.3	0,04	0,032	0,02	0,05	0,04	0,025							0,06	0,048	0,03	●		
S.3.1	0,08	0,064	0,04	0,1	0,08	0,05							0,12	0,096	0,06	●		
S.3.2	0,052	0,042	0,026	0,066	0,053	0,033							0,08	0,064	0,04	●		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 6°

Cutting data standard values for end mills

Index	Short version		54 093 ..., 54 095 ...										● 1st choice ○ Suitable		
			Ø DC (mm) =												
			2,0		2,5–3,0		3,5–4,0		4,5–5,0		5,5–6,0				
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC			
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)										Emulsion	Compressed air	MMS
P.1.1	110	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.1.2	70	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.1.3	70	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.1.4	60	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.1.5	60	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.2.1	90	1,0	0,01	0,006	0,014	0,009	0,019	0,012	0,024	0,015	0,029	0,018	●	○	○
P.2.2	70	1,0	0,01	0,006	0,014	0,009	0,019	0,012	0,024	0,015	0,029	0,018	●	○	○
P.2.3	50	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.2.4	45	1,0	0,012	0,008	0,018	0,011	0,022	0,014	0,027	0,017	0,033	0,021	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	50	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
P.4.2	40	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
M.1.1	50	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
M.2.1	35	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
M.3.1	35	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
K.1.1	130	1,0	0,024	0,015	0,032	0,02	0,04	0,025	0,048	0,03	0,056	0,035	●	○	○
K.1.2	120	1,0	0,024	0,015	0,032	0,02	0,04	0,025	0,048	0,03	0,056	0,035	●	○	○
K.2.1	130	1,0	0,016	0,01	0,022	0,014	0,027	0,017	0,033	0,021	0,038	0,024	●	○	○
K.2.2	120	1,0	0,016	0,01	0,022	0,014	0,027	0,017	0,033	0,021	0,038	0,024	●	○	○
K.3.1	130	1,0	0,024	0,015	0,032	0,02	0,04	0,025	0,048	0,03	0,056	0,035	●	○	○
K.3.2	120	1,0	0,024	0,015	0,032	0,02	0,04	0,025	0,048	0,03	0,056	0,035	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	200	1,0	0,019	0,012	0,026	0,016	0,032	0,02	0,038	0,024	0,045	0,028	●		
N.3.2	200	1,0	0,019	0,012	0,026	0,016	0,032	0,02	0,038	0,024	0,045	0,028	●		
N.3.3	140	1,0	0,019	0,012	0,026	0,016	0,032	0,02	0,038	0,024	0,045	0,028	●		
N.4.1															
S.1.1	30	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.1.2	30	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.2.1	30	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.2.2	30	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.2.3	30	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.3.1	50	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.3.2	20	1,0	0,008	0,005	0,012	0,008	0,016	0,01	0,02	0,013	0,024	0,015	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 3°

Cutting data standard values for end mills

Index	Extra-long version		54 094 ...									● 1st choice ○ Suitable		
			Ø DC (mm) =											
			3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0			
			a_e 0,1 x DC											
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)									Emulsion	Compressed air	MMS
P.1.1	50	1.5	0.018	0.021	0.025	0.029	0.036	0.043	0.051	0.058	0.062	●	○	○
P.1.2	40	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.1.3	40	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.1.4	35	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.1.5	35	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.2.1	45	1.5	0.014	0.017	0.021	0.024	0.031	0.038	0.045	0.052	0.055	●	○	○
P.2.2	30	1.5	0.014	0.017	0.021	0.024	0.031	0.038	0.045	0.052	0.055	●	○	○
P.2.3	30	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.2.4	30	1.5	0.011	0.014	0.017	0.021	0.027	0.033	0.04	0.046	0.05	●	○	○
P.3.1														
P.3.2														
P.3.3														
P.4.1	30	1.5	0.008	0.01	0.013	0.015	0.02	0.025	0.03	0.035	0.038	●		
P.4.2	25	1.5	0.008	0.01	0.013	0.015	0.02	0.025	0.03	0.035	0.038	●		
M.1.1	30	1.5	0.008	0.01	0.013	0.015	0.02	0.025	0.03	0.035	0.038	●		
M.2.1	30	1.5	0.008	0.01	0.013	0.015	0.02	0.025	0.03	0.035	0.038	●		
M.3.1	30	1.5	0.008	0.01	0.013	0.015	0.02	0.025	0.03	0.035	0.038	●		
K.1.1	70	1.5	0.028	0.034	0.04	0.046	0.058	0.07	0.082	0.094	0.1	●	○	○
K.1.2	60	1.5	0.028	0.034	0.04	0.046	0.058	0.07	0.082	0.094	0.1	●	○	○
K.2.1	70	1.5	0.02	0.024	0.028	0.032	0.04	0.048	0.055	0.063	0.067	●	○	○
K.2.2	60	1.5	0.02	0.024	0.028	0.032	0.04	0.048	0.055	0.063	0.067	●	○	○
K.3.1	70	1.5	0.028	0.034	0.04	0.046	0.058	0.07	0.082	0.094	0.1	●	○	○
K.3.2	60	1.5	0.028	0.034	0.04	0.046	0.058	0.07	0.082	0.094	0.1	●	○	○
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1	100	1.5	0.023	0.028	0.032	0.037	0.046	0.055	0.064	0.073	0.078	●		○
N.3.2	100	1.5	0.023	0.028	0.032	0.037	0.046	0.055	0.064	0.073	0.078	●		○
N.3.3	70	1.5	0.023	0.028	0.032	0.037	0.046	0.055	0.064	0.073	0.078	●		○
N.4.1														
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1														
S.3.2														
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Plunging angle for ramping and helical milling = 3°

Cutting data standard values for end mills

Index	Long version		54 098 ...															
			Ø DC (mm) =															
			6,0				8,0				10,0				12,0			
	v_c (m/min)	Maximum angle of engagement	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	hm	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	hm	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	hm	a_e 0,05 x DC	a_e 0,1 x DC	a_e 0,15 x DC	hm
			f_z (mm)				f_z (mm)				f_z (mm)				f_z (mm)			
P.1.1	225	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
P.1.2	225	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.1.3	225	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.1.4	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.1.5	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.2.1	225	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
P.2.2	225	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
P.2.3	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.2.4	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.3.1	175	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.3.2	175	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.3.3	160	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
P.4.1	145	40°	0,07	0,056	0,035	0,014	0,094	0,075	0,047	0,018	0,118	0,094	0,059	0,023	0,144	0,115	0,072	0,028
P.4.2	130	40°	0,07	0,056	0,035	0,014	0,094	0,075	0,047	0,018	0,118	0,094	0,059	0,023	0,144	0,115	0,072	0,028
M.1.1	110	40°	0,07	0,056	0,035	0,014	0,094	0,075	0,047	0,018	0,118	0,094	0,059	0,023	0,144	0,115	0,072	0,028
M.2.1	110	40°	0,07	0,056	0,035	0,014	0,094	0,075	0,047	0,018	0,118	0,094	0,059	0,023	0,144	0,115	0,072	0,028
M.3.1	110	40°	0,07	0,056	0,035	0,014	0,094	0,075	0,047	0,018	0,118	0,094	0,059	0,023	0,144	0,115	0,072	0,028
K.1.1	240	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
K.1.2	240	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
K.2.1	240	45°	0,13	0,104	0,065	0,025	0,166	0,133	0,083	0,032	0,2	0,16	0,1	0,039	0,234	0,187	0,117	0,045
K.2.2	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
K.3.1	210	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
K.3.2	160	45°	0,108	0,086	0,054	0,021	0,132	0,106	0,066	0,026	0,158	0,126	0,079	0,031	0,182	0,146	0,091	0,035
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1	65	35°	0,044	0,035	0,022	0,009	0,058	0,046	0,029	0,011	0,072	0,058	0,036	0,014	0,086	0,069	0,043	0,017
S.1.2	65	35°	0,044	0,035	0,022	0,009	0,058	0,046	0,029	0,011	0,072	0,058	0,036	0,014	0,086	0,069	0,043	0,017
S.2.1	50	35°	0,044	0,035	0,022	0,009	0,058	0,046	0,029	0,011	0,072	0,058	0,036	0,014	0,086	0,069	0,043	0,017
S.2.2	50	35°	0,044	0,035	0,022	0,009	0,058	0,046	0,029	0,011	0,072	0,058	0,036	0,014	0,086	0,069	0,043	0,017
S.2.3	50	35°	0,044	0,035	0,022	0,009	0,058	0,046	0,029	0,011	0,072	0,058	0,036	0,014	0,086	0,069	0,043	0,017
S.3.1	110	35°	0,054	0,043	0,027	0,01	0,072	0,058	0,036	0,014	0,09	0,072	0,045	0,017	0,108	0,086	0,054	0,021
S.3.2	80	35°	0,054	0,043	0,027	0,01	0,072	0,058	0,036	0,014	0,09	0,072	0,045	0,017	0,108	0,086	0,054	0,021
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 2–3°

Cutting depth is the same as the cutting length

Cutting data standard values for end mills

Index	54 098 ... Ø DC (mm) = 16,0 a_e 0,05 x DC f_z (mm)	16,0 a_e 0,1 x DC f_z (mm)	16,0 a_e 0,15 x DC f_z (mm)	16,0 a_e 0,1–0,2 x DC f_z (mm)	20,0 a_e 0,05 x DC f_z (mm)	20,0 a_e 0,1 x DC f_z (mm)	20,0 a_e 0,15 x DC f_z (mm)	20,0 a_e 0,6–1,0 x DC f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
P.1.2	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.1.3	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.1.4	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.1.5	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.2.1	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
P.2.2	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
P.2.3	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.2.4	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.3.1	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.3.2	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.3.3	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
P.4.1	0,18	0,144	0,09	0,035	0,204	0,163	0,102	0,04	●		
P.4.2	0,18	0,144	0,09	0,035	0,204	0,163	0,102	0,04	●		
M.1.1	0,18	0,144	0,09	0,035	0,204	0,163	0,102	0,04	●		
M.2.1	0,18	0,144	0,09	0,035	0,204	0,163	0,102	0,04	●		
M.3.1	0,18	0,144	0,09	0,035	0,204	0,163	0,102	0,04	●		
K.1.1	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
K.1.2	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
K.2.1	0,286	0,229	0,143	0,055	0,32	0,256	0,16	0,062	○	●	○
K.2.2	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
K.3.1	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
K.3.2	0,219	0,175	0,11	0,042	0,244	0,195	0,122	0,047	○	●	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	0,106	0,085	0,053	0,021	0,12	0,096	0,06	0,023	●		
S.1.2	0,106	0,085	0,053	0,021	0,12	0,096	0,06	0,023	●		
S.2.1	0,106	0,085	0,053	0,021	0,12	0,096	0,06	0,023	●		
S.2.2	0,106	0,085	0,053	0,021	0,12	0,096	0,06	0,023	●		
S.2.3	0,106	0,085	0,053	0,021	0,12	0,096	0,06	0,023	●		
S.3.1	0,136	0,109	0,068	0,026	0,154	0,123	0,077	0,03	●		
S.3.2	0,136	0,109	0,068	0,026	0,154	0,123	0,077	0,03	●		
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Plunging angle for ramping and helical milling = 2–3°

Cutting depth is the same as the cutting length

Cutting data standard values – Finish milling cutters

Index	Extra-long version		54 099 ...								● 1st choice ○ Suitable		
			Ø DC (mm) =										
			4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0			
			a_e 0,05 x DC										
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)								Emulsion	Compressed air	MMS
P.1.1	110	2.0	0.017	0.021	0.024	0.031	0.038	0.045	0.055	0.062	●	○	○
P.1.2	90	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.1.3	90	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.1.4	85	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.1.5	85	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.2.1	90	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.2.2	70	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.2.3	70	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.2.4	55	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.3.1	65	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.3.2	50	2.0	0.014	0.017	0.021	0.027	0.033	0.04	0.05	0.056	●	○	○
P.3.3													
P.4.1	65	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
P.4.2	50	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
M.1.1	65	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
M.2.1	65	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
M.3.1	65	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
K.1.1	140	2.0	0.028	0.033	0.039	0.05	0.061	0.072	0.089	0.1	●	○	○
K.1.2	120	2.0	0.028	0.033	0.039	0.05	0.061	0.072	0.089	0.1	●	○	○
K.2.1	140	2.0	0.021	0.025	0.029	0.036	0.043	0.051	0.062	0.07	●	○	○
K.2.2	120	2.0	0.021	0.025	0.029	0.036	0.043	0.051	0.062	0.07	●	○	○
K.3.1	140	2.0	0.028	0.033	0.039	0.05	0.061	0.072	0.089	0.1	●	○	○
K.3.2	120	2.0	0.028	0.033	0.039	0.05	0.061	0.072	0.089	0.1	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1	20	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
S.1.2	20	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
S.2.1	20	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
S.2.2	20	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
S.2.3	20	2.0	0.01	0.013	0.015	0.02	0.025	0.03	0.038	0.042	●		
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Plunging angle for ramping and helical milling = 1°

Cutting data standard values – Finish milling cutters

Index	Long version	Extra-long version	Type long / extra long	54 075 ..., 54 076 ...						● 1st choice ○ Suitable		
				Ø DC (mm) =								
				6	8	10	12	16	20			
				a_e 0,05 x DC								
	v_c (m/min)		$a_{p\,max}$ x DC	f_z (mm)						Emulsion	Compressed air	MMS
P.1.1	210	145	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.2	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.3	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.4	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.5	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.1	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.2	185	130	2,0	0,021	0,028	0,035	0,042	0,053	0,060	●	○	○
P.2.3	175	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.4	170	115	2,0	0,021	0,028	0,035	0,042	0,053	0,060	●	○	○
P.3.1	180	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.3.2	170	115	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.3.3	140	95	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.4.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
P.4.2	80	60	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.1.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.2.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.3.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
K.1.1	200	140	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
K.1.2	175	125	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
K.2.1	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.2.2	170	115	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.3.1	175	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.3.2	160	110	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	345	240	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.3.2	345	240	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.3.3	280	196	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.4.1												
S.1.1	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.1.2	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.1	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.2	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.3	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.3.1	160	110	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●		
S.3.2	100	70	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Plunging angle for ramping and helical milling = 1°

Cutting data standard values – Mini milling cutters, uncoated

Index	Extra-short type		50 608 ..., 50 664 ...															
			Ø DC (mm) =															
			0,5		1,0		1,2		1,5		1,8–2,0		2,5–3,0			3,5–4,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1																		
P.1.2																		
P.1.3																		
P.1.4																		
P.1.5																		
P.2.1																		
P.2.2																		
P.2.3																		
P.2.4																		
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1																		
P.4.2																		
M.1.1																		
M.2.1																		
M.3.1																		
K.1.1																		
K.1.2																		
K.2.1																		
K.2.2																		
K.3.1																		
K.3.2																		
N.1.1	250	1,0	0,007	0,006	0,011	0,009	0,014	0,011	0,018	0,014	0,024	0,019	0,038	0,030	0,019	0,050	0,040	0,025
N.1.2	250	1,0	0,007	0,006	0,011	0,009	0,014	0,011	0,018	0,014	0,024	0,019	0,038	0,030	0,019	0,050	0,040	0,025
N.2.1	180	1,0	0,009	0,007	0,013	0,010	0,016	0,013	0,020	0,016	0,026	0,021	0,037	0,030	0,019	0,048	0,038	0,024
N.2.2	180	1,0	0,009	0,007	0,013	0,010	0,016	0,013	0,020	0,016	0,026	0,021	0,037	0,030	0,019	0,048	0,038	0,024
N.2.3	150	1,0	0,009	0,007	0,013	0,010	0,016	0,013	0,020	0,016	0,026	0,021	0,037	0,030	0,019	0,048	0,038	0,024
N.3.1	200	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.3.2	200	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.3.3	140	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.4.1	180	1,0	0,009	0,007	0,013	0,010	0,016	0,013	0,020	0,016	0,026	0,021	0,037	0,030	0,019	0,048	0,038	0,024
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1	50	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.3.2	20	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – Mini milling cutters, uncoated

Index	50 608 ..., 50 664 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	4,5–5,0			5,5–6,0			6,7–8,0			8,7–10,0					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1	0,064	0,051	0,032	0,077	0,062	0,039	0,104	0,083	0,052	0,130	0,104	0,065	●		○
N.1.2	0,064	0,051	0,032	0,077	0,062	0,039	0,104	0,083	0,052	0,130	0,104	0,065	●		○
N.2.1	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	●		○
N.2.2	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	●		○
N.2.3	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	●		○
N.3.1	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.3.2	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.3.3	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.4.1	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	0,116	0,093	0,058	●		○
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.3.2	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – Mini milling cutters, coated

Index	Extra-short type		50 609 ..., 50 691 ...															
			Ø DC (mm) =															
			0,5		1,0		1,2		1,5		1,8–2,0		2,5–3,0			3,5–4,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)	$a_{p\,max.}$ x DC	f_z (mm)															
P.1.1	110	1,0	0,011	0,009	0,014	0,011	0,015	0,012	0,017	0,014	0,020	0,016	0,027	0,022	0,014	0,034	0,027	0,017
P.1.2	90	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.1.3	90	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.1.4	80	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.1.5	80	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.2.1	90	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.2.2	70	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.2.3	70	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.2.4	55	1,0	0,006	0,005	0,008	0,006	0,010	0,008	0,012	0,010	0,015	0,012	0,022	0,018	0,011	0,028	0,022	0,014
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	50	1,0	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
P.4.2	40	1,0	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
M.1.1	40	1,0	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
M.2.1	50	1,0	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
M.3.1	50	1,0	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
K.1.1	130	1,0	0,018	0,014	0,022	0,018	0,024	0,019	0,028	0,022	0,034	0,027	0,044	0,035	0,022	0,056	0,045	0,028
K.1.2	120	1,0	0,018	0,014	0,022	0,018	0,024	0,019	0,028	0,022	0,034	0,027	0,044	0,035	0,022	0,056	0,045	0,028
K.2.1	130	1,0	0,017	0,014	0,020	0,016	0,022	0,018	0,024	0,019	0,028	0,022	0,035	0,028	0,018	0,042	0,034	0,021
K.2.2	120	1,0	0,017	0,014	0,020	0,016	0,022	0,018	0,024	0,019	0,028	0,022	0,035	0,028	0,018	0,042	0,034	0,021
K.3.1	130	1,0	0,018	0,014	0,022	0,018	0,024	0,019	0,028	0,022	0,034	0,027	0,044	0,035	0,022	0,056	0,045	0,028
K.3.2	120	1,0	0,018	0,014	0,022	0,018	0,024	0,019	0,028	0,022	0,034	0,027	0,044	0,035	0,022	0,056	0,045	0,028
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	200	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.3.2	200	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.3.3	140	1,0	0,004	0,003	0,008	0,006	0,010	0,008	0,014	0,011	0,018	0,014	0,028	0,022	0,014	0,038	0,030	0,019
N.4.1																		
S.1.1	30	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.1.2	30	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.2.1	30	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.2.2	30	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.2.3	30	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.3.1	50	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.3.2	20	0,5	0,003	0,002	0,005	0,004	0,006	0,005	0,007	0,006	0,010	0,008	0,015	0,012	0,008	0,020	0,016	0,010
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – Mini milling cutters, coated

Index	50 609 ..., 50 691 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	4,5–5,0			5,5–6,0			6,7–8,0			8,7–10,0			Emulsion	Compressed air	MMS
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			
	f_z (mm)														
P.1.1	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038	○	●	○
P.1.2	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.1.3	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.1.4	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.1.5	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.2.1	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.2.2	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.2.3	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.2.4	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	○	●	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
P.4.2	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
M.1.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
M.2.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
M.3.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
K.1.1	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	○	●	○
K.1.2	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	○	●	○
K.2.1	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	0,086	0,069	0,043	○	●	○
K.2.2	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	0,086	0,069	0,043	○	●	○
K.3.1	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	○	●	○
K.3.2	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	○	●	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.3.2	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.3.3	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	0,100	0,080	0,050	●		○
N.4.1															
S.1.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.1.2	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.2.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.2.2	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.2.3	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.3.1	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.3.2	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	0,050	0,040	0,025	●		○
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – End mills – Type W, short

Index	v_c (m/min)	$a_{p\,max.}$ x DC	54 590..., 54 594..., 54 610..., 54 640...																	
			Ø DC (mm) =																	
			2,7–3,0			3,7–4,0			4,7–5,0			5,7–7,0			7,7–9,0			9,7–11,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																	
N.1.1	**560**	1,0*	0,054	0,042	0,030	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,200	0,150	0,100	0,240	0,180	0,120
N.1.2	**560**	1,0*	0,054	0,042	0,030	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,200	0,150	0,100	0,240	0,180	0,120
N.2.1	**336**	1,0*	0,054	0,042	0,030	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,200	0,150	0,100	0,240	0,180	0,120
N.2.2	**336**	1,0*	0,054	0,042	0,030	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,200	0,150	0,100	0,240	0,180	0,120
N.2.3	**224**	1,0*	0,054	0,042	0,030	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,200	0,150	0,100	0,240	0,180	0,120
N.3.1	**224**	1,0*	0,036	0,028	0,020	0,054	0,042	0,030	0,080	0,060	0,040	0,100	0,075	0,050	0,160	0,120	0,080	0,200	0,150	0,100
N.3.2	**160**	1,0*	0,036	0,028	0,020	0,054	0,042	0,030	0,080	0,060	0,040	0,100	0,075	0,050	0,160	0,120	0,080	0,200	0,150	0,100
N.3.3	**160**	1,0*	0,036	0,028	0,020	0,054	0,042	0,030	0,080	0,060	0,040	0,100	0,075	0,050	0,160	0,120	0,080	0,200	0,150	0,100
N.4.1																				

Cutting data standard values – End mills – Type W, long

Index	v_c (m/min)	$a_{p\,max.}$ x DC	50 960 ..., 54 590 ..., 54 594 ..., 54 610 ..., 54 640 ...																	
			Ø DC (mm) =																	
			2,7–3,0			3,7–4,0			4,7–5,0			5,7–7,0			7,7–9,0			9,7–11,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																	
N.1.1	**320**	1,0*	0,036	0,028	0,020	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,160	0,120	0,080	0,200	0,150	0,100
N.1.2	**320**	1,0*	0,036	0,028	0,020	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,160	0,120	0,080	0,200	0,150	0,100
N.2.1	**192**	1,0*	0,036	0,028	0,020	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,160	0,120	0,080	0,200	0,150	0,100
N.2.2	**192**	1,0*	0,036	0,028	0,020	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,160	0,120	0,080	0,200	0,150	0,100
N.2.3	**128**	1,0*	0,036	0,028	0,020	0,063	0,049	0,035	0,100	0,075	0,050	0,120	0,089	0,060	0,160	0,120	0,080	0,200	0,150	0,100
N.3.1	**128**	1,0*	0,027	0,021	0,015	0,045	0,035	0,025	0,070	0,052	0,035	0,100	0,075	0,050	0,140	0,100	0,070	0,180	0,130	0,090
N.3.2	**92**	1,0*	0,027	0,021	0,015	0,045	0,035	0,025	0,070	0,052	0,035	0,100	0,075	0,050	0,140	0,100	0,070	0,180	0,130	0,090
N.3.3	**92**	1,0*	0,027	0,021	0,015	0,045	0,035	0,025	0,070	0,052	0,035	0,100	0,075	0,050	0,140	0,100	0,070	0,180	0,130	0,090
N.4.1																				

Cutting data standard values – End mills – Type W, extra long

Index	v_c (m/min)	$a_{p\,max.}$ x DC	54 590 ..., 54 610 ..., 54 640 ...																	
			Ø DC (mm) =																	
			2,7–3,0			3,7–4,0			4,7–5,0			5,7–7,0			7,7–9,0			9,7–11,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)																	
N.1.1	**240**	0,750*	0,013	0,010	0,007	0,018	0,014	0,010	0,040	0,030	0,020	0,050	0,037	0,025	0,060	0,050	0,030	0,070	0,050	0,040
N.1.2	**240**	0,750*	0,013	0,010	0,007	0,018	0,014	0,010	0,040	0,030	0,020	0,050	0,037	0,025	0,060	0,050	0,030	0,070	0,050	0,040
N.2.1	**144**	0,750*	0,013	0,010	0,007	0,018	0,014	0,010	0,040	0,030	0,020	0,050	0,037	0,025	0,060	0,050	0,030	0,070	0,050	0,040
N.2.2	**144**	0,750*	0,013	0,010	0,007	0,018	0,014	0,010	0,040	0,030	0,020	0,050	0,037	0,025	0,060	0,050	0,030	0,070	0,050	0,040
N.2.3	**100**	0,750*	0,013	0,010	0,007	0,018	0,014	0,010	0,040	0,030	0,020	0,050	0,037	0,025	0,060	0,050	0,030	0,070	0,050	0,040
N.3.1	**100**	0,750*	0,009	0,007	0,005	0,014	0,011	0,008	0,020	0,015	0,010	0,030	0,022	0,015	0,040	0,030	0,020	0,050	0,040	0,030
N.3.2	**72**	0,750*	0,009	0,007	0,005	0,014	0,011	0,008	0,020	0,015	0,010	0,030	0,022	0,015	0,040	0,030	0,020	0,050	0,040	0,030
N.3.3	**72**	0,750*	0,009	0,007	0,005	0,014	0,011	0,008	0,020	0,015	0,010	0,030	0,022	0,015	0,040	0,030	0,020	0,050	0,040	0,030
N.4.1																				

* = a_p 1.5 x DC only use with a_e range of 0.1–0.4 x DC

Cooling lubrication with emulsion

→ Feedrate guides for radius and torus cutters

Cutting data standard values – End mills – Type W, short

Index	54 590..., 54 594..., 54 610..., 54 640...																		Emulsion	MMS
	Ø DC (mm) =																			
	11,7–13,0			13,7–15,0			15,7–16,0			18,0			19,7–20,0			24,7–25,0				
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC		
	f_z (mm)																			
N.1.1	0,270	0,220	0,150	0,290	0,230	0,160	0,310	0,240	0,170	0,330	0,250	0,180	0,340	0,270	0,270	0,350	0,280	0,220	●	●
N.1.2	0,270	0,220	0,150	0,290	0,230	0,160	0,310	0,240	0,170	0,330	0,250	0,180	0,340	0,270	0,270	0,350	0,280	0,220	●	●
N.2.1	0,270	0,220	0,150	0,290	0,230	0,160	0,310	0,240	0,170	0,330	0,250	0,180	0,340	0,270	0,270	0,350	0,280	0,220	●	●
N.2.2	0,270	0,220	0,150	0,290	0,230	0,160	0,310	0,240	0,170	0,330	0,250	0,180	0,340	0,270	0,270	0,350	0,280	0,220	●	●
N.2.3	0,270	0,220	0,150	0,290	0,230	0,160	0,310	0,240	0,170	0,330	0,250	0,180	0,340	0,270	0,270	0,350	0,280	0,220	●	●
N.3.1	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,240	0,320	0,260	0,200	●	●
N.3.2	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,240	0,320	0,260	0,200	●	●
N.3.3	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,240	0,320	0,260	0,200	●	●
N.4.1																				

Cutting data standard values – End mills – Type W, long

Index	50 960 ..., 54 590 ..., 54 594 ..., 54 610 ..., 54 640 ...																		Emulsion	MMS
	Ø DC (mm) =																			
	11,7–13,0			13,7–15,0			15,7–16,0			18,0			19,7–20,0			24,7–25,0				
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC		
	f_z (mm)																			
N.1.1	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,170	0,320	0,260	0,200	●	●
N.1.2	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,170	0,320	0,260	0,200	●	●
N.2.1	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,170	0,320	0,260	0,200	●	●
N.2.2	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,170	0,320	0,260	0,200	●	●
N.2.3	0,220	0,170	0,120	0,240	0,180	0,130	0,250	0,200	0,140	0,270	0,210	0,150	0,300	0,240	0,170	0,320	0,260	0,200	●	●
N.3.1	0,200	0,160	0,110	0,220	0,170	0,120	0,230	0,180	0,130	0,260	0,200	0,140	0,260	0,210	0,150	0,290	0,230	0,180	●	●
N.3.2	0,200	0,160	0,110	0,220	0,170	0,120	0,230	0,180	0,130	0,260	0,200	0,140	0,260	0,210	0,150	0,290	0,230	0,180	●	●
N.3.3	0,200	0,160	0,110	0,220	0,170	0,120	0,230	0,180	0,130	0,260	0,200	0,140	0,260	0,210	0,150	0,290	0,230	0,180	●	●
N.4.1																				

Cutting data standard values – End mills – Type W, extra long

Index	54 590 ..., 54 610 ..., 54 640 ...																		Emulsion	MMS
	Ø DC (mm) =																			
	11,7–13,0			13,7–15,0			15,7–16,0			18,0			19,7–20,0			24,7–25,0				
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC		
	f_z (mm)																			
N.1.1	0,080	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,130	0,100	0,080	0,160	0,130	0,100	●	●
N.1.2	0,080	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,130	0,100	0,080	0,160	0,130	0,100	●	●
N.2.1	0,080	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,130	0,100	0,080	0,160	0,130	0,100	●	●
N.2.2	0,080	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,130	0,100	0,080	0,160	0,130	0,100	●	●
N.2.3	0,080	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,130	0,100	0,080	0,160	0,130	0,100	●	●
N.3.1	0,060	0,050	0,030	0,070	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,140	0,120	0,090	●	●
N.3.2	0,060	0,050	0,030	0,070	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,140	0,120	0,090	●	●
N.3.3	0,060	0,050	0,030	0,070	0,060	0,040	0,090	0,070	0,050	0,100	0,080	0,060	0,110	0,090	0,070	0,140	0,120	0,090	●	●
N.4.1																				

* = a_p 1.5 x DC only use with a_e range of 0.1–0.4 x DC

Cooling lubrication with emulsion

→ Feedrate guides for radius and torus cutters

Cutting data standard values for end mills

Index	Short/long version		54 070 ..., 54 071 ..., 54 072 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)															
P.1.1	210	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.2	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.3	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.4	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.1.5	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.1	200	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.2	190	1,0	0,022	0,018	0,011	0,030	0,024	0,015	0,038	0,030	0,019	0,046	0,037	0,023	0,062	0,050	0,031	
P.2.3	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.2.4	170	1,0	0,022	0,018	0,011	0,030	0,024	0,015	0,038	0,030	0,019	0,046	0,037	0,023	0,062	0,050	0,031	
P.3.1	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.3.2	170	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.3.3	140	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
P.4.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
P.4.2	80	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.1.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.2.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
M.3.1	100	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
K.1.1	200	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
K.1.2	180	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
K.2.1	190	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.2.2	170	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.3.1	180	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
K.3.2	160	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	350	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.3.2	350	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.3.3	280	1,0	0,037	0,030	0,019	0,048	0,038	0,024	0,060	0,048	0,030	0,070	0,056	0,035	0,094	0,075	0,047	
N.4.1																		
S.1.1	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.1.2	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.1	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.2	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.3	30	1,0	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.3.1	90	1,0	0,028	0,022	0,014	0,038	0,030	0,019	0,049	0,039	0,025	0,060	0,048	0,030	0,080	0,064	0,040	
S.3.2	50	1,0	0,017	0,014	0,009	0,024	0,019	0,012	0,031	0,025	0,016	0,038	0,030	0,019	0,052	0,042	0,026	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 3°

Cutting data standard values for end mills

Index	54 070 ..., 54 071 ..., 54 072 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	10			12			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.1.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.4	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.1.5	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.2	0,078	0,062	0,039	0,094	0,075	0,047	0,118	0,094	0,059	0,134	0,107	0,067	●	○	○
P.2.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.2.4	0,078	0,062	0,039	0,094	0,075	0,047	0,118	0,094	0,059	0,134	0,107	0,067	●	○	○
P.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.3.3	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
P.4.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
P.4.2	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.1.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.2.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
M.3.1	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
K.1.1	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.1.2	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●	○	○
K.2.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.2.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
K.3.2	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.2	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.3.3	0,116	0,093	0,058	0,140	0,112	0,070	0,173	0,138	0,087	0,196	0,157	0,098	●		
N.4.1															
S.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	0,100	0,080	0,050	0,120	0,096	0,060	0,150	0,120	0,075	0,170	0,136	0,085	●		
S.3.2	0,066	0,053	0,033	0,080	0,064	0,040	0,101	0,081	0,051	0,115	0,092	0,058	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 3°

Cutting data standard values for end mills

Index	Long version		54 078 ...															
			Ø DC (mm) =															
			6			8			10			12			16			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)															
P.1.1	120	1xDC	0,048	0,038	0,024	0,062	0,050	0,031	0,075	0,060	0,038	0,089	0,071	0,045	0,110	0,088	0,055	
P.1.2	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.1.3	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.1.4	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.1.5	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.2.1	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.2.2	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.2.3	110	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.2.4	95	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.3.1	95	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.3.2	95	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.3.3																		
P.4.1	70	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
P.4.2	60	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
M.1.1	70	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
M.2.1	70	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
M.3.1	70	1xDC	0,041	0,033	0,021	0,054	0,043	0,027	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	
K.1.1	130	1xDC	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	
K.1.2	120	1xDC	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	
K.2.1	130	1xDC	0,058	0,046	0,029	0,072	0,058	0,036	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	
K.2.2	120	1xDC	0,058	0,046	0,029	0,072	0,058	0,036	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	
K.3.1	130	1xDC	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	
K.3.2	130	1xDC	0,078	0,062	0,039	0,100	0,080	0,050	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 3°

At an a_e of < 0.3xDC, an a_p of 3xDC may be used.

Cutting data standard values for end mills

Index	54 078 ... Ø DC (mm) = 20 a_e 0,1–0,2 x DC f_z (mm)	a_e 0,3–0,4 x DC f_z (mm)	a_e 0,6–1,0 x DC f_z (mm)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	0,123	0,098	0,062	●	●	○
P.1.2	0,111	0,089	0,056	●	●	○
P.1.3	0,111	0,089	0,056	●	●	○
P.1.4	0,111	0,089	0,056	●	●	○
P.1.5	0,111	0,089	0,056	●	●	○
P.2.1	0,111	0,089	0,056	●	●	○
P.2.2	0,111	0,089	0,056	●	●	○
P.2.3	0,111	0,089	0,056	●	●	○
P.2.4	0,111	0,089	0,056	●	●	○
P.3.1	0,111	0,089	0,056	●	●	○
P.3.2	0,111	0,089	0,056	●	●	○
P.3.3						
P.4.1	0,111	0,089	0,056	●		
P.4.2	0,111	0,089	0,056	●		
M.1.1	0,111	0,089	0,056	●		
M.2.1	0,111	0,089	0,056	●		
M.3.1	0,111	0,089	0,056	●		
K.1.1	0,200	0,160	0,100		●	●
K.1.2	0,200	0,160	0,100		●	●
K.2.1	0,139	0,111	0,070		●	●
K.2.2	0,139	0,111	0,070		●	●
K.3.1	0,200	0,160	0,100		●	●
K.3.2	0,200	0,160	0,100		●	●
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

Plunging angle for ramping and helical milling = 3°

At an a_e of < 0.3xDC, an a_p of 3xDC may be used.

Cutting data standard values for end mills

Index	Extra-long version		54 070 ..., 54 071 ..., 54 072 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)															
P.1.1	**120**	0,8	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	
P.1.2	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.3	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.4	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.5	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.1	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.2	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.3	**110**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.4	**95**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.3.1	**95**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.3.2	**95**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.3.3																		
P.4.1	**70**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.4.2	**60**	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
M.1.1	70	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
M.2.1	70	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
M.3.1	70	0,8	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
K.1.1	**130**	0,8	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.1.2	**120**	0,8	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.2.1	**130**	0,8	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.2.2	**120**	0,8	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.3.1	**130**	0,8	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.3.2	**130**	0,8	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 3°

Cutting data standard values for end mills

Index	54 070 ..., 54 071 ..., 54 072 ...												● 1st choice ○ Suitable		
	Ø DC (mm) =														
	10			12			16			20					
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.1.1	0,075	0,060	0,038	0,089	0,071	0,045	0,110	0,088	0,055	0,123	0,098	0,062	●	○	○
P.1.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.5	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.3.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.3.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.3.3															
P.4.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●		
P.4.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●		
M.1.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●		
M.2.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●		
M.3.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●		
K.1.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.1.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.2.1	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.2.2	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.3.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.3.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – Finish milling cutters

Index	Long version	Extra-long version	Type long / extra long	54 075 ..., 54 076 ...						● 1st choice ○ Suitable		
				Ø DC (mm) =								
				6	8	10	12	16	20			
				a_e 0,05 x DC								
	v_c (m/min)		$a_{p\,max}$ x DC	f_z (mm)						Emulsion	Compressed air	MMS
P.1.1	210	145	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.2	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.3	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.4	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.1.5	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.1	200	140	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.2	185	130	2,0	0,021	0,028	0,035	0,042	0,053	0,060	●	○	○
P.2.3	175	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.2.4	170	115	2,0	0,021	0,028	0,035	0,042	0,053	0,060	●	○	○
P.3.1	180	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.3.2	170	115	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.3.3	140	95	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
P.4.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
P.4.2	80	60	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.1.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.2.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
M.3.1	95	65	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
K.1.1	200	140	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
K.1.2	175	125	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
K.2.1	185	130	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.2.2	170	115	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.3.1	175	125	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
K.3.2	160	110	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●	○	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	345	240	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.3.2	345	240	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.3.3	280	196	2,0	0,032	0,042	0,052	0,063	0,078	0,088	●	○	○
N.4.1												
S.1.1	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.1.2	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.1	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.2	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.2.3	35	25	2,0	0,014	0,018	0,023	0,027	0,034	0,038	●		
S.3.1	160	110	2,0	0,027	0,036	0,045	0,054	0,068	0,077	●		
S.3.2	100	70	2,0	0,017	0,023	0,030	0,036	0,045	0,052	●		
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Plunging angle for ramping and helical milling = 1°

Cutting data standard values – Circular saw blades

Index	54 700 ...	
	Circular saws	
	Solid carbide, fine	
	v_c (m/min)	f_z (mm)
P.1.1	80–140	0,002–0,012
P.1.2	50–80	0,001–0,012
P.1.3	50–80	0,001–0,012
P.1.4	50–80	0,001–0,012
P.1.5	50–80	0,001–0,012
P.2.1	50–80	0,001–0,012
P.2.2	50–80	0,001–0,012
P.2.3	50–80	0,001–0,012
P.2.4	50–80	0,001–0,012
P.3.1	50–80	0,001–0,012
P.3.2	50–80	0,001–0,012
P.3.3	50–80	0,001–0,012
P.4.1	80–120	0,001–0,012
P.4.2	50–80	0,001–0,012
M.1.1	50–80	0,001–0,012
M.2.1	50–80	0,001–0,012
M.3.1	50–80	0,001–0,012
K.1.1	80–140	0,002–0,012
K.1.2	50–80	0,001–0,010
K.2.1	50–80	0,001–0,010
K.2.2	50–80	0,001–0,010
K.3.1	50–80	0,001–0,010
K.3.2	50–80	0,001–0,010
N.1.1	200–500	0,003–0,012
N.1.2	200–500	0,003–0,012
N.2.1	200–450	0,003–0,012
N.2.2	200–450	0,003–0,012
N.2.3	200–450	0,003–0,012
N.3.1	200–450	0,003–0,012
N.3.2	200–450	0,003–0,012
N.3.3	200–450	0,003–0,012
N.4.1		
S.1.1	20–30	0,001–0,012
S.1.2	20–30	0,001–0,012
S.2.1	20–30	0,001–0,012
S.2.2	20–30	0,001–0,012
S.2.3	20–30	0,001–0,012
S.3.1	30–70	0,001–0,012
S.3.2	30–70	0,001–0,012
S.3.3	30–70	0,001–0,012
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1	130–200	0,003–0,015
O.1.2	130–200	0,003–0,015
O.2.1		
O.2.2		
O.3.1		

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions!

Cutting data standard values – NTR roughing-finishing milling cutters

Index	a_e 0,1–0,4 x DC	a_e 0,6–1,0 x DC	$a_{p\,max}$ in mm	52 318 ...														
				Ø DC (mm) =														
				6			8			10			12			14		
				a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	v_c (m/min)			f_z (mm)														
P.1.1	250	140	1xDC	0,074	0,047	0,028	0,095	0,060	0,035	0,114	0,072	0,042	0,131	0,083	0,049	0,145	0,092	0,055
P.1.2	250	140	1xDC	0,074	0,047	0,028	0,095	0,060	0,035	0,114	0,072	0,042	0,131	0,083	0,049	0,145	0,092	0,055
P.1.3	205	115	1xDC	0,069	0,044	0,026	0,089	0,056	0,033	0,106	0,067	0,040	0,122	0,077	0,046	0,135	0,086	0,051
P.1.4	205	115	1xDC	0,069	0,044	0,026	0,089	0,056	0,033	0,106	0,067	0,040	0,122	0,077	0,046	0,135	0,086	0,051
P.1.5	205	115	1xDC	0,069	0,044	0,026	0,089	0,056	0,033	0,106	0,067	0,040	0,122	0,077	0,046	0,135	0,086	0,051
P.2.1	225	125	1xDC	0,074	0,047	0,028	0,095	0,060	0,035	0,114	0,072	0,042	0,131	0,083	0,049	0,145	0,092	0,055
P.2.2	225	125	1xDC	0,074	0,047	0,028	0,095	0,060	0,035	0,114	0,072	0,042	0,131	0,083	0,049	0,145	0,092	0,055
P.2.3	135	75	1xDC	0,068	0,043	0,025	0,087	0,055	0,033	0,104	0,066	0,039	0,120	0,076	0,045	0,133	0,085	0,055
P.2.4	135	75	1xDC	0,068	0,043	0,025	0,087	0,055	0,033	0,104	0,066	0,039	0,120	0,076	0,045	0,133	0,085	0,050
P.3.1	145	85	1xDC	0,072	0,045	0,027	0,092	0,058	0,034	0,110	0,070	0,041	0,127	0,080	0,047	0,141	0,089	0,053
P.3.2	125	70	1xDC	0,064	0,041	0,024	0,082	0,052	0,031	0,099	0,062	0,037	0,113	0,072	0,042	0,126	0,080	0,047
P.3.3	125	70	1xDC	0,064	0,041	0,024	0,082	0,052	0,031	0,099	0,062	0,037	0,113	0,072	0,042	0,126	0,080	0,047
P.4.1	100	55	1xDC	0,050	0,031	0,018	0,063	0,040	0,024	0,076	0,048	0,028	0,087	0,055	0,033	0,097	0,061	0,037
P.4.2	100	55	1xDC	0,050	0,031	0,018	0,063	0,040	0,024	0,076	0,048	0,028	0,087	0,055	0,033	0,097	0,061	0,037
M.1.1	75	40	1xDC	0,043	0,027	0,016	0,055	0,035	0,021	0,066	0,042	0,025	0,076	0,048	0,028	0,084	0,054	0,032
M.2.1	85	40	1xDC	0,047	0,030	0,018	0,060	0,038	0,022	0,072	0,046	0,027	0,083	0,052	0,031	0,092	0,058	0,035
M.3.1	70	35	1xDC	0,036	0,023	0,013	0,046	0,029	0,017	0,055	0,035	0,021	0,063	0,040	0,024	0,070	0,045	0,027
K.1.1	310	150	1xDC	0,124	0,078	0,046	0,158	0,100	0,059	0,190	0,120	0,071	0,218	0,138	0,081	0,242	0,154	0,090
K.1.2	260	100	1xDC	0,100	0,060	0,026	0,138	0,080	0,039	0,160	0,100	0,051	0,188	0,120	0,061	0,212	0,135	0,070
K.2.1	285	140	1xDC	0,105	0,067	0,039	0,135	0,085	0,050	0,161	0,102	0,060	0,185	0,117	0,069	0,205	0,130	0,077
K.2.2	130	65	1xDC	0,050	0,031	0,018	0,063	0,040	0,024	0,076	0,048	0,028	0,087	0,055	0,033	0,097	0,061	0,037
K.3.1	205	100	1xDC	0,087	0,055	0,032	0,111	0,070	0,041	0,133	0,084	0,050	0,153	0,097	0,057	0,170	0,108	0,064
K.3.2	195	95	1xDC	0,074	0,047	0,028	0,095	0,060	0,035	0,114	0,072	0,042	0,131	0,083	0,049	0,145	0,092	0,055
N.1.1	825	535	1xDC	0,092	0,066	0,047	0,117	0,084	0,060	0,140	0,101	0,072	0,161	0,116	0,083	0,179	0,129	0,092
N.1.2	825	535	1xDC	0,092	0,066	0,047	0,117	0,084	0,060	0,140	0,101	0,072	0,161	0,116	0,083	0,179	0,129	0,092
N.2.1	550	355	1xDC	0,096	0,069	0,049	0,123	0,088	0,063	0,147	0,106	0,076	0,169	0,122	0,087	0,188	0,136	0,097
N.2.2	440	285	1xDC	0,101	0,073	0,052	0,129	0,093	0,066	0,154	0,111	0,079	0,178	0,128	0,091	0,198	0,142	0,101
N.2.3	315	205	1xDC	0,110	0,079	0,057	0,141	0,101	0,072	0,168	0,121	0,087	0,194	0,139	0,099	0,216	0,155	0,110
N.3.1	395	255	1xDC	0,046	0,033	0,024	0,059	0,042	0,030	0,070	0,050	0,036	0,081	0,058	0,041	0,090	0,065	0,046
N.3.2	315	205	1xDC	0,073	0,053	0,038	0,094	0,067	0,048	0,112	0,081	0,058	0,129	0,093	0,066	0,144	0,103	0,074
N.3.3	235	155	1xDC	0,073	0,053	0,038	0,094	0,067	0,048	0,112	0,081	0,058	0,129	0,093	0,066	0,144	0,103	0,074
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – NTR roughing-finishing milling cutters

Index	52 318 ... Ø DC (mm) = 16 a_e 0,1–0,2 x DC	16 a_e 0,3–0,4 x DC	16 a_e 0,6–1,0 x DC	18 a_e 0,1–0,2 x DC	18 a_e 0,3–0,4 x DC	18 a_e 0,6–1,0 x DC	20 a_e 0,1–0,2 x DC	20 a_e 0,3–0,4 x DC	20 a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)									● 1st choice ○ Suitable		
P.1.1	0,160	0,101	0,060	0,171	0,109	0,064	0,183	0,116	0,068	●	○	○
P.1.2	0,160	0,101	0,060	0,171	0,109	0,064	0,183	0,116	0,068	●	○	○
P.1.3	0,149	0,094	0,056	0,160	0,101	0,060	0,171	0,108	0,064	●	○	○
P.1.4	0,149	0,094	0,056	0,160	0,101	0,060	0,171	0,108	0,064	●	○	○
P.1.5	0,149	0,094	0,056	0,160	0,101	0,060	0,171	0,108	0,064	●	○	○
P.2.1	0,160	0,101	0,060	0,171	0,109	0,064	0,183	0,116	0,068	●	○	○
P.2.2	0,160	0,101	0,060	0,171	0,109	0,064	0,183	0,116	0,068	●	○	○
P.2.3	0,147	0,093	0,055	0,157	0,100	0,059	0,168	0,106	0,062	●	○	○
P.2.4	0,147	0,093	0,055	0,157	0,100	0,059	0,168	0,106	0,062	●	○	○
P.3.1	0,155	0,098	0,058	0,166	0,105	0,062	0,177	0,112	0,066	●	○	○
P.3.2	0,139	0,088	0,052	0,148	0,094	0,056	0,158	0,100	0,059	●	○	○
P.3.3	0,139	0,088	0,052	0,148	0,094	0,056	0,158	0,100	0,059	●	○	○
P.4.1	0,107	0,067	0,040	0,114	0,072	0,043	0,122	0,077	0,045	●	○	○
P.4.2	0,107	0,067	0,040	0,114	0,072	0,043	0,122	0,077	0,045	●	○	○
M.1.1	0,093	0,059	0,035	0,100	0,063	0,038	0,107	0,067	0,040	●	○	○
M.2.1	0,101	0,064	0,038	0,108	0,069	0,041	0,116	0,073	0,043	●	○	○
M.3.1	0,077	0,049	0,029	0,082	0,053	0,031	0,088	0,056	0,033	●	○	○
K.1.1	0,266	0,169	0,099	0,286	0,181	0,107	0,305	0,193	0,114	●	○	○
K.1.2	0,236	0,149	0,079	0,256	0,161	0,087	0,275	0,173	0,094	●	○	○
K.2.1	0,226	0,143	0,084	0,243	0,154	0,091	0,259	0,164	0,097	●	○	○
K.2.2	0,107	0,067	0,040	0,115	0,072	0,043	0,122	0,077	0,045	●	○	○
K.3.1	0,187	0,118	0,070	0,200	0,127	0,075	0,213	0,135	0,080	●	○	○
K.3.2	0,160	0,101	0,060	0,172	0,109	0,064	0,183	0,116	0,068	●	○	○
N.1.1	0,197	0,142	0,101	0,211	0,152	0,109	0,225	0,162	0,116	●	○	○
N.1.2	0,197	0,142	0,101	0,211	0,152	0,109	0,225	0,162	0,116	●	○	○
N.2.1	0,207	0,149	0,106	0,222	0,160	0,114	0,237	0,170	0,122	●	○	○
N.2.2	0,217	0,156	0,111	0,233	0,167	0,119	0,248	0,178	0,127	●	○	○
N.2.3	0,237	0,170	0,121	0,254	0,182	0,130	0,270	0,194	0,139	●	○	○
N.3.1	0,099	0,071	0,051	0,106	0,076	0,055	0,113	0,081	0,058	●	○	○
N.3.2	0,158	0,113	0,081	0,169	0,122	0,087	0,180	0,130	0,093	●	○	○
N.3.3	0,158	0,113	0,081	0,169	0,122	0,087	0,180	0,130	0,093	●	○	○
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting data standard values – Rough milling cutters

Index	Long version		54 077 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)															
P.1.1	185	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.1.2	175	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.1.3	175	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.1.4	170	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.1.5	170	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.2.1	175	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.2.2	170	1,0	0,024	0,019	0,012	0,034	0,027	0,017	0,044	0,035	0,022	0,054	0,043	0,027	0,072	0,058	0,036	
P.2.3	160	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.2.4	150	1,0	0,024	0,019	0,012	0,034	0,027	0,017	0,044	0,035	0,022	0,054	0,043	0,027	0,072	0,058	0,036	
P.3.1	160	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.3.2	150	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.3.3	130	1,0	0,033	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
P.4.1	90	1,0	0,016	0,012	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
P.4.2	70	1,0	0,016	0,012	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
M.1.1	90	1,0	0,016	0,012	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
M.2.1	90	1,0	0,016	0,012	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
M.3.1	90	1,0	0,016	0,012	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
K.1.1	175	1,0	0,042	0,034	0,021	0,056	0,045	0,028	0,070	0,056	0,035	0,085	0,068	0,042	0,113	0,091	0,057	
K.1.2	160	1,0	0,042	0,034	0,021	0,056	0,045	0,028	0,070	0,056	0,035	0,085	0,068	0,042	0,113	0,091	0,057	
K.2.1	170	1,0	0,034	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
K.2.2	155	1,0	0,034	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
K.3.1	160	1,0	0,034	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
K.3.2	145	1,0	0,034	0,027	0,017	0,043	0,035	0,022	0,054	0,043	0,027	0,063	0,050	0,032	0,085	0,068	0,042	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	280	1,0	0,042	0,034	0,021	0,056	0,045	0,028	0,070	0,056	0,035	0,085	0,068	0,042	0,113	0,091	0,057	
N.3.2	280	1,0	0,042	0,034	0,021	0,056	0,045	0,028	0,070	0,056	0,035	0,085	0,068	0,042	0,113	0,091	0,057	
N.3.3	225	1,0	0,042	0,034	0,021	0,056	0,045	0,028	0,070	0,056	0,035	0,085	0,068	0,042	0,113	0,091	0,057	
N.4.1																		
S.1.1	25	1,0	0,014	0,011	0,007	0,018	0,014	0,009	0,023	0,018	0,011	0,027	0,022	0,014	0,036	0,029	0,018	
S.1.2	25	1,0	0,014	0,011	0,007	0,018	0,014	0,009	0,023	0,018	0,011	0,027	0,022	0,014	0,036	0,029	0,018	
S.2.1	25	1,0	0,014	0,011	0,007	0,018	0,014	0,009	0,023	0,018	0,011	0,027	0,022	0,014	0,036	0,029	0,018	
S.2.2	25	1,0	0,014	0,011	0,007	0,018	0,014	0,009	0,023	0,018	0,011	0,027	0,022	0,014	0,036	0,029	0,018	
S.2.3	25	1,0	0,014	0,011	0,007	0,018	0,014	0,009	0,023	0,018	0,011	0,027	0,022	0,014	0,036	0,029	0,018	
S.3.1	70	1,0	0,024	0,019	0,012	0,034	0,027	0,017	0,044	0,035	0,022	0,054	0,043	0,027	0,072	0,058	0,036	
S.3.2	40	1,0	0,016	0,013	0,008	0,022	0,017	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,047	0,037	0,023	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – Rough milling cutters

Index	54 077 ... Ø DC (mm) = 10			12			16			20			● 1st choice ○ Suitable		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.1.1	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.1.2	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.1.3	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.1.4	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.1.5	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.2.1	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.2.2	0,090	0,072	0,045	0,108	0,086	0,054	0,135	0,108	0,068	0,153	0,122	0,077	●	○	○
P.2.3	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.2.4	0,090	0,072	0,045	0,108	0,086	0,054	0,135	0,108	0,068	0,153	0,122	0,077	●	○	○
P.3.1	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.3.2	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.3.3	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
P.4.1	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
P.4.2	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
M.1.1	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
M.2.1	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
M.3.1	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
K.1.1	0,144	0,115	0,072	0,173	0,138	0,086	0,216	0,173	0,108	0,247	0,197	0,123	●	○	○
K.1.2	0,144	0,115	0,072	0,173	0,138	0,086	0,216	0,173	0,108	0,247	0,197	0,123	●	○	○
K.2.1	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
K.2.2	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
K.3.1	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
K.3.2	0,104	0,084	0,052	0,126	0,101	0,063	0,156	0,125	0,078	0,176	0,141	0,088	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,144	0,115	0,072	0,173	0,138	0,086	0,216	0,173	0,108	0,247	0,197	0,123	●		
N.3.2	0,144	0,115	0,072	0,173	0,138	0,086	0,216	0,173	0,108	0,247	0,197	0,123	●		
N.3.3	0,144	0,115	0,072	0,173	0,138	0,086	0,216	0,173	0,108	0,247	0,197	0,123	●		
N.4.1															
S.1.1	0,045	0,036	0,023	0,054	0,043	0,027	0,068	0,054	0,034	0,076	0,060	0,038	●		
S.1.2	0,045	0,036	0,023	0,054	0,043	0,027	0,068	0,054	0,034	0,076	0,060	0,038	●		
S.2.1	0,045	0,036	0,023	0,054	0,043	0,027	0,068	0,054	0,034	0,076	0,060	0,038	●		
S.2.2	0,045	0,036	0,023	0,054	0,043	0,027	0,068	0,054	0,034	0,076	0,060	0,038	●		
S.2.3	0,045	0,036	0,023	0,054	0,043	0,027	0,068	0,054	0,034	0,076	0,060	0,038	●		
S.3.1	0,090	0,072	0,045	0,108	0,086	0,054	0,135	0,108	0,068	0,153	0,122	0,077	●		
S.3.2	0,059	0,048	0,030	0,072	0,058	0,036	0,091	0,073	0,045	0,104	0,083	0,052	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Plunging angle for ramping and helical milling = 3°

Cutting data standard values – Rough milling cutters

Index	Full slot milling v_c (m/min)	Contour milling v_c (m/min)	52 338 ..., 52 339 ..., 52 341 ..., 52 342 ..., 52 343 ... Ti1000 Ø DC (mm) = 6		8		10		12		14	
			f_z (mm)									
P.1.1	170	190	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.1.2	160	180	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.1.3	150	170	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.1.4	150	170	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.1.5	130	150	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.2.1	110	130	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.2.2	110	130	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.2.3	110	130	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.2.4	110	130	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.3.1	160	180	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.3.2	90	110	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.3.3	90	110	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
P.4.1	55	65	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07
P.4.2	35	45	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07
M.1.1	60	70	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07
M.2.1	45	55	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07
M.3.1	50	60	0,02	0,03	0,03	0,04	0,04	0,05	0,05	0,06	0,06	0,07
K.1.1	120	130	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
K.1.2	110	120	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
K.2.1	110	120	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
K.2.2	90	100	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
K.3.1	110	120	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
K.3.2	100	110	0,028	0,03	0,04	0,05	0,05	0,06	0,06	0,07	0,07	0,08
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

For **full slot milling**, the values specified in the table apply to: a_e = 1,0 x DC / a_p = 1,0 x DC

For **contour milling**, the values specified in the table apply to: a_e = 0,4 x DC / a_p = 1,0 x DC

For tools with through coolant (52 338 ... / 52 339 ...), the cutting speed (v_c) can be increased by 20–30%!

Cutting data standard values – Rough milling cutters

Index	52 338 ..., 52 339 ..., 52 340 ..., 52 341 ..., 52 342 ..., 52 343 ...								● 1st choice ○ Suitable		
	Ti1000										
	Ø DC (mm) =										
	16		18		20		25				
	f_z (mm)										
									Emulsion	Compressed air	MMS
P.1.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.1.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.1.3	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.1.4	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.1.5	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.2.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.2.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.2.3	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.2.4	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.3.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.3.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.3.3	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
P.4.1	0,06	0,08	0,07	0,09	0,08	0,1	0,08	0,1	●		
P.4.2	0,06	0,08	0,07	0,09	0,08	0,1	0,08	0,1	●		
M.1.1	0,06	0,08	0,07	0,09	0,08	0,1	0,08	0,1	●		
M.2.1	0,06	0,08	0,07	0,09	0,08	0,1	0,08	0,1	●		
M.3.1	0,06	0,08	0,07	0,09	0,08	0,1	0,08	0,1	●		
K.1.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
K.1.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
K.2.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
K.2.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
K.3.1	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
K.3.2	0,08	0,09	0,09	0,1	0,1	0,12	0,1	0,12	●	○	
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

For **full slot milling**, the values specified in the table apply to: a_e = 1,0 x DC / a_p = 1,0 x DC

For **contour milling**, the values specified in the table apply to: a_e = 0,4 x DC / a_p = 1,0 x DC

For tools with through coolant (52 338 ... / 52 339 ...), the cutting speed (v_c) can be increased by 20–30%!

Cutting data standard values – Ball-nosed end mills

Index	Short version		54 073 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max.}$ x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	
			f_z (mm)															
P.1.1	180	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.2	160	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.3	160	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.4	150	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.5	150	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.1	170	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.2	140	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.3	140	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.4	130	0,08	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	100	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
P.4.2	40	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.1.1	50	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.2.1	50	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.3.1	50	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
K.1.1	120	0,08	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.1.2	80	0,08	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.2.1	120	0,08	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.2.2	200	0,08	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.3.1	120	0,08	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.3.2	100	0,08	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	200	0,08	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.3.2	200	0,08	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.3.3	140	0,08	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.4.1																		
S.1.1	30	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.1.2	30	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.1	30	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.2	30	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.2.3	30	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.3.1	50	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.3.2	20	0,08	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – Ball-nosed end mills

Index	54 073 ... Ø DC (mm) = 10			12			16			20			● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC			
	f_z (mm)														
P.1.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.5	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
P.4.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.3.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
K.1.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.1.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.2.1	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.2.2	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.3.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.3.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.3.2	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.3.3	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.4.1															
S.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.1.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.2.3	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – Ball-nosed end mills

Index	Short/long version		54 074 ...															
			Ø DC (mm) =															
			3			4			5			6			8			
	v_c (m/min)	$a_{p\,max}$ x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC
			f_z (mm)															
P.1.1	130	0,08xD	0,027	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,048	0,038	0,024	0,062	0,050	0,031	
P.1.2	110	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.3	110	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.4	95	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.1.5	95	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.1	110	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.2	85	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.3	85	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.2.4	65	0,08xD	0,022	0,018	0,011	0,028	0,022	0,014	0,034	0,027	0,017	0,041	0,033	0,021	0,054	0,043	0,027	
P.3.1																		
P.3.2																		
P.3.3																		
P.4.1	60	0,08xD	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
P.4.2	50	0,08xD	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.1.1	50	0,08xD	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.2.1	60	0,08xD	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
M.3.1	60	0,08xD	0,015	0,012	0,008	0,020	0,016	0,010	0,025	0,020	0,013	0,030	0,024	0,015	0,040	0,032	0,020	
K.1.1	155	0,08xD	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.1.2	145	0,08xD	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.2.1	155	0,08xD	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.2.2	145	0,08xD	0,035	0,028	0,018	0,042	0,034	0,021	0,050	0,040	0,025	0,058	0,046	0,029	0,072	0,058	0,036	
K.3.1	155	0,08xD	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
K.3.2	145	0,08xD	0,044	0,035	0,022	0,056	0,045	0,028	0,066	0,053	0,033	0,078	0,062	0,039	0,100	0,080	0,050	
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	240	0,08xD	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.3.2	240	0,08xD	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.3.3	170	0,08xD	0,032	0,026	0,016	0,043	0,034	0,022	0,054	0,043	0,027	0,066	0,053	0,033	0,088	0,070	0,044	
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting data standard values – Ball-nosed end mills

Index	54 074 ... Ø DC (mm) = 10			12			16			20			● 1st choice ○ Suitable		
	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	a_e 0,01–0,02 x DC	a_e 0,03–0,04 x DC	a_e 0,05 x DC	Emulsion	Compressed air	MMS
	f_z (mm)														
P.1.1	0,075	0,060	0,038	0,089	0,071	0,045	0,110	0,088	0,055	0,123	0,098	0,062	●	○	○
P.1.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.1.5	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.1	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.2	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.3	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.2.4	0,066	0,053	0,033	0,079	0,063	0,040	0,099	0,079	0,050	0,111	0,089	0,056	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
P.4.2	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.1.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.2.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
M.3.1	0,050	0,040	0,025	0,060	0,048	0,030	0,075	0,060	0,038	0,084	0,067	0,042	●		
K.1.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.1.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.2.1	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.2.2	0,086	0,069	0,043	0,102	0,082	0,051	0,124	0,099	0,062	0,139	0,111	0,070	●	○	○
K.3.1	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
K.3.2	0,122	0,098	0,061	0,144	0,115	0,072	0,177	0,142	0,089	0,200	0,160	0,100	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.3.2	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.3.3	0,110	0,088	0,055	0,132	0,106	0,066	0,166	0,133	0,083	0,188	0,150	0,094	●		
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting data standard values – T-slot milling cutters

Index	v_c (m/min)	54 065 ... Ø DC (mm) = 11,0	12,5	16,0	18,0	19,0	21,0	22,0	25,0	28,0	32,0	36,0	40,0	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		f_z (mm)														
P.1.1	72	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.1.2	68	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.1.3	68	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.1.4	64	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.1.5	64	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.2.1	64	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.2.2	64	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.2.3	56	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.2.4	56	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.3.1	64	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.3.2	60	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.3.3	52	0,015	0,018	0,021	0,025	0,028	0,030	0,030	0,030	0,035	0,040	0,045	0,050	●		
P.4.1	40	0,010	0,012	0,014	0,017	0,019	0,020	0,020	0,020	0,023	0,027	0,030	0,033	●		
P.4.2	40	0,010	0,012	0,014	0,017	0,019	0,020	0,020	0,020	0,023	0,027	0,030	0,033	●		
M.1.1	40	0,010	0,012	0,014	0,017	0,019	0,020	0,020	0,020	0,023	0,027	0,030	0,033	●		
M.2.1	40	0,010	0,012	0,014	0,017	0,019	0,020	0,020	0,020	0,023	0,027	0,030	0,033	●		
M.3.1	40	0,010	0,012	0,014	0,017	0,019	0,020	0,020	0,020	0,023	0,027	0,030	0,033	●		
K.1.1	68	0,040	0,048	0,056	0,067	0,075	0,080	0,080	0,080	0,093	0,093	0,105	0,117	●		
K.1.2	56	0,030	0,036	0,042	0,050	0,056	0,060	0,060	0,060	0,070	0,070	0,079	0,088	●		
K.2.1	64	0,030	0,036	0,042	0,050	0,056	0,060	0,060	0,060	0,070	0,070	0,079	0,088	●		
K.2.2	52	0,030	0,036	0,042	0,050	0,056	0,060	0,060	0,060	0,070	0,070	0,079	0,088	●		
K.3.1	56	0,030	0,036	0,042	0,050	0,056	0,060	0,060	0,060	0,070	0,070	0,079	0,088	●		
K.3.2	54	0,030	0,036	0,042	0,050	0,056	0,060	0,060	0,060	0,070	0,070	0,079	0,088	●		
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1																
N.3.2																
N.3.3																
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1																
S.3.2																
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The feed f_z must be reduced by 50% until the tool is fully engaged.

Cutting Data – P220 – End Milling Cutter, short – long

			59 003 ...									
Index		Ø DC =	1/8"	3/16"	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1	1970	1.0	0.0015	0.0019	0.0029	0.0036	0.0050	0.0053	0.0060	●	○	○
N.1.2	1970	1.0	0.0015	0.0019	0.0029	0.0036	0.0050	0.0053	0.0060	●	○	○
N.2.1	1180	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	●	○	○
N.2.2	1180	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	●	○	○
N.2.3	790	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	●	○	○
N.3.1	790	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	●	○	○
N.3.2	790	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	●	○	○
N.3.3	560	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	●	○	○
N.4.1	720	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	●	○	○
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting Data – S142 – End Milling Cutter, short – extra long

			59 053 ... / 59 054 ...										
		Ø DC =	5/32"	3/16"	1/4–5/16"	11/32–3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1													
P.1.2													
P.1.3													
P.1.4													
P.1.5													
P.2.1													
P.2.2													
P.2.3													
P.2.4													
P.3.1													
P.3.2													
P.3.3													
P.4.1													
P.4.2													
M.1.1													
M.2.1													
M.3.1													
K.1.1													
K.1.2													
K.2.1													
K.2.2													
K.3.1													
K.3.2													
N.1.1	980	1.0	0.0015	0.0019	0.0029	0.0036	0.0050	0.0053	0.0060	0.0069	●	○	○
N.1.2	980	1.0	0.0015	0.0019	0.0029	0.0036	0.0050	0.0053	0.0060	0.0069	●	○	○
N.2.1	590	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.2	590	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.3	390	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.3.1	390	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	0.0050	●	○	○
N.3.2	390	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	0.0050	●	○	○
N.3.3	280	1.0	0.0010	0.0013	0.0020	0.0026	0.0036	0.0039	0.0044	0.0050	●	○	○
N.4.1	360	1.0	0.0012	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P109 – End Milling Cutter, extra short – extra long

Index			59 027 ...												
		Ø DC =	1/8–5/32"	3/16"	7/32"	1/4 – 9/32–5/16"	3/8"	7/16"	1/2"	9/16 – 5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1	1380	1.0	0.0012	0.0015	0.0019	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.1.2	1380	1.0	0.0012	0.0015	0.0019	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.1	830	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.2	830	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.3	550	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.3.1	550	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	550	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	390	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1	510	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting Data – P362 – End Milling Cutter, short – extra long

			59 004 ...									
		Ø DC =	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1	1970	1.0	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.1.2	1970	1.0	0.0015	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.1	1180	1.0	0.0014	0.0023	0.0029	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.2	1180	1.0	0.0014	0.0023	0.0029	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.3	790	1.0	0.0014	0.0023	0.0029	0.0040	0.0043	0.0049	0.0056	●	○	○
N.3.1	790	1.0	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	790	1.0	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	560	1.0	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1	720	1.0	0.0014	0.0023	0.0029	0.0040	0.0043	0.0049	0.0056	●	○	○
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting Data – P376 – End Milling Cutter, short – extra long

Index	v_c ft/min	$a_{p\,max.}$ x DC	59 005 ... Ø DC = 1/4–5/16" a_e 1 x DC f_z inch	3/8" a_e 1 x DC f_z inch	1/2" a_e 1 x DC f_z inch	5/8" a_e 1 x DC f_z inch	3/4" a_e 1 x DC f_z inch	1" a_e 1 x DC f_z inch	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1											
P.1.2											
P.1.3											
P.1.4											
P.1.5											
P.2.1											
P.2.2											
P.2.3											
P.2.4											
P.3.1											
P.3.2											
P.3.3											
P.4.1											
P.4.2											
M.1.1											
M.2.1											
M.3.1											
K.1.1											
K.1.2											
K.2.1											
K.2.2											
K.3.1											
K.3.2											
N.1.1	1640	1.0	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
N.1.2	1640	1.0	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
N.2.1	980	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.2.2	980	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.2.3	690	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.3.1	690	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.3.2	690	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.3.3	490	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
N.4.1	660	1.0	0.0009	0.0012	0.0017	0.0018	0.0020	0.0023	●	○	○
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting Data – S642 – End Milling Cutter, extra short – extra long

			59 068... / 59 069 ...													
		Ø DC =	1/16"	3/32"	1/8–5/32"	3/16"	7/32"	1/4–9/32 –5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	220	1.0	0.0006	0.0007	0.0008	0.0010	0.0011	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
P.1.2	180	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.3	180	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.4	160	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.5	160	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.2.1	180	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.2.2	140	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.2.3	140	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.2.4	110	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.3.1																
P.3.2																
P.3.3																
P.4.1	98	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
P.4.2	79	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
M.1.1	79	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
M.2.1	98	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
M.3.1	98	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
K.1.1	260	1.0	0.0009	0.0011	0.0013	0.0016	0.0018	0.0023	0.0028	0.0037	0.0039	0.0044	0.0050	●	○	○
K.1.2	240	1.0	0.0009	0.0011	0.0013	0.0016	0.0018	0.0023	0.0028	0.0037	0.0039	0.0044	0.0050	●	○	○
K.2.1	260	1.0	0.0006	0.0008	0.0009	0.0011	0.0013	0.0016	0.0019	0.0025	0.0026	0.0030	0.0033	●	○	○
K.2.2	240	1.0	0.0006	0.0008	0.0009	0.0011	0.0013	0.0016	0.0019	0.0025	0.0026	0.0030	0.0033	●	○	○
K.3.1	260	1.0	0.0009	0.0011	0.0013	0.0016	0.0018	0.0023	0.0028	0.0037	0.0039	0.0044	0.0050	●	○	○
K.3.2	240	1.0	0.0009	0.0011	0.0013	0.0016	0.0018	0.0023	0.0028	0.0037	0.0039	0.0044	0.0050	●	○	○
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1	390	1.0	0.0006	0.0008	0.0010	0.0012	0.0014	0.0018	0.0022	0.0030	0.0031	0.0035	0.0040	●	○	○
N.3.2	390	1.0	0.0006	0.0008	0.0010	0.0012	0.0014	0.0018	0.0022	0.0030	0.0031	0.0035	0.0040	●	○	○
N.3.3	280	1.0	0.0006	0.0008	0.0010	0.0012	0.0014	0.0018	0.0022	0.0030	0.0031	0.0035	0.0040	●	○	○
N.4.1																
S.1.1	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	98	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
S.3.2	39	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●		
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

Cutting Data – S643 – End-Milling-Cutter, extra short – extra long

			59 070... / 59 071 ...											● 1st choice		
		Ø DC =	1/16–5/64"	3/32"	1/8–5/32"	3/16"	7/32"	1/4–9/32 –5/16"	3/8"	1/2"	5/8"	3/4"	1"	○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1	220	1.0	0.0004	0.0005	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	180	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	180	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	160	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	160	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	180	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	140	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	140	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	110	1.0	0.0003	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1																
P.3.2																
P.3.3																
P.4.1	100	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
P.4.2	80	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.1.1	79	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.2.1	98	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.3.1	98	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
K.1.1	260	1.0	0.0007	0.0009	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	240	1.0	0.0007	0.0009	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	260	1.0	0.0006	0.0007	0.0008	0.0010	0.0011	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	240	1.0	0.0006	0.0007	0.0008	0.0010	0.0011	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	260	1.0	0.0007	0.0009	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	240	1.0	0.0007	0.0009	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1	390	1.0	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.3.2	390	1.0	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.3.3	280	1.0	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.4.1																
S.1.1	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	59	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	98	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.2	39	1.0	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

Cutting Data – S644 – End Milling Cutter, extra short – extra long

			59 043... / 59 044 ... / 59 072... / 59 073 ...															
		Ø DC =	1/32"	3/64"	1/16–5/64"	3/32–7/64"	1/8–5/32"	3/16"	7/32"	1/4–9/32–5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	450	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.1.2	430	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.1.3	430	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.1.4	410	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.1.5	410	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.2.1	430	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.2.2	410	1.0	0.0002	0.0002	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.3	390	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.2.4	370	1.0	0.0002	0.0002	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.3.1	390	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.3.2	370	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.3.3	310	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
P.4.1	220	1.0	0.0000	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
P.4.2	180	1.0	0.0000	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.1.1	220	1.0	0.0000	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.2.1	220	1.0	0.0000	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.3.1	220	1.0	0.0000	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
K.1.1	430	1.0	0.0003	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
K.1.2	390	1.0	0.0003	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
K.2.1	410	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.2.2	370	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.3.1	390	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.3.2	350	1.0	0.0003	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1	690	1.0	0.0003	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.3.2	690	1.0	0.0003	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.3.3	550	1.0	0.0003	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0025	0.0031	0.0044	0.0047	0.0054	0.0062	●	○	○
N.4.1																		
S.1.1	59	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	59	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	59	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	59	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	59	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	180	1.0	0.0002	0.0002	0.0004	0.0006	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

Cutting Data – P645 – End Milling Cutter, short – extra long

Index			59 074 ... / 59 075 ...									● 1st choice ○ Suitable		
		Ø DC =	1/8–5/32"	3/16"	7/32"	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	1"			
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1	410	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.2	390	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.3	390	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.4	370	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.5	370	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.1	390	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.2	370	1.0	0.0006	0.0007	0.0009	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.2.3	350	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.4	330	1.0	0.0006	0.0007	0.0009	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.3.1	350	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.3.2	330	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.3.3	280	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.4.1	200	1.0	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
P.4.2	160	1.0	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.1.1	200	1.0	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.2.1	200	1.0	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.3.1	200	1.0	0.0005	0.0006	0.0007	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
K.1.1	390	1.0	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.1.2	350	1.0	0.0009	0.0012	0.0014	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.2.1	370	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.2.2	330	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.1	350	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.2	310	1.0	0.0007	0.0010	0.0012	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1														
N.3.2														
N.3.3														
N.4.1														
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1														
S.3.2														
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Cutting Data – P160 / P161 – Multi-flute milling cutter, short – extra long

			59 041 ... / 59 042 ...								
		Ø DC =	1/4"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	850	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.2	820	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.3	820	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.4	750	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.5	750	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.1	820	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.2	750	0.5	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.2.3	720	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.4	690	0.5	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.3.1	720	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.3.2	690	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.3.3	570	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.4.1	390	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
P.4.2	330	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.1.1	390	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.2.1	390	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.3.1	390	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
K.1.1	820	0.5	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.1.2	720	0.5	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.2.1	750	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.2.2	690	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.1	720	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.2	660	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	130	1.0	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	130	1.0	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	130	1.0	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	130	1.0	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	130	1.0	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	660	1.0	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●		
S.3.2	410	1.0	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting Data – P119 – Chamfer milling cutter

Index		Ø DC =	59 029 ... / 59 030 ... 1/8–5/32"	3/16"	7/32"	1/4–3/32 –5/16"	3/8"	7/16"	1/2"	3/16–5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1															
P.1.2															
P.1.3															
P.1.4															
P.1.5															
P.2.1															
P.2.2															
P.2.3															
P.2.4															
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1															
K.1.2															
K.2.1															
K.2.2															
K.3.1															
K.3.2															
N.1.1	1970	1.0	0.0012	0.0015	0.0019	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.1.2	1970	1.0	0.0012	0.0015	0.0019	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.1	1180	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.2	1180	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.3	790	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.3.1	790	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	790	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	560	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1	720	1.0	0.0011	0.0014	0.0017	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting Data – P117 – Rough-Finishing Cutter with corner radius, short – long

			59 028 ...										
		Ø DC =	1/8"	3/16"	1/4–5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	360	1.0	0.0007	0.0008	0.0012	0.0015	0.0018	0.0020	0.0022	0.0024	●	○	○
P.1.2	300	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.1.3	300	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.1.4	260	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.1.5	260	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.2.1	300	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.2.2	230	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.2.3	230	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.2.4	180	1.0	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	●	○	○
P.3.1													
P.3.2													
P.3.3													
P.4.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
P.4.2	130	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
M.1.1	130	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
M.2.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
M.3.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
K.1.1	430	1.0	0.0011	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	●	○	○
K.1.2	400	1.0	0.0011	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	●	○	○
K.2.1	420	1.0	0.0008	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	●	○	○
K.2.2	400	1.0	0.0008	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	●	○	○
K.3.1	430	1.0	0.0011	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	●	○	○
K.3.2	400	1.0	0.0011	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	660	1.0	0.0007	0.0010	0.0016	0.0020	0.0024	0.0028	0.0030	0.0033	●	○	○
N.3.2	660	1.0	0.0007	0.0010	0.0016	0.0020	0.0024	0.0028	0.0030	0.0033	●	○	○
N.3.3	460	1.0	0.0007	0.0010	0.0016	0.0020	0.0024	0.0028	0.0030	0.0033	●	○	○
N.4.1													
S.1.1	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.1.2	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.2.1	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.2.2	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.2.3	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.3.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.3.2	66	1.0	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0017	●		
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P120 – Roughing-Finishing cutter with corner radius, extra short – extra long

			59 031 ... / 59 032 ...												
		Ø DC =	1/8–5/32"	3/16"	7/32"	1/4–9/32", 5/16"	11/32–3/8"	7/16"	1/2"	9/16–5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0007	0.0008	0.0009	0.0012	0.0015	0.0018	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	260	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	260	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	230	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	230	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	250	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	200	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	200	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	180	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1															
P.3.2															
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1	390	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	330	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	390	1.0	0.0008	0.0010	0.0011	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	330	1.0	0.0008	0.0010	0.0011	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	390	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	330	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1															
S.3.2															
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

Cutting Data – P121 – Roughing-Finishing cutter with corner radius, short – extra long

Index	v_c ft/min	$a_{p\,max.}$ x DC	59 035 ... Ø DC = 3/4" a_e 1 x DC f_z inch	59 035 ... Ø DC = 1" a_e 1 x DC f_z inch	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	480	1.0	0.0033	0.0039	●	○	○
P.1.2	460	1.0	0.0033	0.0039	●	○	○
P.1.3	460	1.0	0.0033	0.0039	●	○	○
P.1.4	440	1.0	0.0033	0.0039	●	○	○
P.1.5	440	1.0	0.0033	0.0039	●	○	○
P.2.1	460	1.0	0.0033	0.0039	●	○	○
P.2.2	440	1.0	0.0026	0.0030	●	○	○
P.2.3	410	1.0	0.0033	0.0039	●	○	○
P.2.4	390	1.0	0.0026	0.0030	●	○	○
P.3.1	410	1.0	0.0033	0.0039	●	○	○
P.3.2	390	1.0	0.0033	0.0039	●	○	○
P.3.3	320	1.0	0.0033	0.0039	●	○	○
P.4.1	230	1.0	0.0023	0.0026	●		
P.4.2	180	1.0	0.0023	0.0026	●		
M.1.1	230	1.0	0.0023	0.0026	●		
M.2.1	230	1.0	0.0023	0.0026	●		
M.3.1	230	1.0	0.0023	0.0026	●		
K.1.1	460	1.0	0.0039	0.0044	●	○	○
K.1.2	410	1.0	0.0039	0.0044	●	○	○
K.2.1	440	1.0	0.0033	0.0039	●	○	○
K.2.2	390	1.0	0.0033	0.0039	●	○	○
K.3.1	410	1.0	0.0033	0.0039	●	○	○
K.3.2	370	1.0	0.0033	0.0039	●	○	○
N.1.1							
N.1.2							
N.2.1							
N.2.2							
N.2.3							
N.3.1							
N.3.2							
N.3.3							
N.4.1							
S.1.1	130	1.0	0.0026	0.0030	●		
S.1.2	130	1.0	0.0026	0.0030	●		
S.2.1	130	1.0	0.0026	0.0030	●		
S.2.2	130	1.0	0.0026	0.0030	●		
S.2.3	130	1.0	0.0026	0.0030	●		
S.3.1	280	1.0	0.0039	0.0044	●		
S.3.2	180	1.0	0.0026	0.0030	●		
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

Cutting Data – P102 –Rough milling cutter with corner radius, short – extra long

			59 023 ... / 59 024 ... / 59 025 ... / 59 026 ...										
		Ø DC =	3/16"	1/4–5/16"	3/8"	7/16"	1/2"	3/16–5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1													
P.1.2													
P.1.3													
P.1.4													
P.1.5													
P.2.1													
P.2.2													
P.2.3													
P.2.4													
P.3.1													
P.3.2													
P.3.3													
P.4.1													
P.4.2													
M.1.1													
M.2.1													
M.3.1													
K.1.1													
K.1.2													
K.2.1													
K.2.2													
K.3.1													
K.3.2													
N.1.1	1970	1.0	0.0015	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.1.2	1970	1.0	0.0015	0.0025	0.0031	0.0038	0.0044	0.0047	0.0054	0.0062	●	○	○
N.2.1	1180	1.0	0.0014	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.2	1180	1.0	0.0014	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.2.3	790	1.0	0.0014	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
N.3.1	790	1.0	0.0011	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	790	1.0	0.0011	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	560	1.0	0.0011	0.0017	0.0022	0.0026	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1	720	1.0	0.0014	0.0023	0.0029	0.0035	0.0040	0.0043	0.0049	0.0056	●	○	○
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P190 / P191 – Rough milling cutter, short – extra long

			59 059 ... / 59 061 ...									
		Ø DC =	3/16“	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1	310	1.0	0.0007	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	260	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	260	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	230	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	230	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	250	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	200	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	200	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	180	1.0	0.0006	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	390	1.0	0.0011	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	330	1.0	0.0011	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	390	1.0	0.0008	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	330	1.0	0.0008	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	390	1.0	0.0011	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	330	1.0	0.0011	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting Data – P100 – Rough milling cutter with corner radius, short – extra long

			59 011 ... / 59 012 ... / 59 013 ... / 59 014 ...										
		Ø DC =	3/16"	1/4–5/16"	3/8"	7/16"	1/2"	9/16–5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	312	1.0	0.0008	0.0012	0.0015	0.0018	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	262	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	262	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	230	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	230	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	246	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	197	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	197	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	180	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1													
P.3.2													
P.3.3													
P.4.1													
P.4.2													
M.1.1													
M.2.1													
M.3.1													
K.1.1	390	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	330	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	390	1.0	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	330	1.0	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	390	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	330	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P101 – Rough milling cutter with corner radius, short – extra long

			59 015 ... / 59 016 ... / 59 017 ... / 59 022 ...								● 1st choice ○ Suitable		
		Ø DC =	3/16"	1/4–5/16"	3/8"	7/16"	1/2"	9/16–5/8"	3/4"	1"			
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0008	0.0012	0.0015	0.0018	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	260	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	260	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	230	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	230	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	250	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	200	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	200	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	180	1.0	0.0007	0.0011	0.0013	0.0016	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1													
P.3.2													
P.3.3													
P.4.1													
P.4.2													
M.1.1													
M.2.1													
M.3.1													
K.1.1	390	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	330	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	390	1.0	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	330	1.0	0.0010	0.0014	0.0017	0.0020	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	390	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	330	1.0	0.0013	0.0020	0.0024	0.0028	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1													
S.2.2													
S.2.3													
S.3.1													
S.3.2													
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P662 – Ball nosed Cutter, extra short – extra long

			59 074 ... / 59 075 ...											
		Ø DC =	1/16"	1/8"	3/16"	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	350	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.2	310	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	310	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	300	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	300	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	330	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	280	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	280	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	260	1.0	0.0003	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1														
P.3.2														
P.3.3														
P.4.1	200	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
P.4.2	80	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.1.1	98	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.2.1	98	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.3.1	98	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
K.1.1	240	1.0	0.0007	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	160	1.0	0.0007	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	240	1.0	0.0006	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	390	1.0	0.0006	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	240	1.0	0.0007	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	200	1.0	0.0007	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1	390	1.0	0.0004	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	390	1.0	0.0004	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	280	1.0	0.0004	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1														
S.1.1	59	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	59	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	59	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	59	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	59	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	98	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.2	39	1.0	0.0002	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Cutting Data – S663 – Ball nosed Cutter, extra short – extra long

			59 078 ... / 59 079 ...										
		Ø DC =	1/8"	3/16"	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	590	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.2	520	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	520	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	490	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	490	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	560	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	460	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	460	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	430	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1													
P.3.2													
P.3.3													
P.4.1	330	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
P.4.2	130	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.1.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.2.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.3.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
K.1.1	390	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	260	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	390	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	660	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	390	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	330	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	660	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	660	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	460	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1													
S.1.1	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.1.2	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.1	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.2	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.2.3	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.1	160	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.2	66	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
S.3.3													
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

Cutting Data – P157 – Ball nosed cutter, short – extra long

Index			59 055 ...									● 1st choice ○ Suitable		
		Ø DC =	1/8–5/32"	3/16"	7/32"	1/4–5/16"	3/8"	1/2"	9/16"	3/4"	1"			
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1	430	1.0	0.0007	0.0008	0.0009	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	360	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	360	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	310	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	310	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	360	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	280	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	280	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	210	1.0	0.0006	0.0007	0.0008	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1														
P.3.2														
P.3.3														
P.4.1	200	1.0	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
P.4.2	160	1.0	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.1.1	160	1.0	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.2.1	200	1.0	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.3.1	200	1.0	0.0004	0.0005	0.0006	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
K.1.1	510	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	480	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	510	1.0	0.0008	0.0010	0.0011	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	480	1.0	0.0008	0.0010	0.0011	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	510	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	480	1.0	0.0011	0.0013	0.0015	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1														
N.1.2														
N.2.1														
N.2.2														
N.2.3														
N.3.1	790	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	790	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	560	1.0	0.0008	0.0011	0.0013	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1														
S.1.1														
S.1.2														
S.2.1														
S.2.2														
S.2.3														
S.3.1														
S.3.2														
S.3.3														
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

Cutting Data – S664 – Ball nosed Cutter, extra short – extra long

			59 080... / 59 081 ...														
		Ø DC =	1/32"	3/64"	1/16"	3/32"	1/8–5/32"	3/16"	1/4–5/16"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	Emulsion	Compressed air	MMS
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch			
P.1.1	260	1.0	0.0003	0.0003	0.0004	0.0005	0.0007	0.0008	0.0012	0.0015	0.0020	0.0022	0.0024	0.0028	●	○	○
P.1.2	220	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.3	220	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.4	190	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.1.5	190	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.1	220	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.2	170	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.3	170	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.2.4	130	1.0	0.0002	0.0002	0.0003	0.0004	0.0006	0.0007	0.0011	0.0013	0.0018	0.0019	0.0022	0.0025	●	○	○
P.3.1																	
P.3.2																	
P.3.3																	
P.4.1	120	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
P.4.2	100	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.1.1	98	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.2.1	120	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
M.3.1	120	1.0	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0008	0.0010	0.0014	0.0015	0.0017	0.0019	●		
K.1.1	310	1.0	0.0004	0.0006	0.0007	0.0009	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.1.2	290	1.0	0.0004	0.0006	0.0007	0.0009	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.2.1	310	1.0	0.0004	0.0005	0.0006	0.0007	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.2.2	290	1.0	0.0004	0.0005	0.0006	0.0007	0.0008	0.0010	0.0014	0.0017	0.0023	0.0024	0.0027	0.0031	●	○	○
K.3.1	310	1.0	0.0004	0.0006	0.0007	0.0009	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
K.3.2	290	1.0	0.0004	0.0006	0.0007	0.0009	0.0011	0.0013	0.0020	0.0024	0.0033	0.0035	0.0039	0.0045	●	○	○
N.1.1																	
N.1.2																	
N.2.1																	
N.2.2																	
N.2.3																	
N.3.1	470	1.0	0.0002	0.0003	0.0004	0.0006	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.2	470	1.0	0.0002	0.0003	0.0004	0.0006	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.3.3	330	1.0	0.0002	0.0003	0.0004	0.0006	0.0008	0.0011	0.0017	0.0022	0.0031	0.0033	0.0037	0.0043	●	○	○
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1																	
S.3.2																	
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

Cutting Data – P166 – Ball nosed and End milling cutter, short – extra long

			59 082 ... / 59 083 ... / 59 084 ...								
		Ø DC =	1/4"	3/8"	1/2"	5/8"	3/4"	1"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	690	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.2	660	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.3	660	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.4	620	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.1.5	620	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.1	660	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.2	620	0.5	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.2.3	590	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
P.2.4	560	0.5	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●	○	○
P.3.1	590	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039			
P.3.2	560	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039			
P.3.3	460	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039			
P.4.1	330	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
P.4.2	260	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.1.1	330	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.2.1	330	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
M.3.1	330	0.5	0.0010	0.0013	0.0019	0.0020	0.0023	0.0026	●		
K.1.1	660	0.5	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.1.2	590	0.5	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●	○	○
K.2.1	620	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.2.2	560	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.1	590	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
K.3.2	520	0.5	0.0016	0.0020	0.0028	0.0030	0.0033	0.0039	●	○	○
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1	120	1.0	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●		
S.1.2	120	1.0	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●		
S.2.1	80	1.0	0.0010	0.0012	0.0018	0.0020	0.0022	0.0024	●		
S.2.2	80	1.0	0.0010	0.0012	0.0018	0.0020	0.0022	0.0024	●		
S.2.3	80	1.0	0.0010	0.0012	0.0018	0.0020	0.0022	0.0024	●		
S.3.1	300	1.0	0.0019	0.0023	0.0032	0.0034	0.0039	0.0044	●		
S.3.2	180	1.0	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●		
S.3.3	140	1.0	0.0012	0.0015	0.0022	0.0023	0.0026	0.0030	●		
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

Cutting Data – P250 – Ball Nosed Cutter, medium long – extra long

			59 063 ...							
		Ø DC =	1/8"	3/16"	1/4"	3/8"	1/2"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	350	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.2	310	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.3	310	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.4	300	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.5	300	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.1	330	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.2	280	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.3	280	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.4	260	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.3.1										
P.3.2										
P.3.3										
P.4.1	200	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
P.4.2	80	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
M.1.1	100	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
M.2.1	100	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
M.3.1	100	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
K.1.1	240	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.1.2	160	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.2.1	240	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	●	○	○
K.2.2	390	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	●	○	○
K.3.1	240	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.3.2	200	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	390	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	●	○	○
N.3.2	390	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	●	○	○
N.3.3	280	1.0	0.0008	0.0011	0.0017	0.0022	0.0031	●	○	○
N.4.1										
S.1.1	59	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.1.2	59	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.2.1	59	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.2.2	59	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.2.3	59	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.3.1	98	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.3.2	39	1.0	0.0004	0.0005	0.0008	0.0010	0.0014	●		
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

Cutting Data – P251, P251, P253, P254 – Ball nosed cutter, extra long

			59 064 ... / 59 065 ... / 59 066 ... / 59 067 ...							
		Ø DC =	1/32"	.060"	3/32"	1/8"	3/16"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	300	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.1.2	260	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.1.3	260	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.1.4	250	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.1.5	250	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.2.1	280	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.2.2	230	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.2.3	230	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.2.4	210	1.0	0.0002	0.0003	0.0004	0.0006	0.0007	●	○	○
P.3.1										
P.3.2										
P.3.3										
P.4.1	160	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
P.4.2	70	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
M.1.1	82	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
M.2.1	82	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
M.3.1	82	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
K.1.1	200	1.0	0.0004	0.0007	0.0009	0.0011	0.0013	●	○	○
K.1.2	130	1.0	0.0004	0.0007	0.0009	0.0011	0.0013	●	○	○
K.2.1	200	1.0	0.0004	0.0006	0.0007	0.0008	0.0010	●	○	○
K.2.2	330	1.0	0.0004	0.0006	0.0007	0.0008	0.0010	●	○	○
K.3.1	200	1.0	0.0004	0.0007	0.0009	0.0011	0.0013	●	○	○
K.3.2	160	1.0	0.0004	0.0007	0.0009	0.0011	0.0013	●	○	○
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	330	1.0	0.0002	0.0004	0.0006	0.0008	0.0011	●	○	○
N.3.2	330	1.0	0.0002	0.0004	0.0006	0.0008	0.0011	●	○	○
N.3.3	230	1.0	0.0002	0.0004	0.0006	0.0008	0.0011	●	○	○
N.4.1										
S.1.1	49	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.1.2	49	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.2.1	49	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.2.2	49	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.2.3	49	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.3.1	82	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.3.2	33	1.0	0.0001	0.0002	0.0003	0.0004	0.0005	●		
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

Cutting Data – P501, P503 – Micro End Milling Cutter, long

			59 007 ... / 59 008 ...									
		Ø DC =	0.005–015"		0.015–031"		0.031–047"		0.047–062"		0.062–078“	
			a_e 0.13 x DC	a_e 0.25 x DC	a_e 0.13 x DC	a_e 0.25 x DC	a_e 0.13 x DC	a_e 0.25 x DC	a_e 0.13 x DC	a_e 0.25 x DC	a_e .13 x DC	a_e 0.25 x DC
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch
P.1.1	600	3.0	0.00005		0.00010		0.00015			0.00170		0.00021
P.1.2	600	3.0	0.00005		0.00010		0.00015			0.00170		0.00021
P.1.3	200	3.0	0.00004		0.00009		0.00013			0.00020		0.00025
P.1.4	200	3.0	0.00004		0.00009		0.00013			0.00020		0.00025
P.1.5	200	3.0	0.00004		0.00009		0.00013			0.00020		0.00025
P.2.1	200	3.0	0.00004		0.00009		0.00013			0.00015		0.00019
P.2.2	200	3.0	0.00004		0.00009		0.00013			0.00015		0.00019
P.2.3	200	3.0	0.00004		0.00009		0.00013			0.00015		0.00019
P.2.4	100	3.0	0.00002		0.00004		0.00007			0.00008		0.00100
P.3.1	150	3.0	0.00003		0.00006		0.00008			0.00010		0.00012
P.3.2	150	3.0	0.00003		0.00006		0.00008			0.00010		0.00012
P.3.3	90	3.0	0.00001		0.00003		0.00004			0.00005		0.00006
P.4.1	450	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
P.4.2	450	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
M.1.1	200	3.0	0.00004		0.00009		0.00013			0.00015		0.00019
M.2.1	200	3.0	0.00002		0.00004		0.00007			0.00008		0.00100
M.3.1	100	3.0	0.00002		0.00004		0.00007			0.00008		0.00100
K.1.1	400	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
K.1.2	400	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
K.2.1	300	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
K.2.2	300	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
K.3.1	250	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
K.3.2	250	3.0	0.00005		0.00010		0.00015			0.00017		0.00021
N.1.1	1000	3.0	0.00015		0.00031		0.00047			0.00055		0.00069
N.1.2	1000	3.0	0.00015		0.00031		0.00047			0.00055		0.00069
N.2.1	750	3.0	0.00015		0.00031		0.00047			0.00055		0.00069
N.2.2	750	3.0	0.00015		0.00031		0.00047			0.00055		0.00069
N.2.3												
N.3.1	500	3.0	0.00012		0.00025		0.00038		0.00044		0.00055	
N.3.2	800	3.0	0.00015		0.00031		0.00048		0.00055		0.00069	
N.3.3	400	3.0	0.00012		0.00025		0.00038		0.00044		0.00055	
N.4.1	1500	3.0	0.00015		0.00031		0.00048		0.00055		0.00069	
S.1.1	70	3.0	0.00003		0.00006		0.00009			0.00010		0.00012
S.1.2	50	3.0	0.00001		0.00003		0.00004			0.00005		0.00006
S.2.1	70	3.0	0.00003		0.00006		0.00009			0.00010		0.00012
S.2.2	50	3.0	0.00003		0.00006		0.00009			0.00010		0.00012
S.2.3	50	3.0	0.00001		0.00003		0.00004			0.00005		0.00006
S.3.1	200	3.0	0.00003		0.00006		0.00008			0.00010		0.00012
S.3.2	150	3.0	0.00003		0.00006		0.00008			0.00010		0.00012
S.3.3	75	3.0	0.00001		0.00003		0.00004			0.00005		0.00006
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting Data – P501, P503 – Micro End Milling Cutter, long

	59 007 ... / 59 008 ...						
	0.078–093"		0.093–0120"		● 1st choice ○ Suitable		
	a_e 0.13 x DC	a_e 0.25 x DC	a_e 0.13 x DC	a_e 0.25 x DC			
Index	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1		0.00025		0.00034	●		
P.1.2		0.00025		0.00034	●		
P.1.3		0.00030		0.00040	●		
P.1.4		0.00030		0.00040	●		
P.1.5		0.00030		0.00040	●		
P.2.1		0.00023		0.00031	●		
P.2.2		0.00023		0.00031	●		
P.2.3		0.00023		0.00031	●		
P.2.4		0.00012		0.00016	●		
P.3.1		0.00014		0.00019	●		
P.3.2		0.00014		0.00019	●		
P.3.3		0.00007		0.00010	●		
P.4.1		0.00025		0.00034	●		
P.4.2		0.00025		0.00034	●		
M.1.1		0.00023		0.00031	●		
M.2.1		0.00012		0.00016	●		
M.3.1		0.00012		0.00016	●		
K.1.1		0.00025		0.00034	●		
K.1.2		0.00025		0.00034	●		
K.2.1		0.00025		0.00034	●		
K.2.2		0.00025		0.00034	●		
K.3.1		0.00025		0.00034	●		
K.3.2		0.00025		0.00034	●		
N.1.1		0.00082		0.00110	●		
N.1.2		0.00082		0.00110	●		
N.2.1		0.00082		0.00110	●		
N.2.2		0.00082		0.00110	●		
N.2.3							
N.3.1	0.00065		0.00088		●		
N.3.2	0.00082		0.00110		●		
N.3.3	0.00065		0.00088		●		
N.4.1	0.00082		0.00110		●		
S.1.1		0.00014		0.00019	●		
S.1.2		0.00007		0.00010	●		
S.2.1		0.00014		0.00019	●		
S.2.2		0.00014		0.00019	●		
S.2.3		0.00007		0.00010	●		
S.3.1		0.00014		0.00019	●		
S.3.2		0.00014		0.00019	●		
S.3.3		0.00007		0.00010	●		
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

Cutting Data – P504, P506 – Micro end milling cutter, short

			59 009 ... / 59 010...									
		Ø DC =	0.005–015"	0.015–031"	0.031–047"	0.047–062"	0.062–078"	0.078–093"	0.093–0120"	● 1st choice ○ Suitable		
			a_e 0.30 x DC	a_e 0.30 x DC	a_e 0.30 x DC	a_e 0.60 x DC	a_e 0.60 x DC	a_e 0.60 x DC	a_e 0.60 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	600	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
P.1.2	600	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
P.1.3	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.1.4	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.1.5	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.2.1	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.2.2	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.2.3	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
P.2.4	100	1.0	0.00003	0.00006	0.00010	0.00011	0.00014	0.00017	0.00022	●		
P.3.1	150	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
P.3.2	150	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
P.3.3	90	1.0	0.00002	0.00004	0.00006	0.00007	0.00009	0.00012	0.00018	●		
P.4.1	450	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
P.4.2	450	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
M.1.1	200	1.0	0.00006	0.00013	0.00019	0.00022	0.00028	0.00033	0.00045	●		
M.2.1	200	1.0	0.00003	0.00006	0.00010	0.00011	0.00014	0.00017	0.00022	●		
M.3.1	100	1.0	0.00003	0.00006	0.00010	0.00011	0.00014	0.00017	0.00022	●		
K.1.1	400	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
K.1.2	400	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
K.2.1	300	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
K.2.2	300	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
K.3.1	250	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
K.3.2	250	1.0	0.00007	0.00014	0.00021	0.00024	0.00031	0.00036	0.00049	●		
N.1.1	1000	1.0	0.00022	0.00045	0.00068	0.00780	0.00099	0.00118	0.00158	●		
N.1.2	1000	1.0	0.00022	0.00045	0.00068	0.00780	0.00099	0.00118	0.00158	●		
N.2.1	750	1.0	0.00022	0.00045	0.00068	0.00780	0.00099	0.00118	0.00158	●		
N.2.2	750	1.0	0.00022	0.00045	0.00068	0.00780	0.00099	0.00118	0.00158	●		
N.2.3												
N.3.1	500	1.0	0.00017	0.00036	0.00055	0.00063	0.00079	0.00094	0.00127	●		
N.3.2	800	1.0	0.00017	0.00036	0.00055	0.00063	0.00079	0.00094	0.00127	●		
N.3.3	400	1.0	0.00017	0.00036	0.00055	0.00063	0.00079	0.00094	0.00127	●		
N.4.1	1500	1.0	0.00022	0.00045	0.00068	0.00078	0.00099	0.00118	0.00158	●		
S.1.1	70	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
S.1.2	50	1.0	0.00002	0.00004	0.00006	0.00007	0.00009	0.00012	0.00018	●		
S.2.1	70	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
S.2.2	50	1.0	0.00002	0.00004	0.00006	0.00007	0.00009	0.00012	0.00018	●		
S.2.3	50	1.0	0.00002	0.00004	0.00006	0.00007	0.00009	0.00012	0.00018	●		
S.3.1	200	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
S.3.2	150	1.0	0.00004	0.00008	0.00012	0.00014	0.00017	0.00021	0.00028	●		
S.3.3	75	1.0	0.00002	0.00004	0.00006	0.00007	0.00009	0.00012	0.00018	●		
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

Cutting Data – P137 – Profile milling cutter

			59 049 ... / 59 050 ...						
		Ø DC =	1/8"	3/16"	1/4–5/16"	3/8"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.1.2	260	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.1.3	260	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.1.4	230	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.1.5	230	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.2.1	250	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.2.2	200	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.2.3	200	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.2.4	180	1.0	0.0006	0.0007	0.0011	0.0013	●	○	○
P.3.1									
P.3.2									
P.3.3									
P.4.1									
P.4.2									
M.1.1									
M.2.1									
M.3.1									
K.1.1	390	1.0	0.0011	0.0013	0.0020	0.0024	●	○	○
K.1.2	330	1.0	0.0011	0.0013	0.0020	0.0024	●	○	○
K.2.1	390	1.0	0.0008	0.0010	0.0014	0.0017	●	○	○
K.2.2	330	1.0	0.0008	0.0010	0.0014	0.0017	●	○	○
K.3.1	390	1.0	0.0011	0.0013	0.0020	0.0024	●	○	○
K.3.2	330	1.0	0.0011	0.0013	0.0020	0.0024	●	○	○
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting Data – P139 – Profile milling cutter

			59 051 ... / 59 052 ...						
		Ø DC =	3/16"	1/4"	3/8"	1/2"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.2	260	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.3	260	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.4	230	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.5	230	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.1	250	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.2	200	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.3	200	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.4	180	1.0	0.0007	0.0011	0.0013	0.0018	●	○	○
P.3.1									
P.3.2									
P.3.3									
P.4.1									
P.4.2									
M.1.1									
M.2.1									
M.3.1									
K.1.1	390	1.0	0.0013	0.0020	0.0024	0.0033	●	○	○
K.1.2	330	1.0	0.0013	0.0020	0.0024	0.0033	●	○	○
K.2.1	390	1.0	0.0010	0.0014	0.0017	0.0023	●	○	○
K.2.2	330	1.0	0.0010	0.0014	0.0017	0.0023	●	○	○
K.3.1	390	1.0	0.0013	0.0020	0.0024	0.0033	●	○	○
K.3.2	330	1.0	0.0013	0.0020	0.0024	0.0033	●	○	○
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

Cutting Data – P132/P134 – Chamfer milling cutter

			59 041 ... / 59 042 ... / 59 045 ... / 59 046 ...							
		Ø DC =	1/8"	3/16"	1/4"	3/8"	1/2"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.2	260	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.3	260	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.4	230	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.1.5	230	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.1	250	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.2	200	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.3	200	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.2.4	180	1.0	0.0006	0.0007	0.0011	0.0013	0.0018	●	○	○
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	390	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.1.2	330	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.2.1	390	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	●	○	○
K.2.2	330	1.0	0.0008	0.0010	0.0014	0.0017	0.0023	●	○	○
K.3.1	390	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
K.3.2	330	1.0	0.0011	0.0013	0.0020	0.0024	0.0033	●	○	○
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

Cutting Data – P130 – Chamfer milling cutter

			59 037 ... / 59 038 ...					
		Ø DC =	1/4"	3/8"	1/2"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.2	260	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.3	260	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.4	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.5	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.1	250	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.2	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.3	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.4	180	1.0	0.0011	0.0013	0.0018	●	○	○
P.3.1								
P.3.2								
P.3.3								
P.4.1								
P.4.2								
M.1.1								
M.2.1								
M.3.1								
K.1.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.1.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
K.2.1	390	1.0	0.0014	0.0017	0.0023	●	○	○
K.2.2	330	1.0	0.0014	0.0017	0.0023	●	○	○
K.3.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.3.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1								
S.1.2								
S.2.1								
S.2.2								
S.2.3								
S.3.1								
S.3.2								
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

Cutting Data – P133 – Chamfer milling cutter

			59 043 ... / 59 044 ...					
		Ø DC =	1/8"	3/16"	1/4"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.1	310	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.2	260	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.3	260	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.4	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.5	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.1	250	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.2	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.3	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.4	180	1.0	0.0011	0.0013	0.0018	●	○	○
P.3.1								
P.3.2								
P.3.3								
P.4.1								
P.4.2								
M.1.1								
M.2.1								
M.3.1								
K.1.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.1.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
K.2.1	390	1.0	0.0014	0.0017	0.0023	●	○	○
K.2.2	330	1.0	0.0014	0.0017	0.0023	●	○	○
K.3.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.3.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1								
S.1.2								
S.2.1								
S.2.2								
S.2.3								
S.3.1								
S.3.2								
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

Cutting Data – P131/P135 – Chamfer milling cutter

			59 039 ... / 59 040 ... / 59 047 ... / 59 048 ...					
		Ø DC =	1/4"	3/8"	1/2"	● 1st choice ○ Suitable		
			a_e 1 x DC	a_e 1 x DC	a_e 1 x DC			
Index	v_c ft/min	$a_{p\,max.}$ x DC	f_z inch	f_z inch	f_z inch	Emulsion	Compressed air	MMS
P.1.3	260	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.4	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.1.5	230	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.1	250	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.2	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.3	200	1.0	0.0011	0.0013	0.0018	●	○	○
P.2.4	180	1.0	0.0011	0.0013	0.0018	●	○	○
P.3.1								
P.3.2								
P.3.3								
P.4.1								
P.4.2								
M.1.1								
M.2.1								
M.3.1								
K.1.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.1.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
K.2.1	390	1.0	0.0014	0.0017	0.0023	●	○	○
K.2.2	330	1.0	0.0014	0.0017	0.0023	●	○	○
K.3.1	390	1.0	0.0020	0.0024	0.0033	●	○	○
K.3.2	330	1.0	0.0020	0.0024	0.0033	●	○	○
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1								
S.1.2								
S.2.1								
S.2.2								
S.2.3								
S.3.1								
S.3.2								
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

Cutting speed standard values – Depending upon coating

Index	uncoated		Ti400		● 1st choice ○ Suitable			Ti1000 / DPX72S		● 1st choice ○ Suitable		
					Emulsion	Compressed air	MMS			Emulsion	Compressed air	MMS
	v_c (m/min)		v_c (m/min)					v_c (m/min)				
P.1.1	90–110	130–160	90–130	140–200	●	○	○	150–170	220–240	○	●	○
P.1.2	80–100	120–140	90–110	100–160	●	○	○	130–150	180–220	○	●	○
P.1.3	80–100	120–140	90–110	100–160	●	○	○	130–150	180–220	○	●	○
P.1.4	50–60	70–90	60–70	80–110	●	○	○	70–100	100–140	○	●	○
P.1.5	50–60	70–90	60–70	80–110	●	○	○	70–100	100–140	○	●	○
P.2.1	70–90	100–130	80–100	140–160	●	○	○	120–140	170–200	○	●	○
P.2.2	70–90	100–130	80–100	100–150	●	○	○	120–140	170–200	○	●	○
P.2.3	40–60	60–80	50–70	70–100	●	○	○	60–80	90–120	○	●	○
P.2.4	40–60	60–80	50–70	70–100	●	○	○	60–80	90–120	○	●	○
P.3.1	50–60	70–90	60–80	70–110	●	○	○	70–100	100–140	○	●	○
P.3.2	30–50	40–70	40–60	70–100	●	○	○	60–80	80–120	○	●	○
P.3.3	25–40	40–60	40–60	70–100	●	○	○	50–80	70–110	○	●	○
P.4.1	40–50	60–70	40–50	60–80	●	○	○	60–80	90–120	●		○
P.4.2	40–50	60–70	40–50	60–80	●	○	○	60–80	90–120	●		○
M.1.1	40–50	60–70	50–60	80–110	●	○	○	70–80	100–120	●		○
M.2.1	20–30	30–40	25–35	40–70	●	○	○	40–60	60–80	●		○
M.3.1	30–40	40–50	40–50	70–100	●	○	○	50–70	80–100	●		○
K.1.1	60–80	90–120	70–90	100–130	●	○	○	100–110	140–160	○	●	○
K.1.2	60–70	80–100	60–80	90–120	●	○	○	80–100	120–140	○	●	○
K.2.1	60–70	80–100	70–90	100–130	●	○	○	80–100	120–140	○	●	○
K.2.2	50–60	70–90	60–80	90–120	●	○	○	70–80	100–120	○	●	○
K.3.1	60–80	90–120	60–80	90–120	●	○	○	100–110	140–160	○	●	○
K.3.2	50–60	70–90	60–80	90–120	●	○	○	70–80	100–120	○	●	○
N.1.1	<300	<400	280–320	250–350	●	○	○	180–350	250–500	●		○
N.1.2	<300	<400	280–320	220–320	●	○	○	180–350	250–500	●		○
N.2.1	130–180	200–250	220–270	200–300	●	○	○	140–200	200–300	●		○
N.2.2	100–120	140–170	170–200	200–250	●	○	○	110–130	160–180	●		○
N.2.3	40–60	60–80	120–180	150–200	●	○	○	50–70	80–100	●		○
N.3.1	160–200	230–280	100–130	120–200	●	○	○	180–210	250–300	●	○	○
N.3.2	150–180	210–260	100–130	120–180	●	○	○	180–210	250–300	●		○
N.3.3	150–180	210–260	100–130	120–180	●	○	○	180–210	250–300	●		○
N.4.1	150–180	220–260	170–200	170–250		●	○	180–210	250–300		●	○
S.1.1			25–35	30–50	●	○	○	30–40	40–60	●	○	○
S.1.2			25–35	30–50	●	○	○	30–40	40–60	●	○	○
S.2.1	15–25	20–35	40–60	50–80	●	○	○	35–50	50–70	●	○	○
S.2.2			30–40	40–60	●	○	○	30–40	40–60	●	○	○
S.2.3												
S.3.1	30–50	40–70	40–50	70–100	●	○	○	50–70	80–100	●	○	○
S.3.2	30–40	40–50	50–60	80–120	●	○	○	50–60	70–90	●	○	○
S.3.3			30–40	40–60	●	○	○	20–30	30–40	●	○	○
H.1.1								60–70	80–100		●	○
H.1.2								40–60	60–80		●	○
H.1.3								30–40	40–60		●	○
H.1.4								20–30	30–40		●	○
H.2.1								70–80	100–120		●	○
H.3.1								60–70	80–100		●	○
O.1.1	50–70	70–100	120–180	150–220	●	○	○	60–80	80–120	○	●	○
O.1.2	40–60	60–90	70–90	90–120	●	○	○	40–70	60–100	○	●	○
O.2.1	30–50	40–70	50–70	70–110	●	○	○	40–60	60–80	○	●	○
O.2.2	30–50	40–70	50–70	70–110	●	○	○	40–60	60–80	○	●	○
O.3.1	70–100	100–140	100–120	130–180		●	○	80–120	120–180		●	○

Depths of cut reference values – Milling cutters, extra short – long

Index	$a_{p\,max.}$ x DC		Ø DC (mm) = 2,5			3,0			$a_{p\,max.}$ x DC		Ø DC (mm) = 4,0			5,0			6,0		
			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC			a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
			f_z (mm)								f_z (mm)								
P.1.1	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,041	0,027	0,020	0,054	0,035	0,026
P.1.2	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.1.3	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.1.4	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.1.5	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.2.1	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.2.2	1,0	0,5	0,014	0,009	0,007	0,020	0,013	0,010	1,5	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
P.2.3	1,0	0,5	0,014	0,009	0,007	0,020	0,013	0,010	1,5	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
P.2.4	1,0	0,5	0,014	0,009	0,007	0,020	0,013	0,010	1,5	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
P.3.1	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.3.2	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.3.3	1,0	0,5	0,017	0,011	0,008	0,024	0,016	0,012	1,5	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
P.4.1	1,0	0,5	0,011	0,007	0,005	0,016	0,011	0,008	1,5	1,0	0,022	0,014	0,011	0,029	0,019	0,014	0,036	0,023	0,017
P.4.2	1,0	0,5	0,011	0,007	0,005	0,016	0,011	0,008	1,5	1,0	0,022	0,014	0,011	0,029	0,019	0,014	0,036	0,023	0,017
M.1.1	1,0	0,5	0,011	0,007	0,005	0,016	0,011	0,008	1,5	1,0	0,022	0,014	0,011	0,029	0,019	0,014	0,036	0,023	0,017
M.2.1	1,0	0,5	0,011	0,007	0,005	0,016	0,011	0,008	1,5	1,0	0,022	0,014	0,011	0,029	0,019	0,014	0,036	0,023	0,017
M.3.1	1,0	0,5	0,011	0,007	0,005	0,016	0,011	0,008	1,5	1,0	0,022	0,014	0,011	0,029	0,019	0,014	0,036	0,023	0,017
K.1.1	1,0	0,5	0,020	0,013	0,010	0,029	0,019	0,014	1,5	1,0	0,039	0,026	0,019	0,052	0,034	0,025	0,064	0,042	0,031
K.1.2	1,0	0,5	0,017	0,011	0,008	0,025	0,016	0,012	1,5	1,0	0,034	0,022	0,016	0,044	0,029	0,022	0,055	0,036	0,027
K.2.1	1,0	0,5	0,017	0,011	0,008	0,025	0,016	0,012	1,5	1,0	0,034	0,022	0,016	0,044	0,029	0,022	0,055	0,036	0,027
K.2.2	1,0	0,5	0,017	0,011	0,008	0,025	0,016	0,012	1,5	1,0	0,034	0,022	0,016	0,044	0,029	0,022	0,055	0,036	0,027
K.3.1	1,0	0,5	0,017	0,011	0,008	0,025	0,016	0,012	1,5	1,0	0,034	0,022	0,016	0,044	0,029	0,022	0,055	0,036	0,027
K.3.2	1,0	0,5	0,017	0,011	0,008	0,025	0,016	0,012	1,5	1,0	0,034	0,022	0,016	0,044	0,029	0,022	0,055	0,036	0,027
N.1.1	1,0	0,5	0,028	0,018	0,013	0,040	0,027	0,020	1,5	1,0	0,055	0,036	0,027	0,072	0,047	0,035	0,090	0,059	0,043
N.1.2	1,0	0,5	0,028	0,018	0,013	0,040	0,027	0,020	1,5	1,0	0,055	0,036	0,027	0,072	0,047	0,035	0,090	0,059	0,043
N.2.1	1,0	0,5	0,028	0,018	0,013	0,040	0,027	0,020	1,5	1,0	0,055	0,036	0,027	0,072	0,047	0,035	0,090	0,059	0,043
N.2.2	1,0	0,5	0,028	0,018	0,013	0,040	0,027	0,020	1,5	1,0	0,055	0,036	0,027	0,072	0,047	0,035	0,090	0,059	0,043
N.2.3	1,0	0,5	0,028	0,018	0,013	0,040	0,027	0,020	1,5	1,0	0,055	0,036	0,027	0,072	0,047	0,035	0,090	0,059	0,043
N.3.1	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,0	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030
N.3.2	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,0	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030
N.3.3	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,0	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030
N.4.1	1,0	0,5	0,026	0,017	0,012	0,038	0,025	0,018	1,5	1,0	0,051	0,033	0,025	0,067	0,044	0,033	0,083	0,054	0,040
S.1.1	0,7	0,3	0,014	0,009	0,007	0,020	0,013	0,010	1,0	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
S.1.2	0,7	0,3	0,014	0,009	0,007	0,020	0,013	0,010	1,0	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
S.2.1	0,7	0,3	0,015	0,010	0,007	0,022	0,014	0,011	1,0	1,0	0,030	0,020	0,014	0,039	0,026	0,019	0,049	0,032	0,024
S.2.2	0,7	0,3	0,014	0,009	0,007	0,020	0,013	0,010	1,0	1,0	0,027	0,018	0,013	0,036	0,024	0,018	0,045	0,029	0,022
S.2.3	0,7	0,3	0,015	0,010	0,007	0,022	0,014	0,011	1,0	1,0	0,030	0,020	0,014	0,039	0,026	0,019	0,049	0,032	0,024
S.3.1	0,7	0,3	0,017	0,011	0,008	0,024	0,016	0,012	1,0	1,0	0,033	0,022	0,016	0,043	0,028	0,021	0,054	0,035	0,026
S.3.2	0,7	0,3	0,018	0,012	0,009	0,026	0,017	0,013	1,0	1,0	0,035	0,023	0,017	0,046	0,030	0,023	0,058	0,038	0,028
S.3.3	0,7	0,3	0,018	0,012	0,009	0,026	0,017	0,013	1,0	1,0	0,035	0,023	0,017	0,046	0,030	0,023	0,058	0,038	0,028
H.1.1	0,5*		0,019**			0,027**			1,0		0,037**			0,049**			0,061**		
H.1.2	0,5*		0,017**			0,025**			1,0		0,034**			0,045**			0,056**		
H.1.3	0,5*		0,015**			0,022**			1,0		0,030**			0,040**			0,050**		
H.1.4	0,5*		0,013**			0,020**			1,0		0,026**			0,035**			0,043**		
H.2.1	0,5*		0,021**			0,030**			1,0		0,041**			0,054**			0,067**		
H.3.1	0,5*		0,019**			0,027**			1,0		0,037**			0,049**			0,061**		
O.1.1	1,0	0,5	0,044	0,029	0,021	0,064	0,042	0,031	1,5	1,0	0,086	0,057	0,042	0,114	0,074	0,055	0,141	0,092	0,068
O.1.2	1,0	0,5	0,040	0,026	0,019	0,058	0,038	0,028	1,5	1,1	0,078	0,051	0,038	0,103	0,068	0,050	0,128	0,084	0,062
O.2.1	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,2	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030
O.2.2	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,3	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030
O.3.1	1,0	0,5	0,019	0,012	0,009	0,028	0,018	0,013	1,5	1,4	0,038	0,025	0,018	0,050	0,032	0,024	0,061	0,040	0,030

* = profiling and trochoidal slot milling

** = With an a_e = 0.1xDC

Depths of cut reference values – Finish milling cutters, extra short – long

$a_{p\,max.}$ x DC	Ø DC (mm) = 2,5	3,0	$a_{p\,max.}$ x DC	4,0	5,0	6,0
				a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm
	f_z (mm)			f_z (mm)		
0,7			1,5	0,080***	0,090***	0,100***

*** = To improve the surface quality, reduce the f_z

Use the cutting data for Micro-Mini cutters for milling cutters with diameter < 2.5 mm

→

Depths of cut reference values – Milling cutters, extra short – long

Index	Ø DC (mm) = 8,0			10,0			12,0			14,0			16,0			18,0			20,0–25,0		
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,6–1,0 x DC
	f_z (mm)																				
P.1.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.1.2	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.1.3	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.1.4	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.1.5	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.2.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.2.2	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
P.2.3	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
P.2.4	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
P.3.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.3.2	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.3.3	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
P.4.1	0,050	0,030	0,020	0,060	0,040	0,030	0,060	0,040	0,030	0,080	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,040	0,110	0,070	0,05
P.4.2	0,050	0,030	0,020	0,060	0,040	0,030	0,060	0,040	0,030	0,080	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,040	0,110	0,070	0,05
M.1.1	0,050	0,030	0,020	0,060	0,040	0,030	0,060	0,040	0,030	0,080	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,040	0,110	0,070	0,05
M.2.1	0,050	0,030	0,020	0,060	0,040	0,030	0,060	0,040	0,030	0,080	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,040	0,110	0,070	0,05
M.3.1	0,050	0,030	0,020	0,060	0,040	0,030	0,060	0,040	0,030	0,080	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,040	0,110	0,070	0,05
K.1.1	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,060	0,140	0,080	0,060	0,160	0,100	0,070	0,170	0,110	0,080	0,200	0,130	0,08
K.1.2	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,140	0,090	0,060	0,150	0,100	0,070	0,170	0,110	0,07
K.2.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,140	0,090	0,060	0,150	0,100	0,070	0,170	0,110	0,07
K.2.2	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,140	0,090	0,060	0,150	0,100	0,070	0,170	0,110	0,07
K.3.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,140	0,090	0,060	0,150	0,100	0,070	0,170	0,110	0,07
K.3.2	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,140	0,090	0,060	0,150	0,100	0,070	0,170	0,110	0,07
N.1.1	0,120	0,080	0,060	0,150	0,100	0,070	0,160	0,100	0,080	0,200	0,110	0,080	0,220	0,150	0,100	0,240	0,160	0,110	0,270	0,180	0,12
N.1.2	0,120	0,080	0,060	0,150	0,100	0,070	0,160	0,100	0,080	0,200	0,110	0,080	0,220	0,150	0,100	0,240	0,160	0,110	0,270	0,180	0,12
N.2.1	0,120	0,080	0,060	0,150	0,100	0,070	0,160	0,100	0,080	0,200	0,110	0,080	0,220	0,150	0,100	0,240	0,160	0,110	0,270	0,180	0,12
N.2.2	0,120	0,080	0,060	0,150	0,100	0,070	0,160	0,100	0,080	0,200	0,110	0,080	0,220	0,150	0,100	0,240	0,160	0,110	0,270	0,180	0,12
N.2.3	0,120	0,080	0,060	0,150	0,100	0,070	0,160	0,100	0,080	0,200	0,110	0,080	0,220	0,150	0,100	0,240	0,160	0,110	0,270	0,180	0,12
N.3.1	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08
N.3.2	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08
N.3.3	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08
N.4.1	0,110	0,070	0,050	0,130	0,090	0,070	0,150	0,100	0,070	0,180	0,110	0,080	0,210	0,130	0,090	0,230	0,150	0,100	0,250	0,170	0,11
S.1.1	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
S.1.2	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
S.2.1	0,060	0,040	0,030	0,080	0,050	0,040	0,090	0,060	0,040	0,110	0,060	0,050	0,120	0,080	0,050	0,130	0,090	0,060	0,150	0,100	0,06
S.2.2	0,060	0,040	0,030	0,070	0,050	0,040	0,080	0,050	0,040	0,100	0,060	0,040	0,110	0,070	0,050	0,120	0,080	0,050	0,140	0,090	0,06
S.2.3	0,060	0,040	0,030	0,080	0,050	0,040	0,090	0,060	0,040	0,110	0,060	0,050	0,120	0,080	0,050	0,130	0,090	0,060	0,150	0,100	0,06
S.3.1	0,070	0,050	0,030	0,090	0,060	0,040	0,100	0,060	0,050	0,120	0,070	0,050	0,130	0,090	0,060	0,150	0,100	0,060	0,160	0,110	0,07
S.3.2	0,070	0,050	0,040	0,090	0,060	0,050	0,100	0,070	0,050	0,130	0,070	0,050	0,140	0,090	0,060	0,160	0,100	0,070	0,180	0,120	0,08
S.3.3	0,070	0,050	0,040	0,090	0,060	0,050	0,100	0,070	0,050	0,130	0,070	0,050	0,140	0,090	0,060	0,160	0,100	0,070	0,180	0,120	0,08
H.1.1	0,080**			0,100**			0,110**			0,120**			0,130**			0,150**			0,170**		
H.1.2	0,070**			0,090**			0,100**			0,110**			0,120**			0,140**			0,150**		
H.1.3	0,060**			0,080**			0,090**			0,100**			0,110**			0,120**			0,130**		
H.1.4	0,060**			0,070**			0,080**			0,080**			0,100**			0,110**			0,120**		
H.2.1	0,090**			0,110**			0,120**			0,130**			0,150**			0,160**			0,180**		
H.3.1	0,080**			0,100**			0,110**			0,120**			0,130**			0,150**			0,170**		
O.1.1	0,180	0,120	0,090	0,230	0,150	0,110	0,250	0,160	0,120	0,310	0,180	0,130	0,350	0,230	0,150	0,380	0,250	0,170	0,430	0,280	0,19
O.1.2	0,170	0,110	0,080	0,210	0,140	0,100	0,230	0,150	0,110	0,280	0,160	0,120	0,320	0,210	0,140	0,350	0,230	0,150	0,390	0,260	0,17
O.2.1	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08
O.2.2	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08
O.3.1	0,080	0,050	0,040	0,100	0,070	0,050	0,110	0,070	0,050	0,130	0,080	0,060	0,150	0,100	0,070	0,170	0,110	0,070	0,190	0,120	0,08

* = profiling and trochoidal slot milling

** = With an a_e = 0.1xDC

Depths of cut reference values – Finish milling cutters, extra short – long

Ø DC (mm) = 8,0	10,0	12,0	14,0	16,0	18,0	20,0–25,0
a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm	a_e : 0,2–0,3 mm
f_z (mm)						
0,110***	0,130***	0,150***	0,170***	0,190***	0,210***	0,230***

*** = To improve the surface quality, reduce the f_z

Plunging angle for ramping and helical milling = 3°

→ Feedrate guides for radius and torus cutters

Depths of cut reference values – Milling cutters, extra long

Index	$a_{p\,max.}$ x DC	Ø DC (mm) = 2,5		3,0		$a_{p\,max.}$ x DC	4,0		5,0		6,0		8,0		10,0		12,0	
		a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC		a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC
		f_z (mm)					f_z (mm)											
P.1.1	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,052	0,034	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.1.2	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.1.3	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.1.4	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.1.5	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.2.1	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.2.2	0,6	0,011	0,007	0,020	0,013	1,0	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
P.2.3	0,6	0,011	0,007	0,020	0,013	1,0	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
P.2.4	0,6	0,011	0,007	0,020	0,013	1,0	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
P.3.1	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.3.2	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.3.3	0,6	0,013	0,009	0,024	0,016	1,0	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
P.4.1	0,6	0,009	0,006	0,016	0,011	1,0	0,022	0,014	0,027	0,018	0,033	0,021	0,040	0,030	0,050	0,040	0,060	0,040
P.4.2	0,6	0,009	0,006	0,016	0,011	1,0	0,022	0,014	0,027	0,018	0,033	0,021	0,040	0,030	0,050	0,040	0,060	0,040
M.1.1	0,6	0,009	0,006	0,016	0,011	1,0	0,022	0,014	0,027	0,018	0,033	0,021	0,040	0,030	0,050	0,040	0,060	0,040
M.2.1	0,6	0,009	0,006	0,016	0,011	1,0	0,022	0,014	0,027	0,018	0,033	0,021	0,040	0,030	0,050	0,040	0,060	0,040
M.3.1	0,6	0,009	0,006	0,016	0,011	1,0	0,022	0,014	0,027	0,018	0,033	0,021	0,040	0,030	0,050	0,040	0,060	0,040
K.1.1	0,6	0,015	0,010	0,029	0,019	1,0	0,039	0,025	0,048	0,032	0,058	0,038	0,080	0,050	0,100	0,060	0,110	0,070
K.1.2	0,6	0,013	0,009	0,025	0,016	1,0	0,033	0,022	0,042	0,027	0,050	0,033	0,070	0,040	0,080	0,060	0,090	0,060
K.2.1	0,6	0,013	0,009	0,025	0,016	1,0	0,033	0,022	0,042	0,027	0,050	0,033	0,070	0,040	0,080	0,060	0,090	0,060
K.2.2	0,6	0,013	0,009	0,025	0,016	1,0	0,033	0,022	0,042	0,027	0,050	0,033	0,070	0,040	0,080	0,060	0,090	0,060
K.3.1	0,6	0,013	0,009	0,025	0,016	1,0	0,033	0,022	0,042	0,027	0,050	0,033	0,070	0,040	0,080	0,060	0,090	0,060
K.3.2	0,6	0,013	0,009	0,025	0,016	1,0	0,033	0,022	0,042	0,027	0,050	0,033	0,070	0,040	0,080	0,060	0,090	0,060
N.1.1	0,6	0,022	0,014	0,041	0,027	1,0	0,054	0,035	0,068	0,044	0,081	0,053	0,110	0,070	0,140	0,090	0,150	0,100
N.1.2	0,6	0,022	0,014	0,041	0,027	1,0	0,054	0,035	0,068	0,044	0,081	0,053	0,110	0,070	0,140	0,090	0,150	0,100
N.2.1	0,6	0,022	0,014	0,041	0,027	1,0	0,054	0,035	0,068	0,044	0,081	0,053	0,110	0,070	0,140	0,090	0,150	0,100
N.2.2	0,6	0,022	0,014	0,041	0,027	1,0	0,054	0,035	0,068	0,044	0,081	0,053	0,110	0,070	0,140	0,090	0,150	0,100
N.2.3	0,6	0,022	0,014	0,041	0,027	1,0	0,054	0,035	0,068	0,044	0,081	0,053	0,110	0,070	0,140	0,090	0,150	0,100
N.3.1	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070
N.3.2	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070
N.3.3	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070
N.4.1	0,6	0,020	0,013	0,038	0,025	1,0	0,050	0,033	0,063	0,041	0,076	0,049	0,100	0,070	0,130	0,080	0,140	0,090
S.1.1	0,3	0,011	0,007	0,020	0,013	0,5	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
S.1.2	0,3	0,011	0,007	0,020	0,013	0,5	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
S.2.1	0,3	0,012	0,008	0,022	0,014	0,5	0,029	0,019	0,037	0,024	0,044	0,029	0,060	0,040	0,070	0,050	0,080	0,050
S.2.2	0,3	0,011	0,007	0,020	0,013	0,5	0,027	0,018	0,034	0,022	0,041	0,027	0,050	0,040	0,070	0,040	0,080	0,050
S.2.3	0,3	0,012	0,008	0,022	0,014	0,5	0,029	0,019	0,037	0,024	0,044	0,029	0,060	0,040	0,070	0,050	0,080	0,050
S.3.1	0,3	0,013	0,009	0,024	0,016	0,5	0,033	0,021	0,041	0,027	0,049	0,032	0,070	0,040	0,080	0,050	0,090	0,060
S.3.2	0,3	0,014	0,009	0,026	0,017	0,5	0,035	0,023	0,044	0,029	0,052	0,034	0,070	0,050	0,090	0,060	0,100	0,060
S.3.3	0,3	0,014	0,009	0,026	0,017	0,5	0,035	0,023	0,044	0,029	0,052	0,034	0,070	0,050	0,090	0,060	0,100	0,060
H.1.1	0,3*	0,012**		0,022**		0,5*	0,029**		0,037**		0,044**		0,060**		0,070**		0,080**	
H.1.2	0,3*	0,011**		0,020**		0,5*	0,027**		0,034**		0,041**		0,050**		0,070**		0,080**	
H.1.3	0,3*	0,010**		0,018**		0,5*	0,024**		0,030**		0,036**		0,050**		0,060**		0,070**	
H.1.4	0,3*	0,008**		0,016**		0,5*	0,021**		0,026**		0,031**		0,040**		0,050**		0,060**	
H.2.1	0,3*	0,013**		0,024**		0,5*	0,033**		0,041**		0,049**		0,070**		0,080**		0,090**	
H.3.1	0,3*	0,012**		0,022**		0,5*	0,029**		0,037**		0,044**		0,060**		0,070**		0,080**	
O.1.1	0,6	0,034	0,022	0,064	0,042	1,0	0,085	0,056	0,107	0,070	0,128	0,084	0,170	0,110	0,210	0,140	0,230	0,150
O.1.2	0,6	0,031	0,020	0,058	0,038	1,0	0,077	0,051	0,097	0,063	0,116	0,076	0,160	0,100	0,190	0,130	0,210	0,140
O.2.1	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070
O.2.2	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070
O.3.1	0,6	0,015	0,010	0,028	0,018	1,0	0,037	0,024	0,046	0,030	0,056	0,037	0,070	0,050	0,090	0,060	0,100	0,070

* = profiling and trochoidal slot milling

** = With an a_e = 0.1xDC

Depths of cut reference values – Finish milling cutters, extra long

	$a_{p\,max.}$ x DC	Ø DC (mm) = 2,5	3,0	$a_{p\,max.}$ x DC	4,0	5,0	6,0	8,0	10,0	12,0
		a_e 0,2–0,3 mm	a_e 0,2–0,3 mm		a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm
		f_z (mm)			f_z (mm)					
	0,7			0,7	0,080***	0,090***	0,100***	0,110***	0,130***	0,150***

*** = With an a_p of 1.5 x DC, multiply the f_z by 0.75

Use the cutting data for Micro-Mini cutters for milling cutters with diameter < 2.5 mm

→

Depths of cut reference values – Milling cutters, extra long

Index	Ø DC (mm) = 14,0		16,0		18,0		20,0–25,0	
	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC	a_e 0,1–0,2 x DC	a_e 0,3–0,4 x DC
	f_z (mm)							
P.1.1	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.1.2	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.1.3	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.1.4	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.1.5	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.2.1	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.2.2	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
P.2.3	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
P.2.4	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
P.3.1	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.3.2	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.3.3	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
P.4.1	0,070	0,040	0,070	0,050	0,080	0,050	0,090	0,060
P.4.2	0,070	0,040	0,070	0,050	0,080	0,050	0,090	0,060
M.1.1	0,070	0,040	0,070	0,050	0,080	0,050	0,090	0,060
M.2.1	0,070	0,040	0,070	0,050	0,080	0,050	0,090	0,060
M.3.1	0,070	0,040	0,070	0,050	0,080	0,050	0,090	0,060
K.1.1	0,120	0,080	0,130	0,090	0,150	0,100	0,160	0,110
K.1.2	0,100	0,070	0,110	0,070	0,130	0,080	0,140	0,090
K.2.1	0,100	0,070	0,110	0,070	0,130	0,080	0,140	0,090
K.2.2	0,100	0,070	0,110	0,070	0,130	0,080	0,140	0,090
K.3.1	0,100	0,070	0,110	0,070	0,130	0,080	0,140	0,090
K.3.2	0,100	0,070	0,110	0,070	0,130	0,080	0,140	0,090
N.1.1	0,160	0,110	0,180	0,120	0,200	0,130	0,230	0,150
N.1.2	0,160	0,110	0,180	0,120	0,200	0,130	0,230	0,150
N.2.1	0,160	0,110	0,180	0,120	0,200	0,130	0,230	0,150
N.2.2	0,160	0,110	0,180	0,120	0,200	0,130	0,230	0,150
N.2.3	0,160	0,110	0,180	0,120	0,200	0,130	0,230	0,150
N.3.1	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100
N.3.2	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100
N.3.3	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100
N.4.1	0,150	0,100	0,170	0,110	0,190	0,120	0,210	0,140
S.1.1	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
S.1.2	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
S.2.1	0,090	0,060	0,100	0,070	0,110	0,070	0,120	0,080
S.2.2	0,080	0,050	0,090	0,060	0,100	0,070	0,110	0,080
S.2.3	0,090	0,060	0,100	0,070	0,110	0,070	0,120	0,080
S.3.1	0,100	0,060	0,110	0,070	0,120	0,080	0,140	0,090
S.3.2	0,110	0,070	0,120	0,080	0,130	0,090	0,150	0,100
S.3.3	0,110	0,070	0,120	0,080	0,130	0,090	0,150	0,100
H.1.1	0,090**		0,100**		0,110**		0,120**	
H.1.2	0,080**		0,090**		0,100**		0,110**	
H.1.3	0,070**		0,080**		0,090**		0,100**	
H.1.4	0,060**		0,070**		0,080**		0,090**	
H.2.1	0,100**		0,110**		0,120**		0,140**	
H.3.1	0,090**		0,100**		0,110**		0,120**	
O.1.1	0,260	0,170	0,290	0,190	0,320	0,210	0,360	0,230
O.1.2	0,230	0,150	0,260	0,170	0,290	0,190	0,330	0,210
O.2.1	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100
O.2.2	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100
O.3.1	0,110	0,070	0,130	0,080	0,140	0,090	0,160	0,100

Depths of cut reference values – Finish milling cutters, extra long

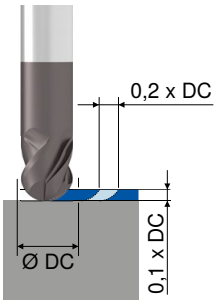
Ø DC (mm) = 14,0	16,0	18,0	20,0–25,0
a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm	a_e 0,2–0,3 mm
f_z (mm)			
0,170***	0,190***	0,210***	0,230***

Plunging angle for ramping and helical milling = 3°

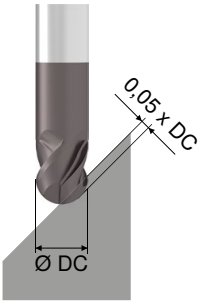
→ Feedrate guides for radius and torus cutters

Feeds for machining steels, cast iron, and non-ferrous materials with torus and ball-nosed end mills

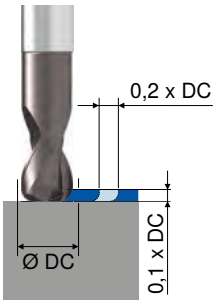
Radius cutters



Ball-nosed end mills and torus cutters



Torus cutters



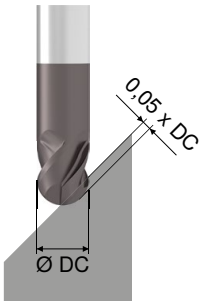
Ø DC mm	f_z mm	f_z mm	f_z mm
2	0,015	0,010	0,010
3	0,030	0,020	0,015
4	0,040	0,030	0,020
5	0,060	0,050	0,030
6	0,070	0,060	0,050
8	0,100	0,080	0,070
10	0,120	0,100	0,080
12	0,150	0,120	0,100
16	0,180	0,150	0,120
18	0,200	0,180	0,140
20	0,220	0,200	0,150

The feed should be reduced by 10–20% for uncoated tools.

Feeds for machining hardened materials with Ti1000-coated torus and ball-nosed end mills

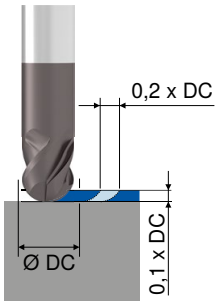
Ball-nosed end mills and torus cutters

Hardness = 40–60 HRC
v_c = 80–120 m/min



Ball-nosed end mills and torus cutters

Hardness = 40–60 HRC
v_c = 80–120 m/min



Ø DC mm	f_z mm	f_z mm
2	0,005	0,005
3	0,015	0,010
4	0,030	0,015
5	0,050	0,020
6	0,060	0,030
8	0,070	0,035
10	0,080	0,040
12	0,080	0,050
16	0,100	0,080

Trochoidal milling

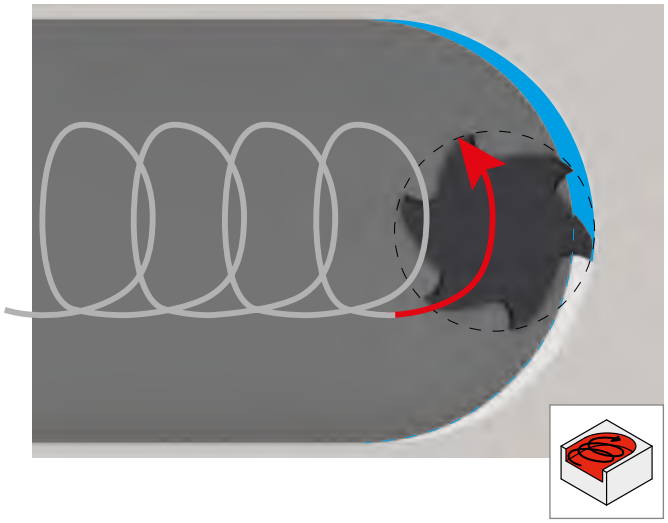
Due to the trochoidal milling process, large depths of cut are also possible on unstable and weak machines.

Depending on the tensile strength of the material, the radial infeed is 5–20% of the cutting edge diameter. As trochoidal milling is a plain milling process, the forces that occur are lower.

When trochoidal milling a slot, the milling cutter diameter should be a maximum of 70% of the slot width.
Example: Slot 20 mm x 70% = 14 mm
A Ø 14 mm milling cutter would be the perfect tool.

Benefits

- Lower tool wear
- Reduced machining time
- Utilization of the full tool cutting edge
- Reduction of the cutting forces



Most CAM suppliers offer an application for trochoidal milling. Our recommendations for this application are as follows:

Material	Depth of cut	Radial infeed	Feed Correction factor	v_c Correction factor
Steel	2xDC	0,05xD	3,5	1,6
	2xDC	0,10xD	2,5	1,3
Stainless steel	2xDC	0,05xD	3,5	1,4
	2xDC	0,10xD	2,5	1,2
Cast iron	2xDC	0,05xD	3,5	1,6
	2xDC	0,10xD	2,5	1,3
Non-ferrous metals	2xDC	0,05xD	3,5	1,8
	2xDC	0,10xD	2,5	1,4
	2xDC	0,20xD	1,5	1,2
Heat-resistant	2xDC	0,05xD	2,5	1,4
	2xDC	0,10xD	2,0	1,2
Hardened steel	2xDC	0,02xD	2,5	1,5
	2xDC	0,05xD	2,0	1,3

Please note that the values specified sometimes have to be reduced due to the component design, machine stiffness, and machine dynamics. Under optimal conditions, the values can be increased instead.

Technical information

Feed rate adjustment

If the speed stated in the tables cannot be achieved by the machine spindle you are using, reduce the feed rate as a percentage of the speed.

Example:
required according to table = n 50,000 rpm and v_f 1000 mm/min,
available machine speed = 40,000 rpm

Calculation of the feed rate to be entered:
40,000 rpm / 50,000 rpm *100= corresponds to 80%
1000 mm/min * 80% = 800 mm/min

The feed rate to be entered = **800 mm/min**

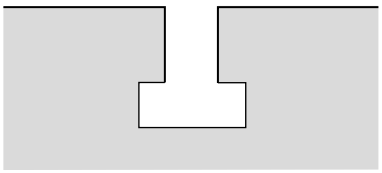
Angled ramping with solid carbide milling cutters

Angled ramping with solid carbide end mills is possible at an angle of 2° to 10°, depending on the version of the end mill. An edge protection chamfer or a corner radius are advantageous.

Recommended plunging angle for solid carbide milling cutter:

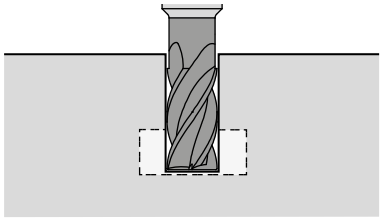
- Plunging angle up to ≤ 3 cutting edges → 6°–10°
- Plunging angle for 4 cutting edges → 3°–6°
- Plunging angle for 5 cutting edges → 2°–3°
- Plunging angle for > 5 cutting edges → only possible to a limited extent

Preparation for T-slot milling cutter



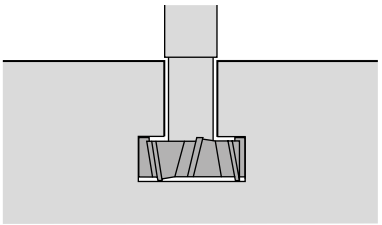
To produce a T-slot with the solid carbide T-slot milling cutter, proceed as follows:

1



Rough-mill the slot up to approx. 0.5 mm above the bottom.
Bottom corresponds to the finished dimension of the T-slot.
The slot width should be milled to the finished dimension during this step.

2



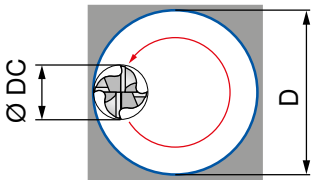
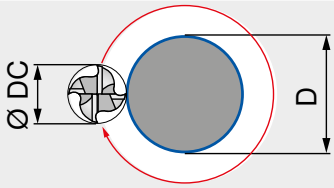
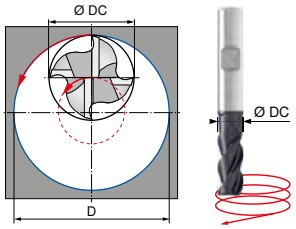
Then finish-mill the slot with the T-slot milling cutter.
Reduce the feed by 50% when entering the material.

General formulas for calculating the cutting parameters

RPM	**n**	**min^{-1}**	**n =** $\frac{vc \times 1000}{DC \times \pi}$	v_c = 25 m/min DC = 20 mm	n = $\frac{25 \times 1000}{20 \times \pi}$ = 398 min-1
Cutting speed	**v_c**	**m/min**	**v_c =** $\frac{DC \times \pi \times n}{1000}$	n = 400 min-1 DC = 20 mm	v_c = $\frac{20 \times \pi \times 400}{1000}$ = 25 m/min
Feed per tooth	**f_z**	**mm**	**f_z =** $\frac{v_f}{ZEFP \times n}$	v_f = 320 mm/min. n = 400 min-1 ZEFP = 4	f_z = $\frac{320}{4 \times 400}$ = 0,2 mm
Feed per revolution	**f**	**mm/rev.**	**f =** fz x ZEFP	f_z = 0,2 mm ZEFP = 4	f = 0,2 x 4 = 0,8 mm
Feed rate	**v_f**	**mm/min.**	**v_f =** f_z x ZEFP x n	f_z = 0,2 mm ZEFP = 4 n = 400 min-1	v_f = 0,2 x 4 x 400 = 320 mm/min.
Average chip thickness	**h_m**	**mm**	**hm =** $f_z \times \sqrt{\frac{a_e}{DC}}$	f_z = 0,2 mm a_e = 0,3 mm DC = 20 mm	h_m = 0,2 x $\sqrt{\frac{0,3}{20}}$ = 0,024 mm

ZEFP = Number of teeth
a_e = Width of cut

Calculation of the feed rate on the midpoint path of the milling cutter (v_{fM})

Designation	Abbreviation	Unit	Formula	Example
Internal contour	**v_{fM}**	**mm/min.**	$v_{fM} = \frac{v_f \times (D - DC)}{D}$	
External contour	**v_{fM}**	**mm/min.**	$v_{fM} = \frac{v_f \times (D + DC)}{D}$	
Helical ramping	**v_{fM}**	**mm/min.**	$v_{fM} = \frac{n \times f_z \times ZEFP \times (D - D_C)}{D}$	

Assembly instructions

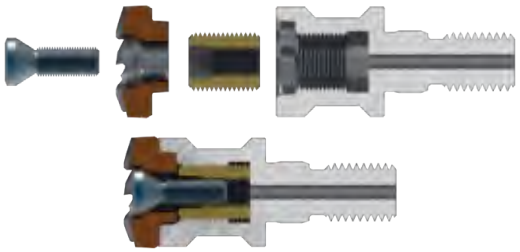
Image of MultiLock cylindrical shank adapter assembly



▲ The cylindrical shank adapter can be used universally. In this case, the MultiLock high-feed and torus cutters are clamped from the front using a threaded bush and clamping screw. The MultiLock radius milling and deburring cutters are clamped via the shank using a cylindrical screw.

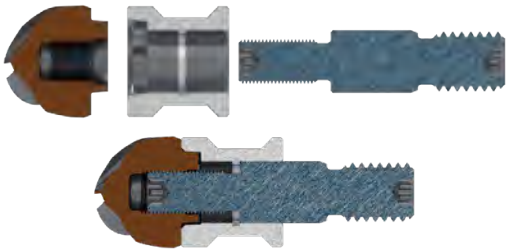
Image of MultiLock screw-in adapter assembly

Type A



▲ The type A screw-in adapter must be used for MultiLock high-feed and torus cutters. These are clamped from the front using a threaded bush and clamping screw.

Type B



▲ The type B screw-in adapter has two parts and must be used for MultiLock radius milling and deburring cutters. These are tensioned from the rear using a clamping screw. The clamping screw is simultaneously used for screwing in the adapter.

Detailed assembly instructions are enclosed with the respective holders. You can also find them in our online shop.

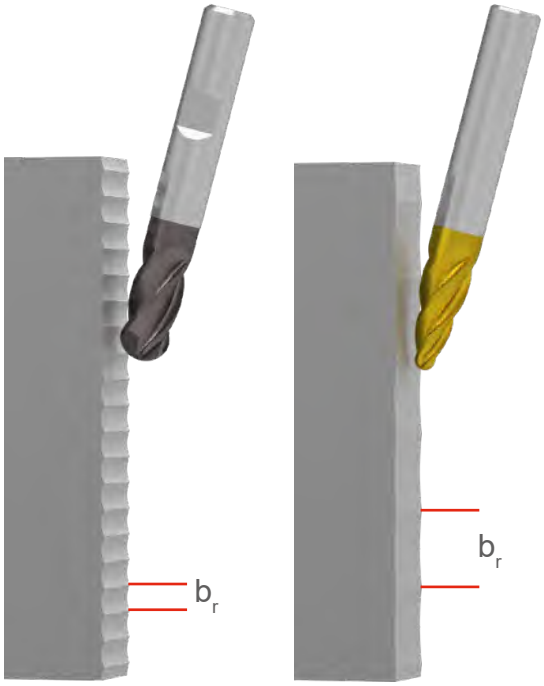
Comparison – Ball-nosed end mills vs. 3D Finish

3D Finish

- Radius does not depend on the tool diameter
- High widths of cut possible owing to the large radius
- Tools with a large radius and small shank diameter are more economical as the carbide content is lower, e.g., diameter 16 mm, radius 1500 mm

Radius cutters

- Radius depends on the tool diameter
- Only low widths of cut are possible; due to the small radius
- Tools with a large diameter/radius are expensive due to the high carbide content, e.g., diameter 16 mm, radius 8 mm



Formulae for calculations:

$$b_r = 2 \times \sqrt{R_{th} \times (r \times 2 - R_{th})}$$

$$R_{th} = r - \sqrt{\frac{(r \times 2)^2 - b_r^2}{4}}$$

$$R_a \simeq 0{,}1 \times R_{th}$$

$$R_{th} \simeq R_a / 0{,}1$$

Result

Required surface quality = R_a 0.4
$R_{th} \simeq 0{,}4 / 0{,}1 \simeq 4$ µm = 0,004 mm

Radius cutters
Diameter 16 mm, radius 8 mm
$b_r = 2 \times \sqrt{0{,}004 \times (8 \times 2 - 0{,}004)}$
b_r = 0,51 mm



3D Finish
Diameter 16 mm, radius 1500 mm
$b_r = 2 \times \sqrt{0{,}004 \times (1500 \times 2 - 0{,}004)}$
b_r = 6,93 mm



Key

R_{th} =	Theoretical surface roughness
r =	Radius
R_a =	Arithmetical mean deviation
b_r =	Stepover

Application tips



3D Finish – barrel shape

- Suitable for easily accessible areas

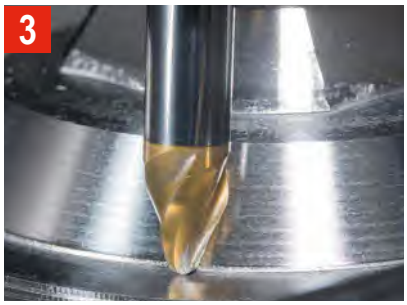




3D Finish – oval shape

- Suitable for easily accessible flanks
- Not suitable for deep areas





3D Finish – taper shape

- Suitable for steep walls and deep cavities
- α/2 is the angle to the surface to be used
- If the surface exhibits a tilt angle of α/2, the surface can also be machined in three axes



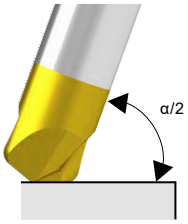




3D Finish – taper shape

- Suitable for flat areas
- α/2 is the angle to the surface to be used
- If the surface exhibits a tilt angle of α/2, the surface can also be machined in three axes



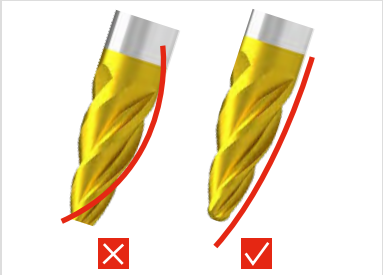




3D Finish – lens shape

- Suitable for flat areas



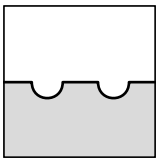
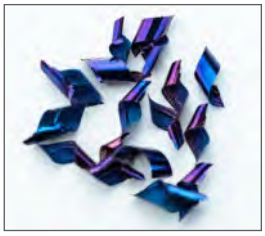
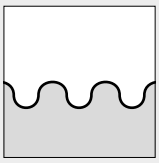


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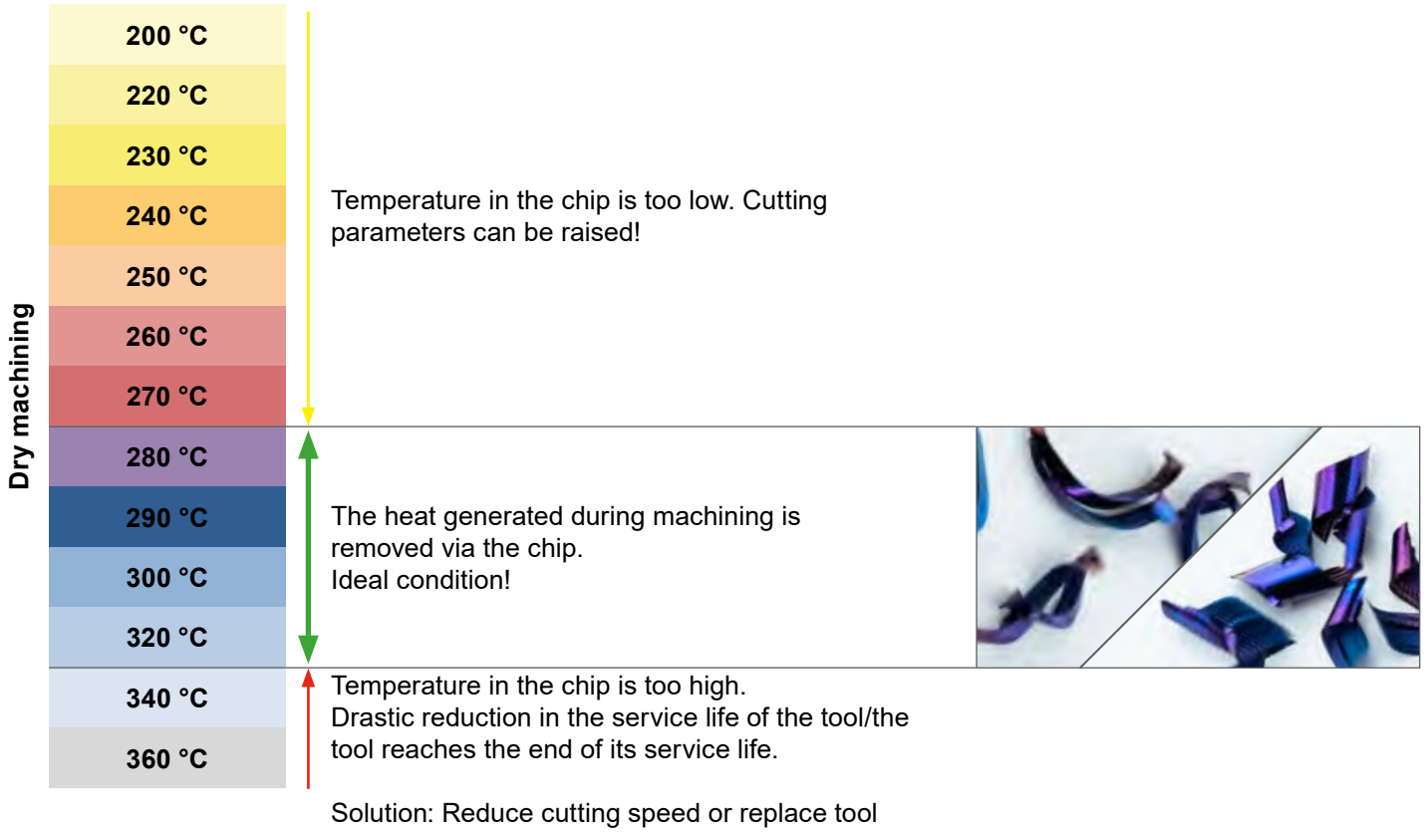
Note that the curvature of the component should be greater than the curvature of the tool.

Check whether your programming system supports the tool geometry of the 3D Finish and can work with it.

Differences between the milling cutter types

Designation	Type	Shape of the chip breaker	Application description	Chip shape
Roughing-finishing milling cutters	WF NF HF		▲ High chip volume, even on less powerful machines ▲ Surface quality mostly sufficient ▲ Lower cutting pressure compared to smooth-edged milling cutters ▲ Finish machining not needed	
Rough milling cutters	WR NR HR		▲ Produces very small and short chips ▲ Problem solver in unstable conditions ▲ High chip volume, even on the least powerful machines ▲ Exceptionally well suited to full slot milling ▲ Additional finish machining needed ▲ High feeds possible	

Temperature scale for chips when dry machining steel



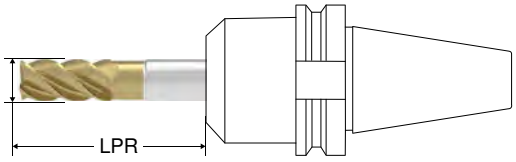
Tips for tool selection

The rake angle and helix angle, together with the coating, are decisive factors for the application area.

Characteristic	Benefits
Helix angle with slow spiral	
▲ For materials with higher tensile strength	▲ High edge stability
▲ For high material removal rates	▲ Low fracture tendency
▲ For slot milling, pocket milling, rough milling	
Helix angle with quick spiral	
▲ For soft steels, non-ferrous metals, etc.	▲ Soft cut
▲ For low material removal rates	▲ Low cutting forces
▲ Typical for finishing processes	
Small rake angles are used	
▲ For harder, brittle materials	▲ High edge stability
▲ For high material removal rates	▲ Low fracture tendency
▲ For rough machining	
Larger rake angles are applied	
▲ For softer materials	▲ Soft cut
▲ For low material removal rates	▲ Low cutting forces
▲ For finish machining	▲ Favorable chip flow
	▲ Low tendency to stick

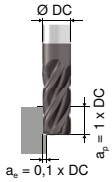
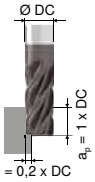
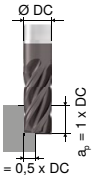
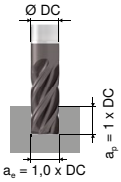
Correction factor for solid carbide milling cutters

Factors for the cutting speed (v_c) and the feed (f_z) in relation to the overhang length (LPR)



Overall length					
Overhang length (LPR)	1,5 x DC	4 x DC	8 x DC	12 x DC	> 12 x DC
Factor for v_c (Kf v_c)	1,0	1,0	0,9	0,85	0,7
Factor for f_z (Kf f_z)	1,2	1,0	0,8	0,7	0,5

Factors for the cutting speed (v_c) and the feed (f_z) in relation to the depth of cut (a_p) and the width of cut (a_e)

				
	Ø DC, a_p = 1 x DC, a_e = 0,1 x DC	Ø DC, a_p = 1 x DC, a_e = 0,2 x DC	Ø DC, a_p = 1 x DC, a_e = 0,5 x DC	Ø DC, a_p = 1 x DC, a_e = 1,0 x DC
Factor for v_c (Kf v_c)	1,3	1,1	1,0	0,85
Factor for f_z (Kf f_z)	1,5	1,3	1,0	0,8

Calculation aids for copy milling

Theoretical surface roughness (R_{th}) and stepover (b_r)

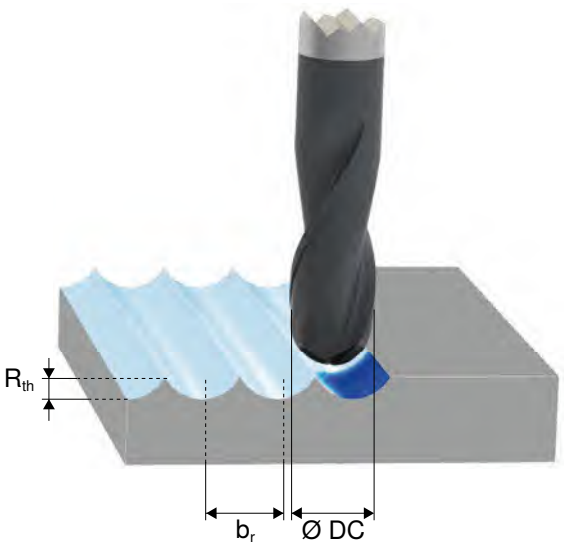
$$R_{th} = r - \sqrt{\frac{(r \times 2)^2 - b_r^2}{4}}$$

$$b_r = 2 \times \sqrt{R_{th} \times (r \times 2 - R_{th})}$$

$$R_{th} \simeq R_a / 0{,}1$$

$$R_a \simeq 0{,}1 \times R_{th}$$

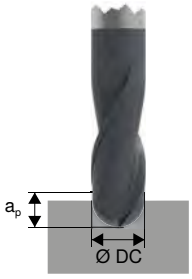
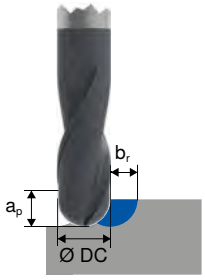
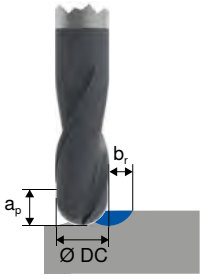
In order to achieve a surface that is as clean as possible during copy milling, the stepover (b_r) must be adjusted to the milling cutter diameter DC. The smaller the milling cutter diameter DC, the smaller the stepover b_r must be.



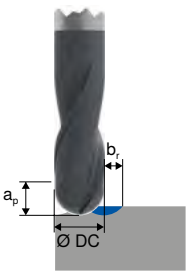
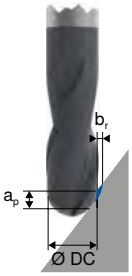
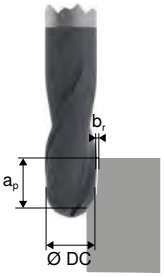
Speed correction factors (Kf n) for copy milling

$$n = \frac{v_c \times 1000}{DC \times \pi} \times Kf\,n$$

Rough machining

	Plain milling/ball nose copy milling	Ball nose copy milling	
			
Axial milling depth a_p	0,5 x DC	> 0,5 x DC	0,2 x DC – 0,5 x DC
Stepover b_r	1 x DC	0,2 x DC – 0,5 x DC	0,2 x DC – 0,5 x DC
Correction factor (Kf n)	1	1	1,1

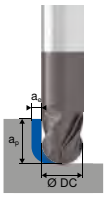
Finish machining

	Ball nose copy milling		
			
Axial milling depth a_p	< 0,2 x DC	0,2 x DC – 0,5 x DC	> 0,5 x DC
Stepover b_r	< 0,2 x DC	< 0,2 x DC	< 0,2 x DC
Correction factor (Kf n)	2	1,3	1

Calculation aids for copy milling

For plain milling/ball nose copy milling at cutting depths of $\mathbf{a_p} \geq 0.5 \times DC$ and $\mathbf{a_e} = 0.2$ to $0.5 \times DC$ use the following formula to determine the speed:

$$n = \frac{v_C \times 1000}{DC \times \pi}$$

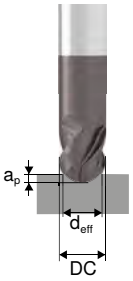


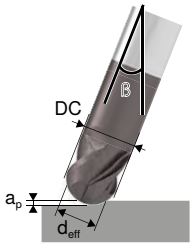
For ball nose copy milling, the effective milling cutter diameter $\mathbf{d}_{eff.}$ must be determined using the following formula:

Ball-nosed end mills and ball-nosed milling cutters

$$d_{eff.} = 2 \times \sqrt{a_p \times (DC - a_p)}$$

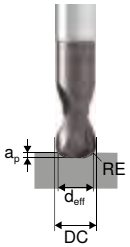
$$d_{eff.} = DC \times \sin\left(\beta \pm \arccos\left(\frac{DC - 2a_p}{DC}\right)\right)$$





Torus cutters

$$d_{eff.} = (DC - 2RE) + 2 \times \sqrt{a_p \times (2RE - a_p)}$$

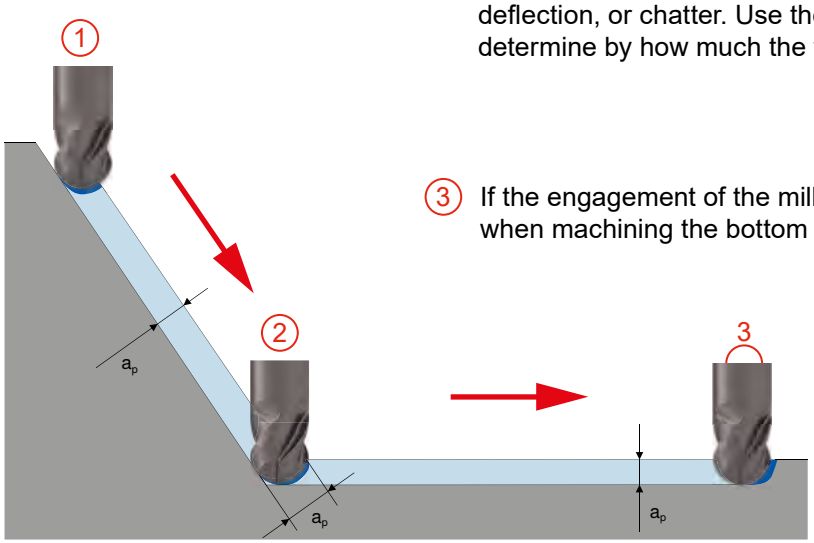


Information concerning plunge and draw milling

① When machining the slot sides, relatively high feeds are possible, as the milling cutter's engagement in the material is relatively low (area highlighted in blue).

② Significant increase in the cutting depth when the bottom of the slot is reached due to larger width of cut of the milling cutter. At this point the feed must be reduced, otherwise the tool may break due to vibrations, deflection, or chatter. Use the copy angle and axial cutting depth to determine by how much the feed needs to be adjusted.

③ If the engagement of the milling cutter is relatively low again when machining the bottom of the slot, the feed can be increased again.



Guideline:
The steeper the angle, the smaller the feed. The more moderate the angle, the higher the feed.

When plunge or draw milling dies, the feed must be adjusted to the different milling positions. Otherwise, the cutting edge may be damaged due to being overloaded (vibrations, deflection, or chatter).

Version description

3D Finish N	For machining steel and cast iron materials as well as stainless steels
AL	For machining aluminum and non-ferrous metals
AL-R	For machining aluminum and non-ferrous metals – with round cord profile
BlueLine H	For high-strength steels and tempered materials
CCR AL	For trochoidal machining of aluminum and non-ferrous metals
CCR H	For trochoidal machining of hardened steels up to 70 HRC
CCR Ti	For trochoidal machining of titanium and titanium alloys
CCR UNI	For trochoidal machining of steel and cast iron materials as well as stainless steels
CCR VA	For trochoidal machining of ISO-S materials
FRP	For machining fiber-reinforced plastics
FRP CR	For machining fiber-reinforced plastics with length-independent compression zone
H	For high-strength steels and tempered materials
HCR	For hardened materials up to 70 HRC
HR	For high-strength steels and tempered materials – with round cord profile
ICR	For machining non-stainless steels
ISO-S	For machining ISO-S materials
MCR	Rough machining of steel and cast iron materials
Multi Change PCR UNI	For plunge machining and ramping of steel and cast iron materials as well as stainless steels
Multi Change PCR ALU	For plunge machining and ramping of aluminum and non-ferrous metals
Multi Change W	For soft materials and non-ferrous metals (aluminum, copper, brass)
Multi Change N	For machining steel and cast iron materials as well as stainless steels
MultiLock N	For machining steel and cast iron materials as well as stainless steels
N	For machining steel and cast iron materials as well as stainless steels
UNI	For machining steel and cast iron materials as well as stainless steels
NR	For machining steel and cast iron materials as well as stainless steels with round cord profile
NTR	For machining steel and cast iron materials, as well as stainless steels with trapezoidal shape chip breakers
PCR ALU	For plunge machining and ramping of aluminum and non-ferrous metals
PCR UNI	For plunge machining and ramping of steel and cast iron materials as well as stainless steels
SCR	For machining steel and cast iron materials
S-Cut UNI	For machining steel and cast iron materials as well as stainless steels
S-Cut UNImax	For maximum cutting performance on steel, cast iron materials, and stainless steels
TCR	For machining titanium and titanium alloys
W	For soft materials and non-ferrous metals (aluminum, copper, brass)
WF	For soft materials and non-ferrous metals (aluminum, copper, brass) – with flat cord profile
WR	For soft materials and non-ferrous metals (aluminum, copper, brass) – with round cord profile

Version description

Deburring cutters

KEL	Ball nosed cone shape (shape L)
KSJ	Taper shape 60° (shape J)
KSK	Taper shape 90° (shape K)
KUD	Ball shape (shape D)
RBF	Ball nosed tree shape (shape F)
SKM	Cone shape (shape M)
SPG	Tree shape (shape G)
TRE	Oval shape (shape E)
WKN	Angle without end cut (shape N)
WRC	Ball nosed cylinder shape (shape C)
ZYA	Cylinder without end cut (shape A)

Coatings

APA72S
- AlCrN multilayer coating
- $HV_{0.05}$ = 3500
- Coefficient of friction (against steel) = 0.35
- Maximum application temperature: 1100 °C or 2012 °F

APB72S
- Special nanolayer coating
- $HV_{0.05}$ = 3300
- Coefficient of friction (against steel) = 0.6
- Maximum application temperature: 900 °C or 1652 °F

CTC5240
- TiB_2-based coating
- HIT 43 GPa ~ 4300 $HV_{0.05}$
- Coefficient of friction against steel 0.3
- Maximum application temperature 1000 °C (1832 °F)

CTPX225 DRAGONSKIN
- AlTiN-based coating
- HIT 35 GPa ~ 3500 $HV_{0.05}$
- Coefficient of friction against steel 0.5
- Maximum application temperature 1000 °C (1832 °F)

DIAMOND
- Diamond monolayer coating
- $HV_{0.025}$ = 10,000
- Coefficient of friction (against steel) = 0.2
- Maximum application temperature: 700 °C or 1292 °F

DLC DRAGONSKIN
- Diamond-like carbon coating
- Specifically for machining non-ferrous metals
- Maximum application temperature: 400 °C or 752 °F

DPA52S DRAGONSKIN
- Special nanolayer coating
- $HV_{0.05}$ = 3400
- Coefficient of friction (against steel) = 0.5
- Maximum application temperature: 1100 °C or 2012 °F

DPA72S DRAGONSKIN
- Special nanolayer coating
- $HV_{0.05}$ = 3200
- Coefficient of friction (against steel) = 0.5
- Maximum application temperature: 1000 °C or 1832 °F

DPB72S DRAGONSKIN
- TiAlCrN multilayer coating
- $HV_{0.05}$ = 3200
- Coefficient of friction (against steel) = 0.35
- Maximum application temperature: 1000 °C or 1832 °F

DPC72S DRAGONSKIN
- TiAlSiN multilayer coating
- $HV_{0.05}$ = 3900
- Max. application temperature: 1100 °C or 2012 °F

DPX22S DRAGONSKIN
- TiAlN multilayer coating
- Layer hardness: H_{IT} [GPa] 38
- Maximum application temperature: 1100 °C or 2012 °F

DPX52S
- TiSiN multilayer coating
- $HV_{0.05}$ = 3500
- Coefficient of friction (against steel) = 0.4
- Maximum application temperature: 1000 °C or 1832 °F

DPX62U DRAGONSKIN
- Special TiAlN coating
- $HV_{0.05}$ = 4000
- Coefficient of friction (against steel) = 0.5
- Maximum application temperature: 1150 °C or 2102 °F

DPX62S DRAGONSKIN
- TiAlN multilayer coating
- $HV_{0.05}$ = 3800
- Coefficient of friction (against steel) = 0.4
- Maximum application temperature: 800 °C or 1472 °F

DPX72S DRAGONSKIN
- Special multilayer coating
- $HV_{0.05}$ = 3400
- Coefficient of friction (against steel) = 0.6
- Maximum application temperature: 900 °C or 1652 °F

Ti28
- Ti multilayer coating
- $HV_{0.05}$ = 2800
- Coefficient of friction (against steel) = 0.1
- Maximum application temperature: 500 °C or 932 °F

Ti40
- Ti monolayer coating
- $HV_{0.05}$ = 4000
- Maximum application temperature: 900 °C or 1652 °F

Ti400
- Ti multilayer coating
- $HV_{0.05}$ = 3500
- Coefficient of friction (against steel) = 0.6
- Maximum application temperature: 400 °C or 752 °F

Ti1000
- Ti monolayer coating
- $HV_{0.05}$ = 3500
- Coefficient of friction (against steel) = 0.3
- Maximum application temperature: 800 °C or 1472 °F

Ti1050
- Ti multilayer coating
- $HV_{0.05}$ = 3300
- Coefficient of friction (against steel) = 0.3–0.5
- Maximum application temperature: 900 °C or 1652 °F

Ti1100
- Ti multilayer coating
- $HV_{0.05}$ = 3200
- Coefficient of friction (against steel) = 0.35
- Maximum application temperature: 1100 °C or 2012 °F

Ti1200
- Ti nanolayer coating
- Maximum application temperature: 1100–1200 °C or 2012–2192 °F

Ti1500
- Ti nanolayer coating
- $HV_{0.05}$ = 3400
- Coefficient of friction (against steel) = 0.7
- Maximum application temperature: 900 °C or 1652 °F

Ti2000
- Ti multilayer coating
- $HV_{0.05}$ = 3500
- Coefficient of friction (against steel) = 0.5
- Maximum application temperature: 900 °C or 1652 °F



CERATIZIT GROUP

Indexable Milling



Contents

→ Explanation of symbols
→ Toolfinder
→ Product program

Technical information

→ Cutting data standard values
→ Application parameters – Face milling
→ Application parameters – Shoulder milling
→ Application parameters – Form milling
→ Application Parameters – Other milling systems
→ Power screw
→ Abbreviations & dimensions
→ Engagement conditions
→ ISO designation system
→ Cutting edge wear conditions
→ Chip breakers overview
→ Chip breaker descriptions
→ Grade description and overview

Explanation of symbols


Central through coolant


Lateral through coolant



Setting angle



ZNF = Number of teeth

● = **Main application**

○ = Secondary application

Application symbols


Face milling


Angled ramping


Helical plunging


Axial ramping


Plunge milling


Slot milling


Shoulder milling


Slot milling (45°)


Chamfer milling

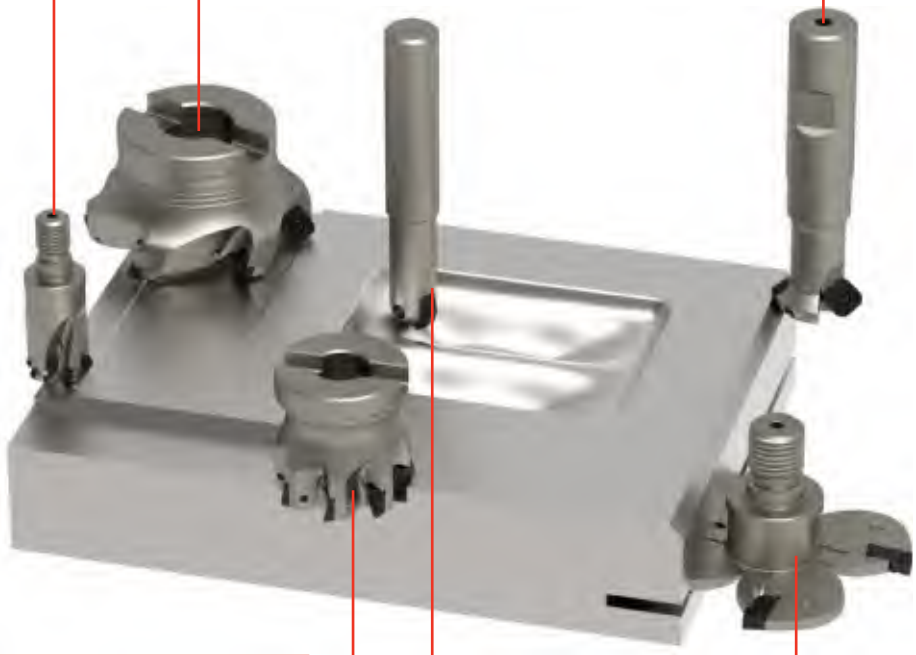

Freeform milling

Toolfinder – Application selection guide

Form milling
→ System selection

Face milling
→ System selection

Chamfer/angle milling cutters
→ System selection



Shoulder milling
→ System selection

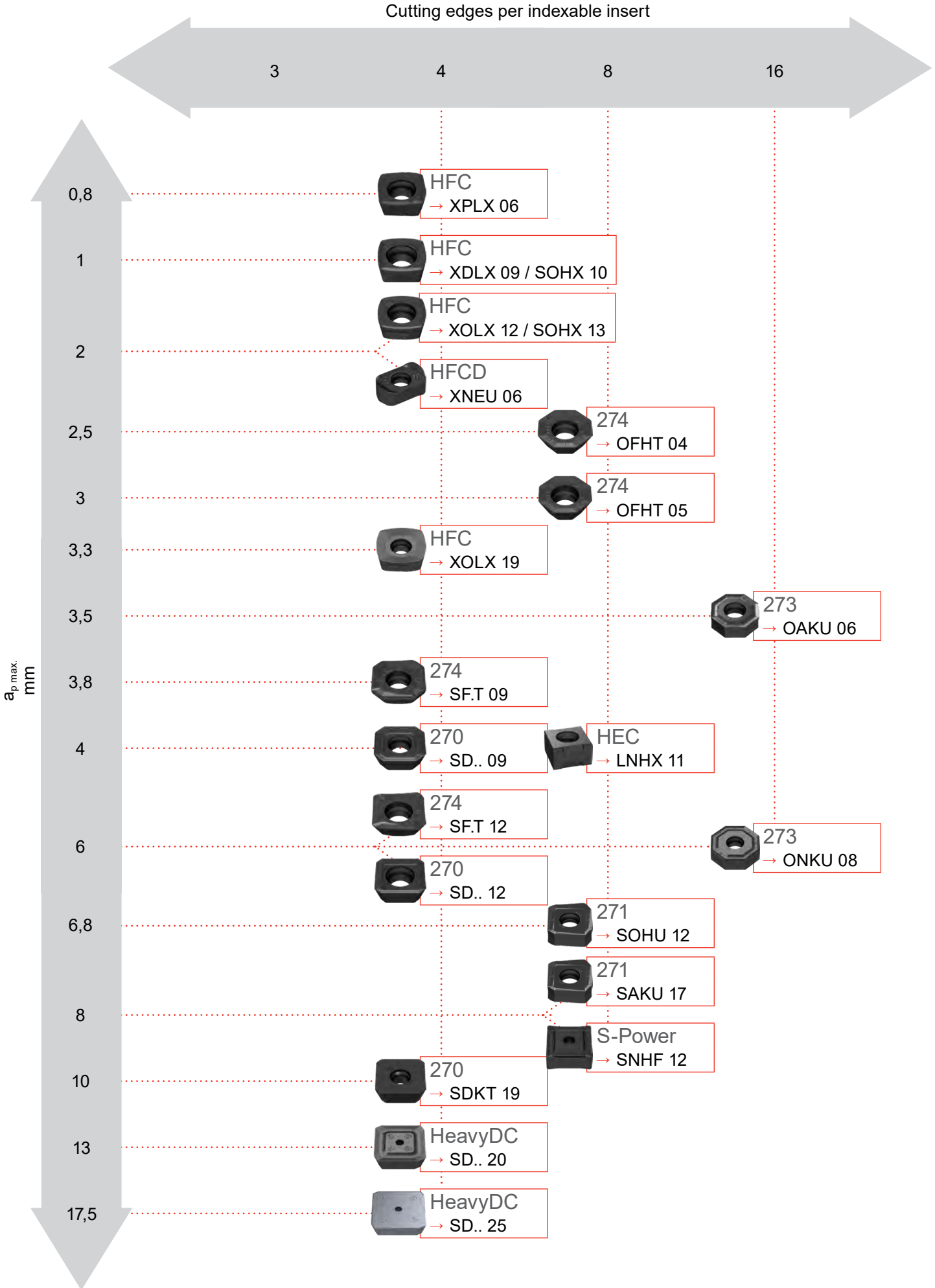
Slot milling and saws
→ System selection

Form milling
→ System selection



High Speed Cutting (HSC) / High Performance Cutting (HPC)
→ System selection

Toolfinder – Face milling

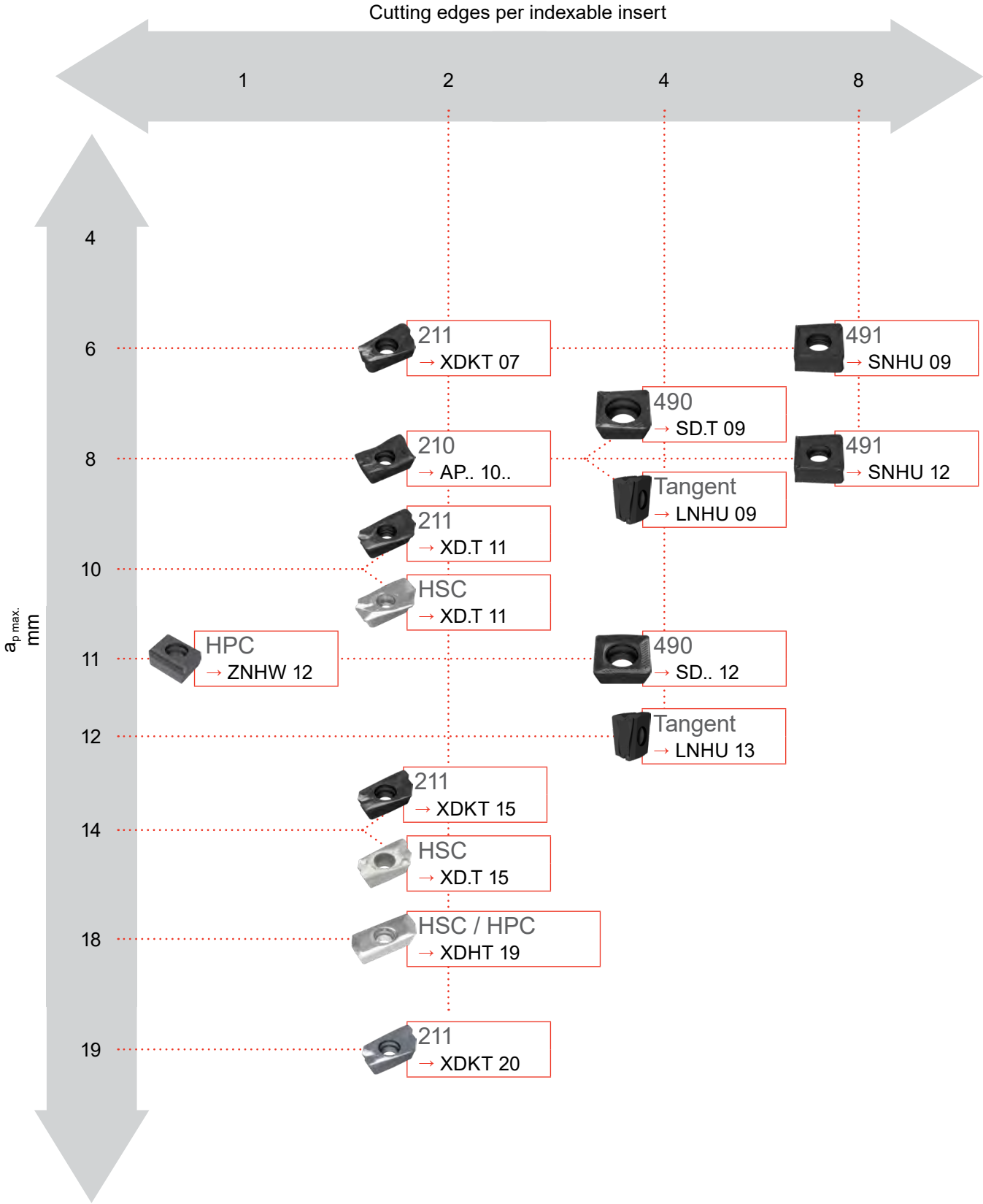


Overview – Face milling

System	Indexable insert	Cutting edges per indexable insert	$a_{p\ max.}$ inch / mm	Ø-range inch / mm			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel	Non-metal materials
→ 274	**OFH.** 04.. / 05.. | **SF.T** 09.. / 12..	8 | 4	0.100 – 0.240" 2,5–6	 Ø 1.000–1.250" Ø 20–32		 Ø 1.500–6.000" Ø 32–160	●	●	●	●	●		○
→ 271	**SOHU** 1204.. | **SAKU** 1706..	8	0.270 – 0.330" 6,8 | 8,4			 Ø 1.500–10.000" Ø 40–250	●	●	●		●		
→ 273	**OAKU** 0605.. | **ONKU** 0806..	16	0.137 – 0.197" 3,5 | 6			 Ø 2.000–10.000" Ø 40–250	●	●	●		●		
→ 270	**SD..** 0903.. / 1204.. / 19..	4	0.160 – 0.400" 4–10	 Ø 0.500–1.500" Ø 6–32		 Ø 2.000–6.000" Ø 32–315	●	●	●	●	●		
→ HEC	**LNHX** 1106..	8	0.160 – 0.320" 4–8			 Ø 2.000–8.000" Ø 50–160	●		●			○	
→ HFC	**X..X** 06.. / 09.. / 12.. / 19..	4	0.032 – 0.129" 0,8–3,3	 Ø 0.625–1.250" Ø 16–42	 Ø 0.625–1.500" Ø 16–35	 Ø 1.500–5.000" Ø 32–160	●	●	●	●	●		
→ HFC - TUR	**XDLX** 09.. / 12..	4	3,6–5	 Ø 32		 Ø 40–63	●	●	●	●	●		
→ HFC-10 / -13	**SOHX** 10.. / 13..	4	0,8–3,3	 Ø 25–40	 Ø 25–32	 Ø 40–125		●		●	●		
→ HFCD	**XNEU** 06T3..	4	2	 Ø 10–36	 Ø 10–26	 Ø 26–60	●	●	●		●		
→ S-Power	**SNHF** 12..	8	8			 Ø 56–125	●		●				
→ HeavyDC	**SDKR / SDKN** 2006.. | **SDHN** 2506..	4	13–17,5			 Ø 160–315	●	●	●				

Additional diameters are available upon request.

Toolfinder – Shoulder milling



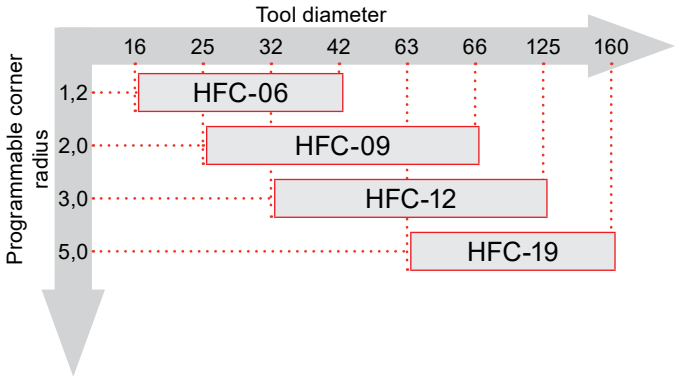
Overview – Shoulder milling

System	Indexable insert	Cutting edges per indexable insert	$a_{p\ max.}$ inch / mm	Ø-range inch / mm			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel	Non-metal materials
→ 491	**SNHU** 09T3.. / 1204..	8	0.240 – 0.320" 6–8	 Ø 25–32	 Ø 1.000–1.250" Ø 25–32	 Ø 1.500–6.000" Ø 40–160	●	●	●	●	●		○
→ 211	**XD.T** 0703.. / 11T3.. / 1505.. / 2007..	2	0.240 – 0.750" 6–19	 Ø 0.625–1.250" Ø 16–40	 Ø 0.375–1.500" Ø 10–40	 Ø 1.500–6.000" Ø 32–160	●	●	●	●	●	●	○
→ 211KN	**XD.T** 11T3.. / 1505.. / 2007..	2	1.00 – 3.00" 27–75,5		 Ø 1.000–1.500" Ø 25–50	 Ø 2.000–3.000" Ø 40–80	●	●	●	●	●		○
→ 211-DC	**XDKT** 1505..	2	6–19			 Ø 40–80					●		
→ RadX	**SXHU** 1204..	8	51,5-81,5			 Ø 50–80					●		
→ 490	**SD..** 09T3.. / 1205..	4	0.320 – 0.430" 8–11	 Ø 1.000–1.250" Ø 25–32	 Ø 1.000–1.250" Ø 25–32	 Ø 1.500–6.000" Ø 40–125	●	●	●	●	●		○
→ 490K	**SD..** 09T3..	4	41			 Ø 40–63	●	●	●	●	●		○
→ HSC	**XD..** 11T3.. / 1505.. / 1904..	2	0.400 – 0.700" 10–18	 Ø 16–40	 Ø 0.625–1.500" Ø 16–40	 Ø 1.500–6.000" Ø 40–125			○	●			○
→ HPC	**ZNHW** 1205..	1	4–11		 Ø 40–315				●	●		○	○
→ 210	**AP..** 1003..	2	8		 Ø 16–32	 Ø 40–80	●	●	○				
→ Tangent	**LNHU** 0904..	4	8		 Ø 25–40	 Ø 40–80	●	●	●		●		

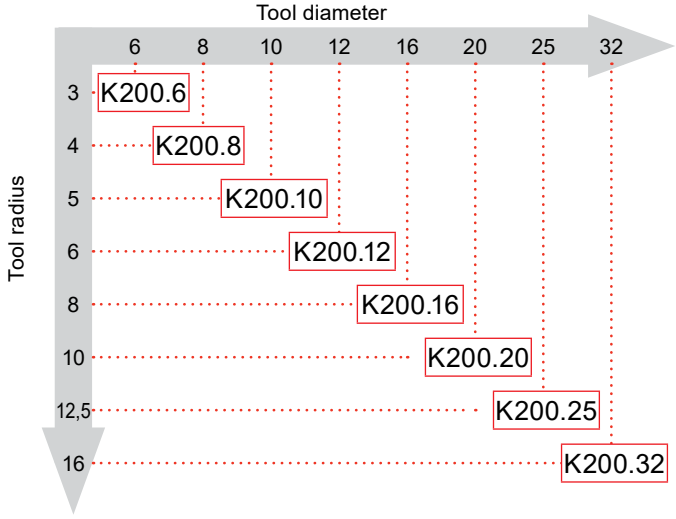
Additional diameters are available upon request.

Toolfinder – Form milling

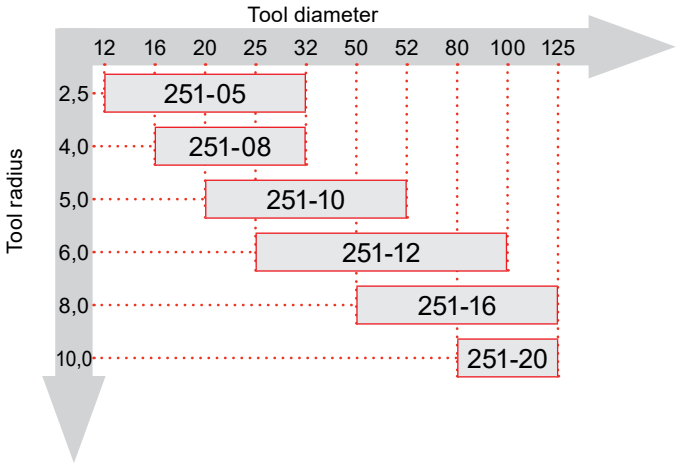
→ HFC



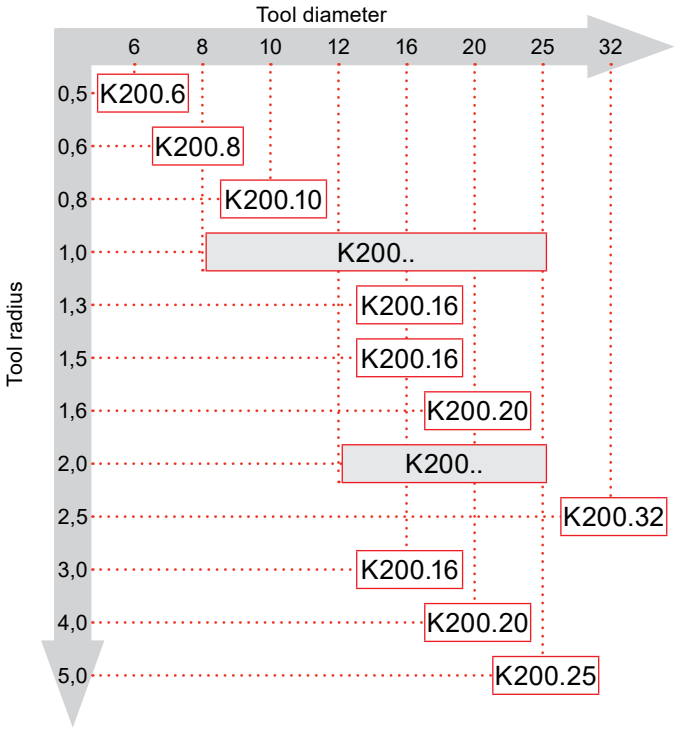
→ K200. Ball nosed



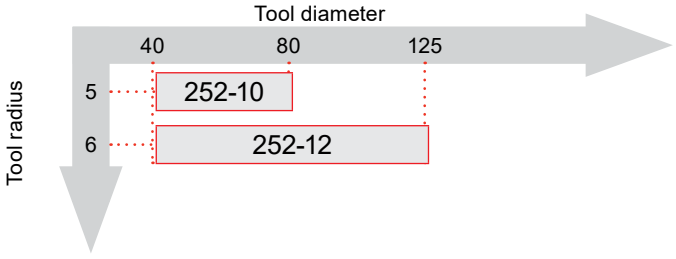
→ 251 RS



→ K200. Torus



→ 252



Application range

Tool diameter

Overview – Form milling

System	Indexable insert	Cutting edges per indexable insert	$a_{p\ max.}$ inch / mm	Ø-range inch / mm			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel	Non-metal materials
→ HFC	**X.LX** 06.. / 09.. / 12.. / 19..	4	0.032–0.130" 0,8–3,3	 Ø 0.625–1.250" Ø 16–42	 Ø 0.625–1.500" Ø 16–35	 Ø 1.500–5.000" Ø 32–160	●	●	●		●		
→ 251 RS	**R..X** 08.. / 10.. / 12.. / 16.. / 20..	8	0.100–0.400" 2,5–10	 Ø 0.606–1.106" Ø 10–42	 Ø 0.435–1.106" Ø 10–32	 Ø 1.185–5.213" Ø 40–125	●	●	●	●	●		●
→ 252	**RNHU** 10.. / 12..	8	0.120" 3			 Ø 1.027–2.527" Ø 40–125	●	●	○		●		
→ FormFit	**RPHT** 1204.. | **RP.X** 1204..	5	3,8	 Ø 20		 Ø 28–68	●	●			○		
→ K200. Ball nosed	**RO.X** .... / **XOHX**	1	0,4–8	 Ø 8–32	Ø 6–32		●	●	●	●	○	●	●
→ K200. Torus	**XO.X**	1	0,5–8	 Ø 8–32	Ø 8–32		●	●	●	●	○	○	●
→ 261	**RP..** 1204..	6		 Ø 20		 Ø 40–63							
→ 262	**RN..** 1204.. / 1207..	6		 Ø 20		 Ø 40–63					●		

Additional diameters are available upon request.

Overview – Chamfer/angle milling cutters

	System	Indexable insert	Cutting edges per indexable insert	$a_{p\,max.}$ inch / mm	Ø-range inch / mm		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel	Non-metal materials
→	272	**SD..** 0903..	4	0.160" 4	 Ø 0.500" Ø 6–25		●	●	○	●	●		
→	242	**LD..** 1504..	2			 Ø 50–92	●	●	●	●	○		○
→	490	**SD..** 09T3.. / 1205..	4	6–11	 Ø 20,1–31,5		●	●	●	●	●		○

Additional diameters are available upon request.

Overview – Side and face milling cutters

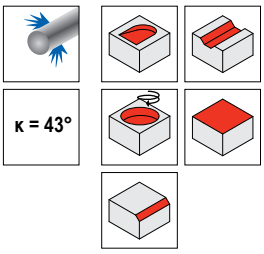
	System	Indexable insert	Cutting edges per indexable insert	$a_{p\,max.}$ inch / mm	Ø-range inch / mm			Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel	Non-metal materials
→	Slot-SX	**SX** E...	1	115	 Ø 63–100	 Ø 80–315		●	●	●	●	●		○
→	Slot-SNHX	**SNHX** 13..					 Ø 80–200	○	●	●				
→	TX	**TX..** R/L	3	64	 Ø 80–160		 Ø 100–200	●	●	●	●	○		○

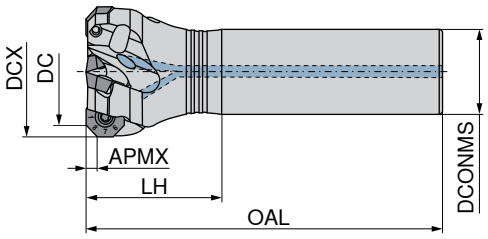
Additional diameters are available upon request.

Overview – Attractively priced systems

	System	Indexable insert	Cutting edges per indexable insert	$a_{p\,max.}$ mm	Ø-range mm		Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened steel
												
→	210	**AP..** 1003..	2	9		Ø 20–32	Ø 40–80	●	○	○			
												
→	251	**RP.X** 10T3..	8	5	Ø 15–22		Ø 30–40	●	○	○			
												
→	270	**SD..** 0903..	4	4			Ø 40–100	●	○	○			

CoreLine – End mills – 274-04/-09

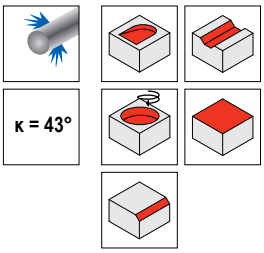


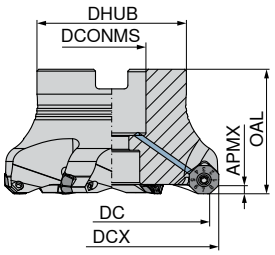




Designation	DC inch	DCX inch	ZNF	OAL inch	LH inch	DCONMS inch	Tightening torque Nm	Indexable insert	TO 58 743 ...	TO 58 743 ...
C274.100.R.04-09-A075-125-EF	1.000	1.228	4	3.350	1.250	0.750	1,2	OF.. 0403 / SF.. 0903		10004
C274.100.R.04-09-B075-125-EF	1.000	1.228	4	3.350	1.250	0.750	1,2	OF.. 0403 / SF.. 0903	30004	
C274.125.R.05-09-A100-150-EF	1.250	1.479	5	3.900	1.500	1.000	1,2	OF.. 0403 / SF.. 0903		12505
C274.125.R.05-09-B100-150-EF	1.250	1.479	5	3.900	1.500	1.000	1,2	OF.. 0403 / SF.. 0903	32505	

CoreLine – Face mills – 274-04/-09







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 744 ...
A274.150.R.05-09-A050-175-EF	1.500	1.736	5	0.098	1.420	1.420	0.500	29200	1,2	OF.. 0403 / SF.. 0903	15005
A274.200.R.07-09-A075-175-EF	2.000	2.232	7	0.098	1.750	1.750	0.750	25000	1,2	OF.. 0403 / SF.. 0903	20007
A274.300.R.09-09-A100-200-EF	3.000	3.232	9	0.098	2.250	2.250	1.000	20100	1,2	OF.. 0403 / SF.. 0903	30009
A274.400.R.11-09-B125-200-EF	4.000	4.232	11	0.098	2.750	2.750	1.250	17300	1,2	OF.. 0403 / SF.. 0903	40011


Screwdriver


Molykote


Clamping screw

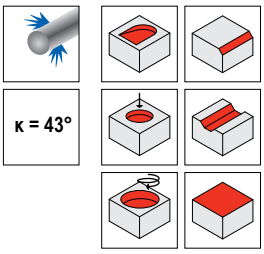
Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
1.000	039	303	133
1.250	039	303	133
1.500	039	303	133
2.000	039	303	133
3.000	039	303	133
4.000	039	303	133

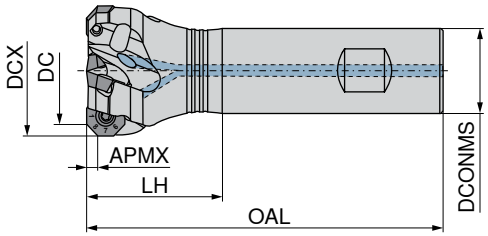
Two insert types – ONE cutter





CoreLine – End mills – 274-04/-09

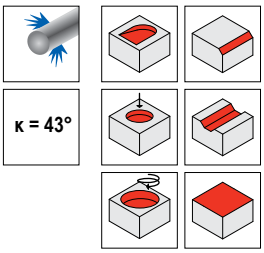


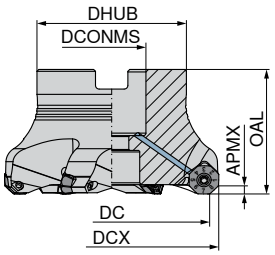




Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	Tightening torque Nm	Indexable insert	TO 50 743 ...	TO 50 743 ...
C274.20.R.03-09-A/B20-25	20	25.8	3	3.8	77	25	20	1,2	OF.. 0403 / SF.. 0903	**020**	**120**
C274.25.R.04-09-A/B20-32	25	30.8	4	3.8	84	32	20	1,2	OF.. 0403 / SF.. 0903	**025**	**125**
C274.32.R.05-09-A/B25-40	32	37.9	5	3.8	98	40	25	1,2	OF.. 0403 / SF.. 0903	**032**	**132**

CoreLine – Face mills – 274-04/-09







Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	Tightening torque Nm	Indexable insert	TO 50 744 ...	TO 50 744 ...
A274.32.R.05-09	32	37.9	5	3.8	40	38	16	1,6	OF.. 0403 / SF.. 0903		**032**
A274.40.R.04-09	40	46.0	4	3.8	40	38	16	1,6	OF.. 0403 / SF.. 0903	**040**	
A274.40.R.06-09	40	46.0	6	3.8	40	38	16	1,6	OF.. 0403 / SF.. 0903		**140**
A274.50.R.05-09	50	55.9	5	3.8	40	48	22	1,6	OF.. 0403 / SF.. 0903	**050**	
A274.50.R.07-09	50	55.9	7	3.8	40	48	22	1,6	OF.. 0403 / SF.. 0903		**150**
A274.63.R.06-09	63	68.9	6	3.8	40	48	22	1,6	OF.. 0403 / SF.. 0903	**063**	
A274.63.R.09-09	63	68.9	9	3.8	40	48	22	1,6	OF.. 0403 / SF.. 0903		**163**
A274.80.R.07-09	80	85.9	7	3.8	50	58	27	1,6	OF.. 0403 / SF.. 0903	**080**	
A274.80.R.11-09	80	85.9	11	3.8	50	58	27	1,6	OF.. 0403 / SF.. 0903		**180**
A274.100.R.09-09	100	105.9	9	3.8	50	78	32	1,6	OF.. 0403 / SF.. 0903	**100**	
A274.100.R.13-09	100	105.9	13	3.8	50	78	32	1,6	OF.. 0403 / SF.. 0903		**200**
A274.125.R.12-09	125	130.9	12	3.8	63	88	40	1,6	OF.. 0403 / SF.. 0903	**125**	

Spare parts DC	TORX® interchangeable blade AS **80 950 ...**	 Clamping key T AS **80 397 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
20 - 32	**043**		**039**		**303**	**133**	**191**
32 - 40	**043**	**040**	**039**	**151**	**303**	**133**	**191**
50 - 125	**043**		**039**		**303**	**133**	**191**

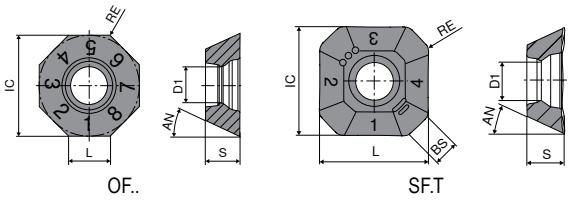
Two insert types – ONE cutter





OFHT / OFHW / SFHT / SFKT

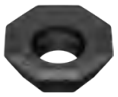
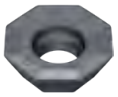
Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
OFH. 0403..	9.52	3.35	3.94	-	3.18	25
SF.T 0903..	9.80	3.35	9.00	2.25	3.5	25



OF.. SF.T

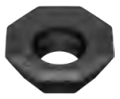
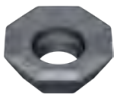
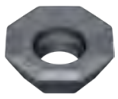
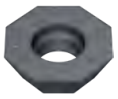
CoreLine – Carbide milling indexable insert

OFHT

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F OFHT	**M** OFHT	**F** OFHT	**M** OFHT
		IM	IM	IM	IM
ISO	RE mm	**51 002 ... 005**	**51 003 ... 005**	**51 002 ... 105**	**51 003 ... 105**
040305SN	0.5				
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

OFHT / OFHW

		-F50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245	CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F	F	M	F	F	F
		OFHT	OFHT	OFHT	OFHT	OFHW	OFHT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 002 ...	51 002 ...	51 003 ...	51 002 ...	51 105 ...	51 002 ...
040302EN	0.2					452	
040305SN	0.5	305	405	405	455		90501
P		●	○	○	●	●	●
M		●	●	●	●	●	●
K							
N							
S							○
H							
O							

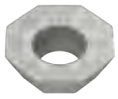
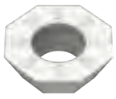
CoreLine – Carbide milling indexable insert

OFHT

		-M50 CTCK215	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN	DRAGONSKIN	
				
		M	F	F
		OFHT	OFHT	OFHT
		IM	IM	IM
ISO	RE mm	51 003 ...	51 122 ...	50 459 ...
040305FN	0.5		00502	505
040305SN	0.5	505		
P			○	
M			○	
K		●	●	○
N			●	●
S			○	
H				
O			○	○

MaxiMill – Carbide milling indexable insert

OFHT / OFHW

		-F50 CTC5240	CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		F OFHT	F OFHW	F OFHT
		MA	MA	MA
ISO	RE mm	51 002 ...	50 457 ...	51 002 ...
040302EN	0.2		504	
040305SN	0.5	15500		555
P				
M				
K				
N				
S		●	●	●
H				
O				

CoreLine – Carbide milling indexable insert

SFHT / SFKT

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F SFHT	M SFKT	F SFHT	M SFKT
		IM	IM	IM	IM
ISO	RE mm	51 012 ...	51 013 ...	51 012 ...	51 013 ...
0903AFSR	1	020	020	120	120
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

SFHT / SFKT

		-F50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		F	F	M	F	F
		SFHT	SFHT	SFKT	SFHT	SFHT
		IM	IM	IM	IM	IM
ISO	RE mm	51 012 ...	51 012 ...	51 013 ...	51 012 ...	51 012 ...
0903AFSR	1	320	420	42000	470	92001
P		●	○	○	●	●
M		●	●	●	●	●
K						
N						
S						○
H						
O						

CoreLine – Carbide milling indexable insert

SFKT / SFHT

		-R50 CTCK215	-R50 CTPK220	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
		R	R	F	F
		SFKT	SFKT	SFHT	SFHT
		IM	IM	IM	IM
ISO	RE mm	51 065 ...	51 065 ...	51 123 ...	50 514 ...
0903AFFR	1			01502	505
0903AFSR	1	520	620		
P				○	
M				○	
K		●	●	●	○
N				●	●
S				○	
H					
O				○	○

MaxiMill – Carbide milling indexable insert

SFHT

-F40
CTC5240

DRAGONSKIN



F
SFHT

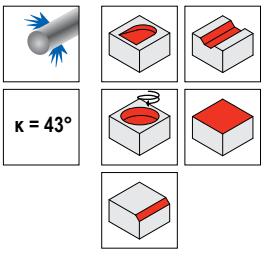
MA

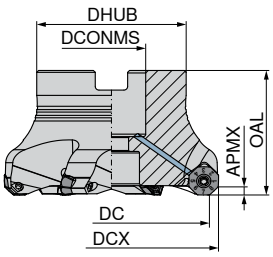
ISO	RE mm	50 514 ... 504
0903AFSR	1	
P		
M		
K		
N		
S		●
H		
O		

Milling guide

→ Cutting data standard values
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→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

CoreLine – Face mills – 274-05/-12







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 772 ...
A274.200.R.04-12-A075-175-EF	2.000	2.319	4	0.126	1.750	1.750	0.750	18900	3,2	OFHT 0504 / SFKT 1204	**20004**
A274.250.R.05-12-A100-200-EF	2.500	2.819	5	0.126	2.190	2.190	1.000	16700	3,2	OFHT 0504 / SFKT 1204	**25005**
A274.300.R.06-12-A100-200-EF	3.000	3.315	6	0.126	2.190	2.190	1.000	15200	3,2	OFHT 0504 / SFKT 1204	**30006**
A274.400.R.07-12-A125-200-EF	4.000	4.315	7	0.126	2.750	2.750	1.250	13000	3,2	OFHT 0504 / SFKT 1204	**40007**
A274.500.R.08-12-B150-200-EF	5.000	5.315	8	0.126	3.810	3.810	1.500	11600	3,2	OFHT 0504 / SFKT 1204	**50008**
A274.600.R.10-12-B200-200-EF	6.000	6.311	10	0.126	4.880	4.880	2.000	10500	3,2	OFHT 0504 / SFKT 1204	**60010**

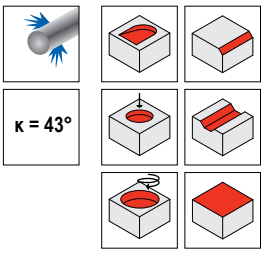
Spare parts DC	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**
50,8 - 152,4	**120**	**303**	**340**

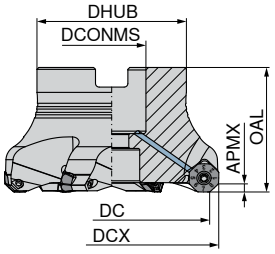
Two insert types – ONE cutter





CoreLine – Face mills – 274-05/-12







Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	Tightening torque Nm	Indexable insert	TO 50 772 ...	TO 50 772 ...
A274.40.R.03-12	40	48.0	3	6	40	38	16	3,2	OFHT 0504 / SFKT 1204	**24000**	
A274.40.R.04-12	40	48.0	4	6	40	38	16	3,2	OFHT 0504 / SFKT 1204		**04000**
A274.50.R.04-12	50	58.0	4	6	40	43	22	3,2	OFHT 0504 / SFKT 1204	**25000**	
A274.50.R.05-12	50	58.0	5	6	40	43	22	3,2	OFHT 0504 / SFKT 1204		**050**
A274.63.R.05-12	63	71.0	5	6	40	48	22	3,2	OFHT 0504 / SFKT 1204	**26300**	
A274.63.R.06-12	63	71.0	6	6	40	48	22	3,2	OFHT 0504 / SFKT 1204		**063**
A274.80.R.06-12	80	88.0	6	6	50	58	27	3,2	OFHT 0504 / SFKT 1204	**28000**	
A274.80.R.08-12	80	88.0	8	6	50	58	27	3,2	OFHT 0504 / SFKT 1204		**080**
A274.100.R.08-12	100	108.0	8	6	50	78	32	3,2	OFHT 0504 / SFKT 1204	**30000**	
A274.100.R.10-12	100	108.0	10	6	50	78	32	3,2	OFHT 0504 / SFKT 1204		**100**
A274.125.R.09-12	125	133.0	9	6	63	88	40	3,2	OFHT 0504 / SFKT 1204	**32500**	
A274.125.R.12-12	125	133.0	12	6	63	88	40	3,2	OFHT 0504 / SFKT 1204		**125**
A274.160.R.11-12	160	167.9	11	6	63	98	40	3,2	OFHT 0504 / SFKT 1204	**36000** [1]	
A274.160.R.14-12	160	167.9	14	6	63	98	40	3,2	OFHT 0504 / SFKT 1204		**16000** [1]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

Spare parts DC	 TORX® interchangeable blade	 Screwdriver	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
40 - 160	**054**	**120**	**303**	**340**	**193**

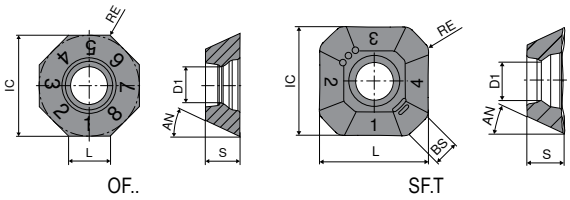
Two insert types – ONE cutter





OFHT / SFHT / SFKT

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
OFHT 0504..	12.7	4.8	4.5	-	4.76	25
SF.T 1204..	12.7	4.8	12.7	1.42	4.76	25



OF.. SF.T

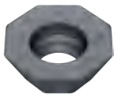
CoreLine – Carbide milling indexable insert

OFHT

ISO	RE mm	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F OFHT	**M** OFHT	**F** OFHT	**M** OFHT
		IM	IM	IM	IM
		51 002 ...	**51 003 ...**	**51 002 ...**	**51 003 ...**
050410SN	1	**010**	**01000**	**110**	**11000**
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

OFHT

		-F50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F OFHT	F OFHT	M OFHT	F OFHT
		IM	IM	IM	IM
ISO	RE mm	51 002 ...	51 002 ...	51 003 ...	51 002 ...
050410SN	1	310	410	41000	460
P		●	○	○	●
M		●	●	●	●
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

OFHT

		-F50 CTCM245	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN	DRAGONSKIN	
				
		F OFHT	F OFHT	F OFHT
		IM	IM	IM
ISO	RE mm	51 002 ...	51 122 ...	51 122 ...
050410FN	1		01002	36000
050410SN	1	91001		
P		●	○	
M		●	○	
K			●	○
N			●	●
S		○	○	
H				
O			○	○

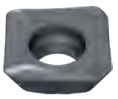
MaxiMill – Carbide milling indexable insert

OFHT

		-F50 CTC5240
		DRAGONSKIN
		
		F OFHT
		MA
ISO	RE mm	51 002 ...
050410SN	1	16000
P		
M		
K		
N		
S		●
H		
O		

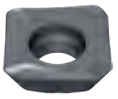
CoreLine – Carbide milling indexable insert

SFHT / SFKT

		-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F SFHT	M SFKT	F SFHT	M SFKT
		IM	IM	IM	IM
ISO	RE mm	51 012 ...	51 013 ...	51 012 ...	51 013 ...
1204AFSR	1	02500	025	12500	125
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

SFHT / SFKT

		-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F	M	F	M
		SFHT	SFKT	SFHT	SFKT
		IM	IM	IM	IM
ISO	RE mm	51 012 ...	51 013 ...	51 012 ...	51 013 ...
1204AFSR	1	325	325	42500	425
P		●	●	○	○
M		●	●	●	●
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

SFHT

		-F50 CTPM245	-F50 CTCM245	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
		F	F	F	F
		SFHT	SFHT	SFHT	SFHT
		IM	IM	IM	IM
ISO	RE mm	51 012 ...	51 012 ...	51 123 ...	51 123 ...
1204AFFR	1			02502	37000
1204AFSR	1	47500	92501		
P		●	●	○	
M		●	●	○	
K				●	○
N				●	●
S			○	○	
H					
O				○	○

MaxiMill – Carbide milling indexable insert

SFHT

-F40
CTC5240

DRAGONSKIN



F
SFHT

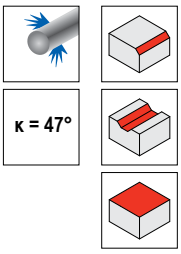
MA

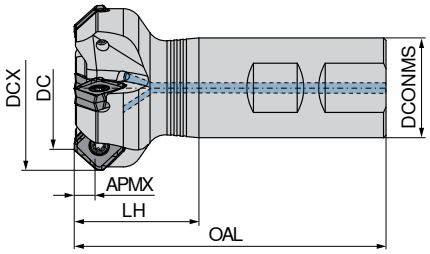
ISO	RE mm	50 514 ...
1204AFER	1	50900
P		
M		
K		
N		
S		●
H		
O		

Milling guide

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CoreLine – End mills – 271-12





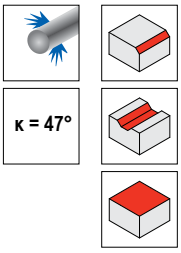


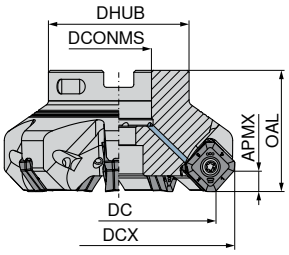
Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	Indexable insert	TO 58 786 ...
C271.0125.R.03-12-B-150-EF	1.250	1.763	3	0.267	4.000	1.500	1.250	SOHU 1204.. / XOHU 1204..	**01203**
C271.0150.R.04-12-B125-150-EF	1.500	2.013	4	0.267	4.000	1.500	1.250	SOHU 1204.. / XOHU 1204..	**01504**

Spare parts DC	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.250 - 1.500	**120**	**303**	**859**

CoreLine – Face mills – 271-12

▲ 8 cutting edges per insert

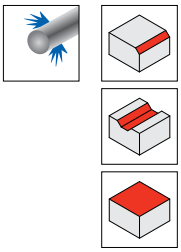


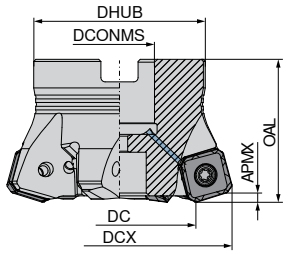




Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 787 ...	TO 58 787 ...
A271.150.R.04-12-A050-175-EF	1.500	2.013	4	0.267	1.750	1.421	0.500	18500	3,2	SOHU 1204.. / XOHU 1204..		**15004**
A271.200.R.05-12-A075-175-EF	2.000	2.512	5	0.267	1.750	1.750	0.750	15100	3,2	SOHU 1204.. / XOHU 1204..		**20005**
A271.250.R.07-12-A100-200-EF	2.500	3.011	7	0.267	2.000	2.250	1.000	13000	3,2	SOHU 1204.. / XOHU 1204..		**25007**
A271.300.R.06-12-A100-200-EF	3.000	3.511	6	0.267	2.000	2.250	1.000	11600	3,2	SOHU 1204.. / XOHU 1204..	**30006**	
A271.300.R.08-12-A100-200-EF	3.000	3.511	8	0.267	2.000	2.250	1.000	9800	3,2	SOHU 1204.. / XOHU 1204..		**30008**
A271.400.R.07-12-A125-200-EF	4.000	4.510	7	0.267	2.000	2.750	1.250	9800	3,2	SOHU 1204.. / XOHU 1204..	**40007**	
A271.400.R.10-12-A125-200-EF	4.000	4.510	10	0.267	2.000	2.750	1.250	9800	3,2	SOHU 1204.. / XOHU 1204..		**40010**
A271.500.R.08-12-B150-200-EF	5.000	5.509	8	0.267	2.000	3.750	1.500	8700	3,2	SOHU 1204.. / XOHU 1204..	**50008**	
A271.500.R.12-12-B150-200-EF	5.000	5.509	12	0.267	2.000	3.750	1.500	8700	3,2	SOHU 1204.. / XOHU 1204..		**50012**
A271.600.R.09-12-B150-200-EF	6.000	6.509	9	0.267	2.000	3.750	1.500	7800	3,2	SOHU 1204.. / XOHU 1204..	**60009**	
A271.600.R.14-12-B150-200-EF	6.000	6.509	14	0.267	2.000	3.750	1.500	7800	3,2	SOHU 1204.. / XOHU 1204..		**60014**

CoreLine – HFC Face mill – 271-12







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 787 ...
A271.200.R.04-12-A075-175-HFC-EF	2.000	2.513	4	0.102	1.750	1.750	0.750	15100	3,2	SOHU 1204..	**20004**
A271.250.R.06-12-A100-200-HFC-EF	2.500	3.013	6	0.102	2.000	2.250	1.000	13000	3,2	SOHU 1204..	**25006**
A271.300.R.07-12-A100-200-HFC-EF	3.000	3.513	7	0.102	2.000	2.250	1.000	11600	3,2	SOHU 1204..	**30007**


Screwdriver

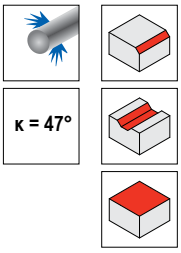

Molykote

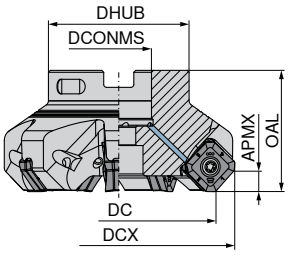

Clamping screw

Spare parts DC	Screwdriver AS 80 950 ...	Molykote AS 70 950 ...	Clamping screw AS 70 950 ...
1.500 - 6.000	**120**	**303**	**859**

CoreLine – Face mills – 271-12

▲ 8 cutting edges per indexable insert



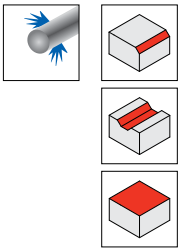


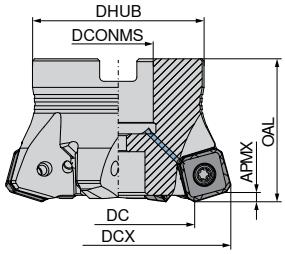


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 787 ...	TO 50 787 ...
A271.40.R.04-12	40	53	4	6.8	40	38	16	17900	3,2	SOHU 1204.. / XOHU 1204..		**04004**
A271.50.R.05-12	50	63	5	6.8	40	43	22	15200	3,2	SOHU 1204.. / XOHU 1204..		**05005**
A271.63.R.07-12	63	76	7	6.8	40	48	22	13100	3,2	SOHU 1204.. / XOHU 1204..		**06307**
A271.80.R.06-12	80	93	6	6.8	50	58	27	11300	3,2	SOHU 1204.. / XOHU 1204..	**08006**	
A271.80.R.08-12	80	93	8	6.8	50	58	27	11300	3,2	SOHU 1204.. / XOHU 1204..		**08008**
A271.100.R.07-12	100	113	7	6.8	63	78	32	9900	3,2	SOHU 1204.. / XOHU 1204..	**10007**	
A271.100.R.10-12	100	113	10	6.8	63	78	32	9900	3,2	SOHU 1204.. / XOHU 1204..		**10010**
A271.125.R.08-12	125	138	8	6.8	63	88	40	8700	3,2	SOHU 1204.. / XOHU 1204..	**12508**	
A271.125.R.12-12	125	138	12	6.8	63	88	40	8700	3,2	SOHU 1204.. / XOHU 1204..		**12512**
A271.160.R.09-12	160	173	9	6.8	63	98	40	7600	3,2	SOHU 1204.. / XOHU 1204..	**16009** [1]	
A271.160.R.14-12	160	173	14	6.8	63	98	40	7600	3,2	SOHU 1204.. / XOHU 1204..		**16014** [1]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

CoreLine – Face mills – 271-12





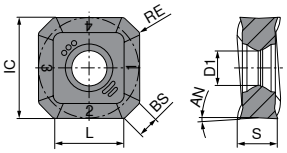


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 788 ...
A271.50.R.04-12-HFC	30	50	4	2.6	40	43	22	14600	3,2	SOHU 1204..	**05004**
A271.63.R.06-12-HFC	43	63	6	2.6	40	48	22	12500	3,2	SOHU 1204..	**06306**
A271.80.R.07-12-HFC	60	80	7	2.6	50	58	27	10800	3,2	SOHU 1204..	**08007**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 021 ...	 Torque screwdriver AS 80 950 ...
40 (5078704004)	**054**	**040**	**120**	**151**	**303**	**859**	**030**	**193**
50 - 250	**054**		**120**		**303**	**859**	**030**	**193**
50 - 250	**054**		**120**		**303**	**859**		**193**
50 (5078805004)	**054**	**050**	**120**	**154**	**303**	**859**	**030**	**193**

SOHU

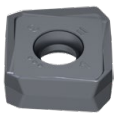
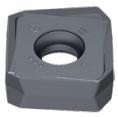
Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
SOHU 1204..	13.36	4.4	8.8	1.7	5.0	7.4



SOHU

CoreLine – Carbide milling indexable insert

SOHU

		-M50 CTCP230	-M50 CTPP235	-M50 CTCM235	-M50 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 SOHU	 SOHU	 SOHU	 SOHU	 SOHU	 SOHU
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 138 ...	51 138 ...	51 138 ...	51 138 ...	51 140 ...	51 140 ...
1204ABSR	0.8	02000	12000	32000	42000	47000	92001
P		●	●	●	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

SOHU

		-R50 CTCK215	-R50 CTPK220
		DRAGONSKIN	DRAGONSKIN
		 SOHU	 SOHU
		IM	IM
ISO	RE mm	51 139 ...	51 139 ...
1204ABSR	0.8	52000	62000
P			
M			
K		●	●
N			
S			
H			
O			

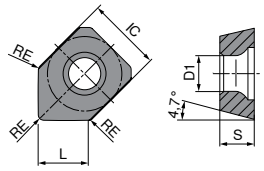
MaxiMill – Carbide milling indexable insert

SOHU

		-F40 CTC5240	-F50 CTC5240
		DRAGONSKIN	DRAGONSKIN
		 SOHU	 SOHU
		MA	MA
ISO	RE mm	51 148 ...	51 140 ...
1204ABSR	0.8	12001	17000
P			
M			
K			
N			
S		●	●
H			
O			

XOHU

Designation	IC mm	D1 mm	L mm	BS mm	S mm
XOHU 1204..	13.36	4.4	8.8	1.83	5.0



XOHU

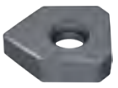
CoreLine – Carbide milling indexable insert

XOHU

▲ Masterfinish indexable insert (wiper insert)

-M50
CTPP235

DRAGONSKIN


XOHU

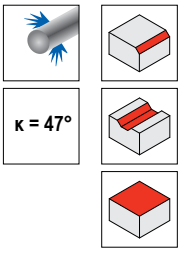
ISO	RE mm	IM 51 141 ... 12000
1204ABSR	0.8	
P		●
M		○
K		○
N		
S		
H		
O		

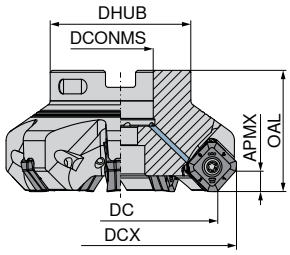
Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Face mills – 271-17

▲ 8 cutting edges per insert





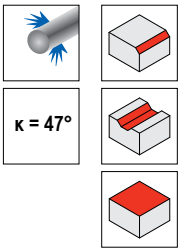


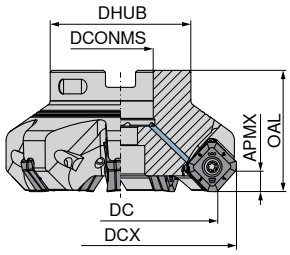
Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DCONMS inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 767 ...
A271.200.R.04-17-A075-175-EF	2.000	2.660	4	0.330	1.750	0.750	1.750	14300	5	SAKU 1706	**20004**
A271.250.R.06-17-A100-200-EF	2.500	3.160	6	0.330	2.250	1.000	2.250	12700	5	SAKU 1706	**25006**
A271.300.R.07-17-A100-200-EF	3.000	3.660	7	0.330	2.250	1.000	2.250	11500	5	SAKU 1706	**30007**
A271.400.R.08-17-B125-200-EF	4.000	4.660	8	0.330	2.750	1.250	2.750	9800	5	SAKU 1706	**40008**
A271.500.R.10-17-B150-200-EF	5.000	5.660	10	0.330	3.750	1.500	3.750	8700	5	SAKU 1706	**50010**
A271-600.R.11-17-B200-250-EF	6.000	6.660	11	0.334	2.500	2.000	3.750	8100	5	SAKU 1706	**60011**
A271.650.R.12-17-C250-250-EF	6.500	7.160	12	0.330	5.120	2.500	5.120	7600	5	SAKU 1706	**65012**

	 Screwdriver	 Molykote	 Clamping screw
	AS	AS	AS
Spare parts DC	**80 950 ...**	**70 950 ...**	**70 950 ...**
2.000 - 6.500	**106**	**303**	**302**

CoreLine – Face mills – 271-17

▲ 8 cutting edges per indexable insert







Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 767 ...
A271.50.R.04-17	50	66.1	4	8.4	40	22	43	5	SAKU 1706	**050**
A271.63.R.06-17	63	79.1	6	8.4	40	22	48	5	SAKU 1706	**063**
A271.80.R.07-17	80	96.1	7	8.4	50	27	58	5	SAKU 1706	**080**
A271.100.R.08-17	100	116.1	8	8.4	50	32	78	5	SAKU 1706	**100**
A271.125.R.10-17	125	141.1	10	8.4	63	40	88	5	SAKU 1706	**125**
A271.160.R.12-17	160	176.1	12	8.4	63	40	104	5	SAKU 1706	**16000** [1]
A271.200.R.13-17	200	216.1	13	8.4	63	60	134	5	SAKU 1706	**20000** [2]
A271.250.R.15-17	250	266.1	15	8.4	63	60	134	5	SAKU 1706	**25000** [2]

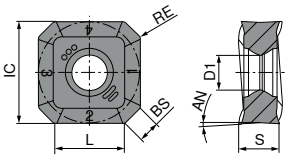
1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

2) With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm / Without through coolant supply

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
50 - 250	**037**	**114**	**303**	**302**	**193**

SAKU

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
SAKU 1706..	17	5.8	11.85	3.7	6.35	3



SAKU

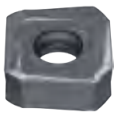
CoreLine – Carbide milling indexable insert

SAKU

ISO	RE mm	-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 SAKU	 SAKU	 SAKU	 SAKU
		IM	IM	IM	IM
		51 004 ...	51 005 ...	51 004 ...	51 005 ...
1706ABSR	0.8	270	270	070	070
P		●	●	●	●
M					
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

SAKU

ISO	RE mm	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 SAKU	 SAKU	 SAKU	 SAKU
		IM	IM	IM	IM
		51 004 ...	51 005 ...	51 004 ...	51 005 ...
1706ABSR	0.8	020	020	120	120
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

SAKU

		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		SAKU	SAKU	SAKU	SAKU	SAKU	SAKU	SAKU
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 004 ...	51 005 ...	51 004 ...	51 005 ...	51 004 ...	51 005 ...	51 004 ...
1706ABSR	0.8	220	220	320	320	420	420	470
P		●	●	●	●	○	○	●
M		●	●	●	●	●	●	●
K								
N								
S								
H								
O								

CoreLine – Carbide milling indexable insert

SAKU

		-F50 CTCM245	-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-R50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		SAKU	SAKU	SAKU	SAKU	SAKU
		IM	IM	IM	IM	IM
ISO	RE mm	51 004 ...	51 005 ...	51 058 ...	51 005 ...	51 058 ...
1706ABSR	0.8	92001	520	520	620	620
P		●				
M		●				
K			●	●	●	●
N						
S		○				
H						
O						

MaxiMill – Carbide milling indexable insert

SAKU

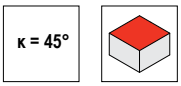
		-F50 CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		SAKU	SAKU
		MA	MA
ISO	RE mm	50 306 ...	51 004 ...
1706ABSR	0.8	520	570
P			
M			
K			
N			
S		●	●
H			
O			

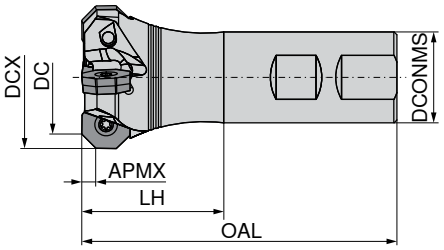
Milling guide

→ Cutting data standard values
→ Starting parameters
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→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – 273-06

▲ 16 cutting edges per insert



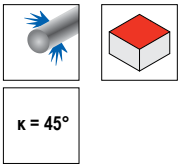


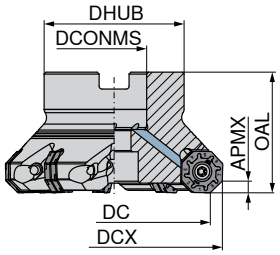


Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS h6 inch	LH inch	OAL inch	Tightening torque Nm	Indexable insert	TO 58 762 ...
C273.150.R.04-06-B125-125-EF	1.500	1.911	4	0.138	1.250	1.250	3.600	5	OAKU / XAHT 0605	15004
C273.200.R.05-06-B150-125-EF	2.000	2.421	5	0.138	1.500	1.250	4.500	5	OAKU / XAHT 0605	20005

CoreLine – Face mills – 273-06

▲ 16 cutting edges per insert





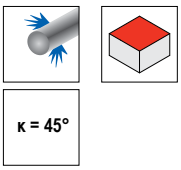


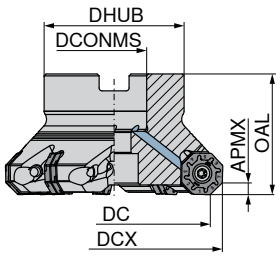
Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 741 ...	TO 58 741 ...
A273.200.R.05-06-A075-175-EF	2.000	5	0.138	1.750	0.750	1.750	14800	5	OAKU / XAHT 0605	20005	
A273.250.R.07-06-A100-200-EF	2.500	7	0.138	2.250	1.000	2.250	13000	5	OAKU / XAHT 0605	25007	
A273.300.R.08-06-A100-200-EF	3.000	8	0.138	2.250	1.000	2.250	11800	5	OAKU / XAHT 0605	30008	
A273.400.R.10-06-B125-200-EF - IC	4.000	10	0.138	2.750	1.250	2.750	10100	5	OAKU / XAHT 0605	40010	
A273.500.R.12-06-B150-200-EF	5.000	12	0.138	3.750	1.500	3.750	8900	5	OAKU / XAHT 0605	50012	
A273.600.R.13-06-B150-250-EF	6.000	13	0.138	3.750	1.500	3.750	7900	5	OAKU / XAHT 0605	60013	
A273.800.R.25-06-C250-250-EF	8.000	25	0.138	6.500	2.500	6.500	2900	5	OAKU / XAHT 0605		80025

Spare parts DC	 Clamping wedge screw AS 70 950 ...	 Clamping wedge AS 70 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.500 - 6.000			106	303	302
8.000	844	845	105	303	

CoreLine – Face mills – 273-06

▲ 16 cutting edges per indexable insert







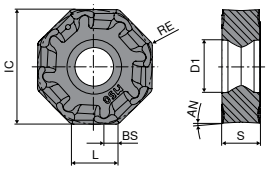
Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 741 ...	TO 50 741 ...
A273.40.R.03-06	40	50.2	3	3.5	40	16	38	5	OAKU / XAHT 0605	**040**	
A273.40.R.04-06	40	50.2	4	3.5	40	16	38	5	OAKU / XAHT 0605	**140** [5]	
A273.50.R.05-06	50	60.2	5	3.5	40	22	43	5	OAKU / XAHT 0605	**050**	
A273.63.R.07-06	63	73.2	7	3.5	40	22	48	5	OAKU / XAHT 0605	**063**	
A273.80.R.08-06	80	90.2	8	3.5	50	27	58	5	OAKU / XAHT 0605	**080**	
A273.80.R.10-06	80	90.2	10	3.5	50	27	58	4	OAKU / XAHT 0605		**180** [1]
A273.100.R.10-06	100	110.2	10	3.5	50	32	78	5	OAKU / XAHT 0605	**100**	
A273.100.R.14-06	100	110.2	14	3.5	50	32	78	4	OAKU / XAHT 0605		**200** [1]
A273.125.R.12-06	125	135.2	12	3.5	63	40	88	5	OAKU / XAHT 0605	**125**	
A273.125.R.17-06	125	135.2	17	3.5	63	40	88	4	OAKU / XAHT 0605		**225** [1]
A273.160.R.14-06	160	170.2	14	3.5	63	40	104	5	OAKU / XAHT 0605	**160** [4]	
A273.160.R.20-06	160	170.2	20	3.5	63	40	104	4	OAKU / XAHT 0605		**260** [2]
A273.200.R.25-06	200	210.2	25	3.5	63	60	153	4	OAKU / XAHT 0605		**300** [3]
A273.250.R.31-06	250	260.2	31	3.5	63	60	153	4	OAKU / XAHT 0605		**25031** [3]

1) Version with clamping wedge, without through coolant supply
2) Version with clamping wedge, without through coolant supply / With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm
3) Version with clamping wedge, without through coolant supply / With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm
4) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply
5) Without through coolant supply

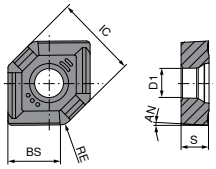
Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Clamping wedge screw AS 70 950 ...	 Clamping wedge AS 70 950 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40	**037**	**040**			**114**	**151**	**302**	**193**
50	**037**	**050**			**114**	**154**	**302**	**193**
63 - 80	**037**				**114**		**302**	**193**
80 - 100	**036**		**844**	**845**	**113**			**193**
100 - 125	**037**				**114**		**302**	**193**
125	**036**		**844**	**845**	**113**			**193**
160	**037**				**114**		**302**	**193**
160 - 250	**036**		**844**	**845**	**113**			**193**

OAKU / XAHT

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
XAHT 0605..	17.08	6.0	-	11.95	5.56	3
OAKU 0605..	17.10	5.8	6	2.00	5.66	3



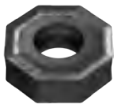
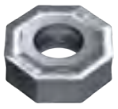
OAKU



XAHT

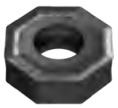
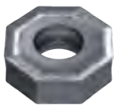
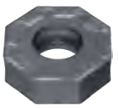
CoreLine – Carbide milling indexable insert

OAKU

ISO	RE mm	-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 OAKU	 OAKU	 OAKU	 OAKU
		IM	IM	IM	IM
		51 000 ...	51 001 ...	51 000 ...	51 001 ...
060508SR	0.8	258	258	058	058
P		●	●	●	●
M					
K					
N					
S					
H					
O					

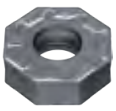
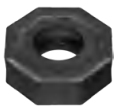
CoreLine – Carbide milling indexable insert

OAKU

ISO	RE mm	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 OAKU	 OAKU	 OAKU	 OAKU
		IM	IM	IM	IM
		51 000 ...	51 001 ...	51 000 ...	51 001 ...
060508SL	0.8				10900
060508SR	0.8	008	008	108	108
P		●	●	●	●
M				○	○
K		○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

OAKU

		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		OAKU	OAKU	OAKU	OAKU	OAKU	OAKU	OAKU
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 000 ...	51 001 ...	51 000 ...	51 001 ...	51 000 ...	51 001 ...	51 104 ...
060508ER	0.8							458
060508SR	0.8	208	208	308	308	408	408	
P		●	●	●	●	○	○	●
M		●	●	●	●	●	●	●
K								
N								
S								
H								
O								

CoreLine – Carbide milling indexable insert

OAKU

		-F40 CTCM245	-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-R50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		OAKU	OAKU	OAKU	OAKU	OAKU
		IM	IM	IM	IM	IM
ISO	RE mm	51 104 ...	51 001 ...	51 027 ...	51 001 ...	51 027 ...
060508ER	0.8	90801				
060508SL	0.8		50900		60900	
060508SR	0.8		508	508	608	608
P		●				
M		●				
K			●	●	●	●
N						
S		○				
H						
O						

MaxiMill – Carbide milling indexable insert

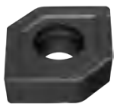
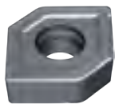
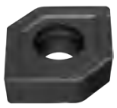
OAKU

		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		OAKU	OAKU
		MA	MA
ISO	RE mm	50 446 ...	51 104 ...
060508ER	0.8	550	50801
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Carbide milling indexable insert

XAHT

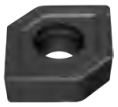
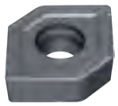
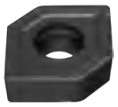
▲ Masterfinish indexable insert (wiper insert)

		-M50 CTCP220	-M50 CTPP225	-M50 CTCP230	-M50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XAHT	XAHT	XAHT	XAHT
		IM	IM	IM	IM
ISO	RE mm	51 014 ...	51 014 ...	51 014 ...	51 014 ...
060525SR	2.5	275	075	025	125
P		●	●	●	●
M					○
K				○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

XAHT

▲ Masterfinish indexable insert (wiper insert)

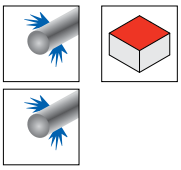
		-M50 CTPM225	-M50 CTCM235	-M50 CTPM240	-M50 CTCK215	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XAHT	XAHT	XAHT	XAHT	XAHT
		IM	IM	IM	IM	IM
ISO	RE mm	51 014 ...	51 014 ...	51 014 ...	51 014 ...	51 014 ...
060525SL	2.5				52600	
060525SR	2.5	225	325	425	525	625
P		●	●	○		
M		●	●	●		
K					●	●
N						
S						
H						
O						

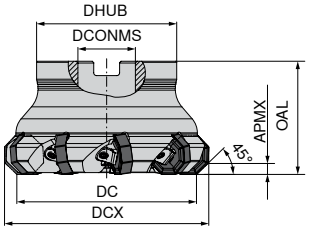
Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Face mills – 273-08

▲ 16 cutting edges per insert







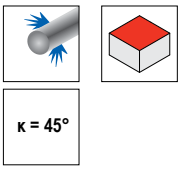
Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	Tightening torque Nm	Indexable insert	TO 58 783 ...	TO 58 783 ...
A273.250.R.05-08-A100-200-EF	2.500	3.039	5	0.197	2.000	1.000	2.250	5	ONKU 0806	**25005**	
A273.250.R.06-08-A100-200-EF	2.500	3.039	6	0.197	2.000	1.000	2.250	4	ONKU 0806		**25006**
A273.300.R.06-08-A100-200-EF	3.000	3.539	6	0.197	2.000	1.000	2.250	5	ONKU 0806	**30006**	
A273.300.R.08-08-A100-200-EF	3.000	3.539	8	0.197	2.000	1.000	2.250	4	ONKU 0806		**30008**
A273.400.R.07-08-A125-200-EF	4.000	4.539	7	0.197	2.500	1.250	2.750	5	ONKU 0806	**40007**	
A273.400.R.09-08-A125-200-EF	4.000	4.539	9	0.197	2.500	1.250	2.750	4	ONKU 0806		**40009**
A273.500.R.08-08-A150-250-EF	5.000	5.539	8	0.197	2.500	1.500	3.750	5	ONKU 0806	**50008** [1]	
A273.500.R.11-08-A150-250-EF	5.000	5.539	11	0.197	2.500	1.500	3.750	4	ONKU 0806		**50011** [1]
A273.600.R.10-08-A150-250-EF	6.000	6.539	10	0.197	2.500	1.500	3.750	5	ONKU 0806	**60010**	
A273.600.R.14-08-A150-250-EF	6.000	6.539	14	0.197	2.500	1.500	3.750	4	ONKU 0806		**60014**

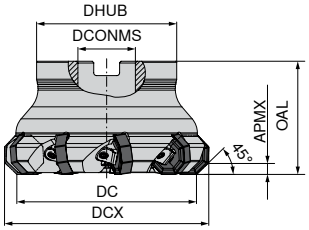
1) Not in stock

Spare parts for article number	TORX® interchangeable blade AS 80 950 ...	 Clamping wedge screw AS 70 950 ...	 Clamping wedge AS 70 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
58 783 25005	**055**			**121**	**303**	**821**	**193**
58 783 25006	**036**	**844**	**845**	**113**	**303**		**193**
58 783 30006	**055**			**121**	**303**	**821**	**193**
58 783 30008	**036**	**844**	**845**	**113**	**303**		**193**
58 783 40007	**055**			**121**	**303**	**821**	**193**
58 783 40009	**036**	**844**	**845**	**113**	**303**		**193**
58 783 50008	**055**			**121**	**303**	**821**	**193**
58 783 50011	**036**	**844**	**845**	**113**	**303**		**193**
58 783 60010	**055**			**121**	**303**	**821**	**193**
58 783 60014	**036**	**844**	**845**	**113**	**303**		**193**

CoreLine – Face mills – 273-08

▲ 16 cutting edges per indexable insert







Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 779 ...	TO 50 779 ...
A273.63.R.05-08	63	76.7	5	5	50	22	48	5	ONKU 0806	**06300**	
A273.63.R.06-08	63	76.7	6	5	50	22	48	5	ONKU 0806		**16300** [1]
A273.80.R.06-08	80	93.7	6	5	50	27	58	5	ONKU 0806	**08000**	
A273.80.R.08-08	80	93.7	8	5	50	27	58	4	ONKU 0806		**18000** [1]
A273.100.R.07-08	100	113.7	7	5	63	32	78	5	ONKU 0806	**10000**	
A273.100.R.09-08	100	113.7	9	5	63	32	78	4	ONKU 0806		**20000** [1]
A273.125.R.08-08	125	138.7	8	5	63	40	88	5	ONKU 0806	**12500**	
A273.125.R.11-08	125	138.7	11	5	63	40	88	4	ONKU 0806		**22500** [1]
A273.160.R.10-08	160	173.7	10	5	63	40	98	5	ONKU 0806	**16000** [3]	
A273.160.R.14-08	160	173.7	14	5	63	40	98	4	ONKU 0806		**26000** [2]

1) Version with clamping wedge
2) Version with clamping wedge, without through coolant supply / With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm
3) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

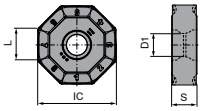
Spare parts for article number	 TORX® interchangeable blade AS **80 950 ...**	 Clamping wedge screw AS **70 950 ...**	 Clamping wedge AS **70 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
50 779 06300	**055**			**121**	**303**	**821**	**193**
50 779 16300	**036**	**844**	**845**	**113**	**303**		**193**
50 779 08000	**055**			**121**	**303**	**821**	**193**
50 779 18000	**036**	**844**	**845**	**113**	**303**		**193**
50 779 10000	**055**			**121**	**303**	**821**	**193**
50 779 20000	**036**	**844**	**845**	**113**	**303**		**193**
50 779 12500	**055**			**121**	**303**	**821**	**193**
50 779 22500	**036**	**844**	**845**	**113**	**303**		**193**
50 779 16000	**055**			**121**	**303**	**821**	**193**
50 779 26000	**036**	**844**	**845**	**113**	**303**		**193**

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

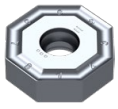
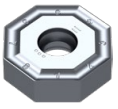
ONKU

Designation	IC mm	D1 mm	L mm	S mm
ONKU 0806..	22	5.8	8.45	6.45



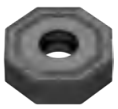
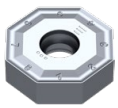
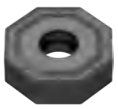
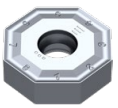
CoreLine – Carbide milling indexable insert

ONKU

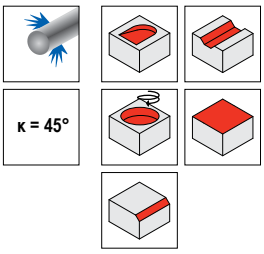
ISO	RE mm	-M50 CTCP230	-M50 CTPP235	-M50 CTPM240	-M50 CTCK215	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		ONKU	ONKU	ONKU	ONKU	ONKU
		IM	IM	IM	IM	IM
		51 163 ...	51 163 ...	51 163 ...	51 163 ...	51 163 ...
		00800	10800	20800	50800	60800
080608SN	0.8					
P		●	●	○		
M			○	●		
K		○	○		●	●
N						
S						
H						
O						

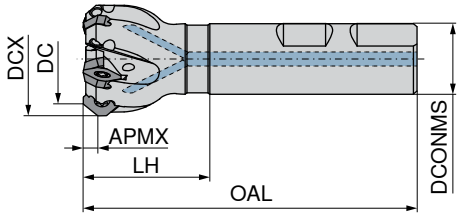
CoreLine – Carbide milling indexable insert

ONKU

ISO	RE mm	-R50 CTCP230	-R50 CTPP235	-R50 CTCK215	-R50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		ONKU	ONKU	ONKU	ONKU
		IM	IM	IM	IM
		51 164 ...	51 164 ...	51 164 ...	51 164 ...
		00800	10800	50800	60800
080608SN	0.8				
P		●	●		
M			○		
K		○	○	●	●
N					
S					
H					
O					

CoreLine – End mills – 270-09



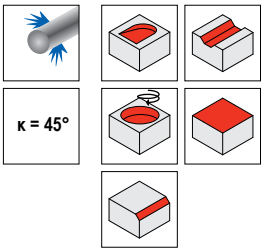


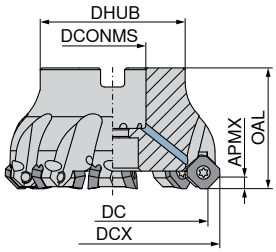


Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	Tightening torque Nm	Indexable insert	TO 58 666 ...
C270.0500.R.01-09-B0625-125-EF	0.500	0.830	1	0.157	3.250	1.250	0.625	1,2	SD.. 0903..	**05001**
C270.0500.R.01-09-B075-125-EF	0.500	0.830	1	0.157	3.250	1.250	0.750	1,2	SD.. 0903..	**05101**
C270.0750.R.03-09-B075-150-EF	0.750	1.080	3	0.157	3.500	1.500	0.750	1,8	SD.. 0903..	**07503** [1]
C270.0750.R.03-09-B100-150-EF	0.750	1.080	3	0.157	3.500	1.500	1.000	1,8	SD.. 0903..	**07603**
C270.100.R.04-09-B075-150-EF	1.000	1.330	4	0.157	3.500	1.500	0.750	1,8	SD.. 0903..	**10004**
C270.100.R.04-09-B100-150-EF	1.000	1.330	4	0.157	3.500	1.500	1.000	1,8	SD.. 0903..	**10104**
C270.125.R.05-09-B075-175-EF	1.250	1.580	5	0.157	3.750	1.750	0.750	1,8	SD.. 0903..	**12505**
C270.125.R.05-09-B100-175-EF	1.250	1.580	5	0.157	3.750	1.750	1.000	1,8	SD.. 0903..	**12605**
C270.150.R.05-09-B075-200-EF	1.500	1.830	5	0.157	4.000	2.000	0.750	1,8	SD.. 0903..	**15005**
C270.150.R.05-09-B100-200-EF	1.500	1.830	5	0.157	4.000	2.000	1.000	1,8	SD.. 0903..	**15105**

1) Not in stock

CoreLine – Face mills – 270-09





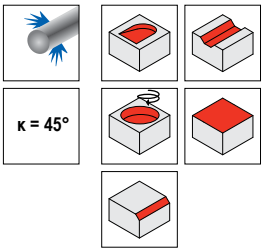


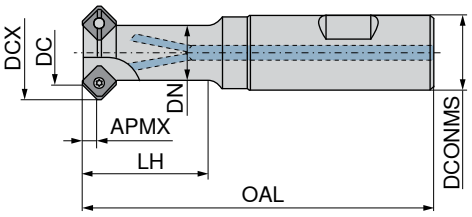
Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	Right TO 58 705 ...
A270.200.R.06-09-A075-175-EF	2.000	2.330	6	0.157	1.750	1.750	0.750	10700	1,8	SD.. 0903..	**20006**
A270.250.R.08-09-A100-200-EF	2.500	2.830	8	0.157	2.250	2.250	1.000	8500	1,8	SD.. 0903..	**25008**
A270.300.R.10-09-A100-200-EF	3.000	3.330	10	0.157	2.250	2.250	1.000	6700	1,8	SD.. 0903..	**30010**

Spare parts DC	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
0.500	**102**	**303**	**365**
0.750 - 3.000	**102**	**303**	**115**

CoreLine – Chamfer milling cutter – 272-09

▲ Usable on front and rear cutting edges





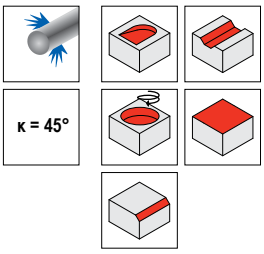


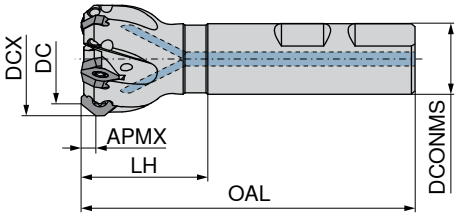
Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	Tightening torque Nm	Indexable insert	TO
C272.0500.R.01-09-B-100-EF	0.500	0.830	1	0.157	3.250	1.000	0.625	1,2	SD.. 0903..	**58 669 ...** **05001**

Spare parts

DC	 Screwdriver	 Molykote	 Clamping screw
	AS	AS	AS
	80 950 ...	**70 950 ...**	**70 950 ...**
0.500	**102**	**303**	**365**

CoreLine – End mills – 270-09

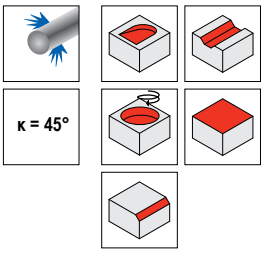


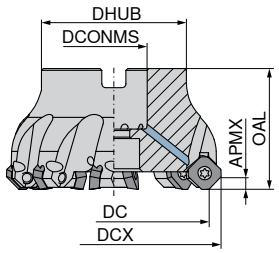




Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	Tightening torque Nm	Indexable insert	TO 50 666 ...
C270.06.R.01-09	6	14.4	1	4	80	32	16	1,2	SD.. 0903..	006
C270.12.R.01-09	12	20.4	1	4	80	32	16	1,2	SD.. 0903..	012
C270.16.R.02-09	16	24.4	2	4	90	40	20	1,8	SD.. 0903..	016
C270.20.R.03-09	20	28.4	3	4	90	40	20	1,8	SD.. 0903..	020
C270.25.R.04-09	25	33.4	4	4	100	44	25	1,8	SD.. 0903..	025
C270.32.R.05-09	32	40.4	5	4	95	36	25	1,8	SD.. 0903..	032

CoreLine – 270-09 face mill – 270-09





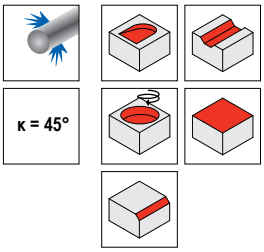


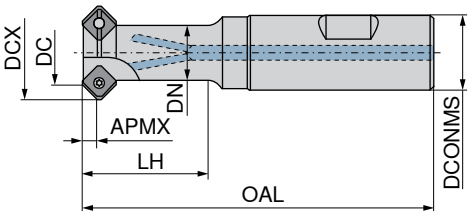
Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	Tightening torque Nm	Indexable insert	TO 50 705 ...	TO 50 706 ...
A270.32.R.05-09	32	40.4	5	4	40	34	16	1,8	SD../XD.. 0903..		532
A270.40.R.04-09	40	48.4	4	4	40	38	16	1,8	SD../XD.. 0903..	540	
A270.40.R.06-09	40	48.4	6	4	40	38	16	1,8	SD../XD.. 0903..		540
A270.50.R.06-09	50	58.4	6	4	40	43	22	1,8	SD../XD.. 0903..	550	
A270.50.R.08-09	50	58.4	8	4	40	43	22	1,8	SD../XD.. 0903..		550
A270.63.R.08-09	63	71.4	8	4	40	48	22	1,8	SD../XD.. 0903..	563	
A270.63.R.10-09	63	71.4	10	4	40	48	22	1,8	SD../XD.. 0903..		563
A270.80.R.10-09	80	88.4	10	4	50	58	27	1,8	SD../XD.. 0903..	580	
A270.80.R.12-09	80	88.4	12	4	50	58	27	1,8	SD../XD.. 0903..		580
A270.100.R.12-09	100	108.4	12	4	50	78	32	1,8	SD../XD.. 0903..	600	
A270.100.R.14-09	100	108.4	14	4	50	78	32	1,8	SD../XD.. 0903..		600
A270.125.R.12-09	125	133.4	12	4	63	88	40	1,8	SD../XD.. 0903..	625	

▲ 50 705 ... Normal pitch for a broad spectrum of use from aluminum alloys and non-ferrous metals to soft steel materials
▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials

CoreLine – Chamfer milling cutter – 272-09

▲ Usable on front and rear cutting edges





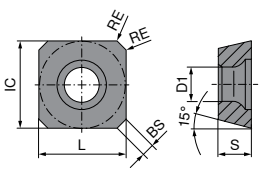


Designation	DC mm	DCX mm	ZNF	APMX mm	DN mm	OAL mm	LH mm	DCONMS mm	Tightening torque Nm	Indexable insert	TO 50 669 ...
C272.06.R.01-09	6	14.4	1	4	10	91	24.0	16	1,2	SD.. 0903..	**10600**
C272.08.R.01-09	8	16.4	1	4	10	91	25.5	16	1,2	SD.. 0903..	**008**
C272.12.R.01-09	12	20.4	1	4	12	91	26.0	16	1,2	SD.. 0903..	**012**
C272.16.R.02-09	16	24.4	2	4	15	97	30.0	20	1,8	SD.. 0903..	**016**
C272.18.R.02-09	18	26.4	2	4	16	97	30.0	20	1,8	SD.. 0903..	**018**
C272.25.R.03-09	25	33.4	3	4	21	109	35.0	25	1,8	SD.. 0903..	**025**

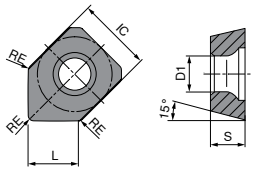
Spare parts **DC**	TORX® interchangeable blade AS **80 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
6 - 12	**033**	**110**	**303**	**365**	**191**
16 - 25	**033**	**110**	**303**	**115**	**191**

SDHW / SDNT / SDHT / XDHW

Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDHW 0903..	9.52	3.4	5.50	1.68	3.18
SD.. 0903..	9.52	3.4	9.52	1.68	3.18



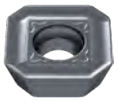
SD..



XDHW

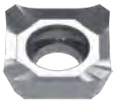
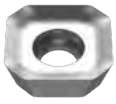
CoreLine – Carbide milling indexable insert

SDHW / SDNT / SDHT

		TCM10	-29 CTCP230	-29 CTPP235	-33 CTPM240	-33P CTPM240	-F50 CTPM245	-F50 CTCM245
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		R	M	M	F	F	F	F
		CERMET						
		SDHW	SDNT	SDNT	SDHT	SDHT	SDHT	SDHT
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	50 428 ...	51 011 ...	51 011 ...	51 028 ...	51 086 ...	51 109 ...	51 109 ...
0903AESN	1	898	020	120	420	420	470	92001
P		●	●	●	○	○	●	●
M				○	●	●	●	●
K		○	○	○				
N								
S								○
H								
O								

CoreLine – Carbide milling indexable insert

SDNT / SDHT

		-31 CTCK215	-F10 CTPX715	-27P H216T	-29 CT-P30
		DRAGONSKIN	DRAGONSKIN		
					
		M SDNT	**F** SDHT	**F** SDHT	**M** SDNT
		IM	IM	IM	CX
ISO	RE mm	**51 029 ...**	**51 160 ...**	**50 426 ...**	**51 294 ...**
0903AEFN	1		**02002**	**548**	
0903AESN	1	**520**			**22006**
P			○		●
M			○		○
K		●	●	○	○
N			●	●	
S			○		
H					
O			○	○	

MaxiMill – Carbide milling indexable insert

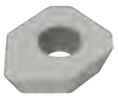
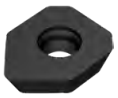
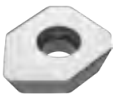
SDHT

		-M31 CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		M SDHT	**F** SDHT
		MA	MA
ISO	RE mm	**50 421 ...**	**51 109 ...**
0903AESN	1	**509**	**57100**
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Wiper inserts

XDHW

▲ Masterfinish indexable insert (wiper insert)

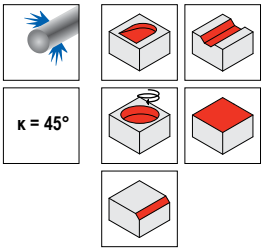
		TCM10	CTCP230	CTPP235	CTCK215	H216T
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
						
		R	R	R	M	F
		CERMET				
		XDHW	XDHW	XDHW	XDHW	XDHW
		IM	IM	IM	IM	IM
ISO	RE mm	50 449 ...	51 015 ...	51 015 ...	51 015 ...	50 449 ...
0903AEEN	1				520	
0903AEFN	1					548
0903AESN	1	898	020	120		
P		●	●	●		
M				○		
K		○	○	○	●	○
N						●
S						
H						
O						○

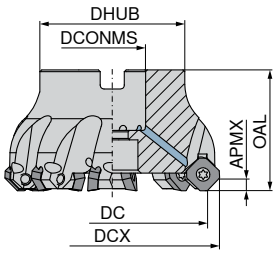
Milling guide

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→ Grade description and overview

CoreLine – Face mills – 270-12

▲ 50 705 ... Normal pitch for a broad spectrum of use on aluminum alloys, non-ferrous metals, up to soft steel materials
▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials







Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS H6 inch	OAL inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 705 ...
A270.200.R.04-12-A075-175-EF	2.000	2.550	4	0.236	0.750	1.750	1.750	10700	5	SD.. 1204..	**20104**
A270.250.R.05-12-A100-200-EF	2.500	3.050	5	0.236	1.000	2.250	2.250	8500	5	SD.. 1204..	**25105**
A270.300.R.06-12-A100-200-EF	3.000	3.550	6	0.236	1.000	2.250	2.250	6700	5	SD.. 1204..	**30106**
A270.400.R.06-12-B125-200-EF	4.000	4.550	6	0.236	1.250	2.750	2.750	5400	5	SD.. 1204..	**40106**
A270.500.R.07-12-B150-200-EF	5.000	5.550	7	0.236	1.500	3.750	3.750	4300	5	SD.. 1204..	**50107**
A270.600.R.08-12-B150-200-EF	6.000	6.660	8	0.236	1.500	3.750	3.750	3500	5	SD.. 1204..	**60108**


Screwdriver

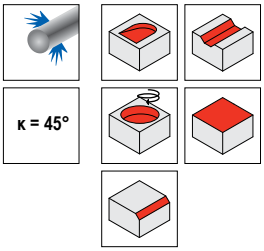

Molykote

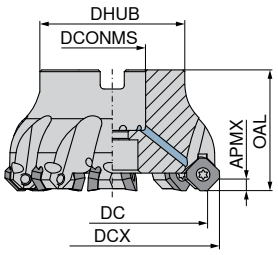

Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
2.000 - 6.000	**106**	**303**	**01200**

CoreLine – Face mills – 270-12

▲ 50 705 ... Normal pitch for a broad spectrum of use from aluminum alloys and non-ferrous metals to soft steel materials
▲ 50 706 ... Predominantly fine pitch for highest feed rates, use on steel and cast materials







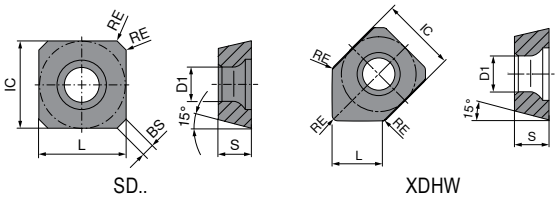
Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS H6 mm	OAL mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 705 ...
A270.40.R.03-12	40	54	3	6	16	40	38	5	SD../XD.. 1204..	**040**
A270.50.R.04-12	50	64	4	6	22	40	43	5	SD../XD.. 1204..	**050**
A270.63.R.04-12	63	77	4	6	22	40	48	5	SD../XD.. 1204..	**063**
A270.80.R.05-12	80	94	5	6	27	50	58	5	SD../XD.. 1204..	**080**
A270.100.R.06-12	100	114	6	6	32	50	78	5	SD../XD.. 1204..	**100**
A270.125.R.07-12	125	139	7	6	40	63	88	5	SD../XD.. 1204..	**125**
A270.160.R.08-12	160	174	8	6	40	63	94	5	SD../XD.. 1204..	**160** [1]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
50 - 160	**037**		**114**		**303**	**01200**	**193**

SDHT / SDHW / SDMT / XDHW

Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDHW 1204..	12.7	5.5	7.5	1.74	4.76
SD.. 1204..	12.7	5.5	12.7	1.74	4.76



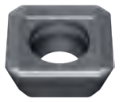
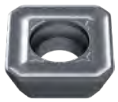
CoreLine – Carbide milling indexable insert

SDHT / SDHW / SDMT

		TCM10	-R TCM10	-29R CTCP230	-R CTCP230	-R CTCP230
				DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		R	R	R	R	R
		CERMET SDHT	CERMET SDHW	SDMT	SDHT	SDHW
		IM	IM	IM	IM	IM
ISO	RE mm	50 426 ...	50 428 ...	51 010 ...	51 006 ...	51 008 ...
1204AESN	0.2	900				
1204AESN	1.0		899	020	020	020
P		●	●	●	●	●
M						
K		○	○	○	○	○
N						
S						
H						
O						

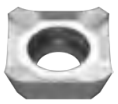
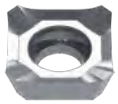
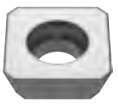
CoreLine – Carbide milling indexable insert

SDMT / SDHT / SDHW

		-29R CTPP235	-R CTPP235	-R CTPP235	-33 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		R	R	R	F	F	F
		SDMT	SDHT	SDHW	SDHT	SDHT	SDHT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 010 ...	51 006 ...	51 008 ...	51 028 ...	51 109 ...	51 109 ...
1204AESN	1	120	120	120	425	475	92501
P		●	●	●	○	●	●
M		○	○	○	●	●	●
K		○	○	○			
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

SDMT / SDHW / SDHT

		-31 CTCK215	-R CTCK215	-27 H216T	-F10 CTPX715	-27P H216T	H216T
		DRAGONSKIN	DRAGONSKIN		DRAGONSKIN		
							
		M	R	F	F	F	M
		SDMT	SDHW	SDHT	SDHT	SDHT	SDHW
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 059 ...	51 008 ...	50 426 ...	51 160 ...	50 426 ...	50 428 ...
1204AEEN	1.0	520	520				
1204AEFN	0.2			504	02502		
1204AEFN	1.0					554	
1204AESN	0.2						600
P					○		
M					○		
K		●	●	○	●	○	○
N				●	●	●	●
S					○		
H							
O				○	○	○	○

MaxiMill – Carbide milling indexable insert

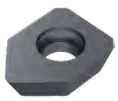
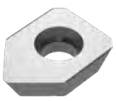
SDHT

		-M31 CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		M SDHT	**F** SDHT
		MA	MA
ISO	RE mm	**50 421 ...**	**51 109 ...**
1204AESN	1	**512**	**57600**
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Wiper inserts

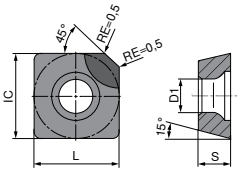
XDHW

▲ Masterfinish indexable insert (wiper insert)

		TCM10	CTCP230	CTPP235	CTCK215	H216T
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
						
		CERMET XDHW	XDHW	XDHW	XDHW	XDHW
		IM	IM	IM	IM	IM
ISO	RE mm	**50 449 ...**	**51 015 ...**	**51 015 ...**	**51 015 ...**	**50 449 ...**
1204AEEN	1				**525**	
1204AEFN	1					**600**
1204AESN	1	**900**	**025**	**125**		
P		●	●	●		
M				○		
K		○	○	○	●	○
N						●
S						
H						
O						○

SDHW

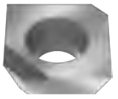
Designation	IC mm	D1 mm	L mm	S mm
SDHW 1204..	12.7	5.5	12.7	4.76



SDHW

CoreLine – PcBN milling indexable insert

SDHW

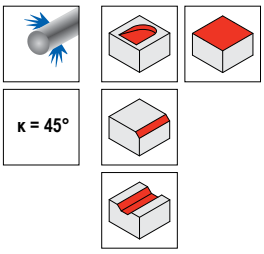
ISO	CTDPS30	CTBS10U
		
	F DIAMOND SDHW	F CBN SDHW
	PC 51 900 ...	PC 51 900 ...
1204AEFN-2	100 [1]	
1204AEFN-3	102 [2]	
1204AETN-2		300 [1]
P		
M		
K		●
N	●	
S		
H		○
O		

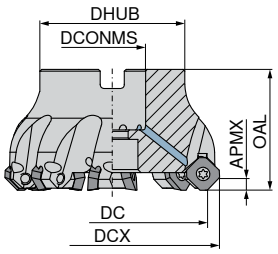
1) $a_{p\,max.}$ = 2.0 mm
2) $a_{p\,max.}$ = 3.5 mm

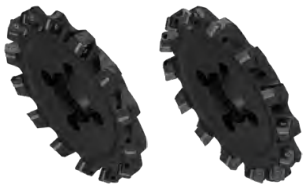
Milling guide

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CoreLine – Face mills – 270-19







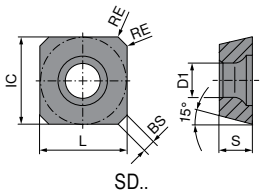
										Left	Right
										TO	TO
Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS $_{H6}$ mm	OAL mm	DHUB mm	Tightening torque Nm	Indexable insert	**50 698 ...**	**50 698 ...**
A270.125.R.07-19	125	146.4	7	10	40	63	88	5	SD.. 1907..		**12507**
A270.160.R.09-19	160	181.4	9	10	40	63	104	5	SD.. 1907..		**16009** [1]
A270.200.R.11-19	200	221.1	11	10	60	63	134	5	SD.. 1907..		**20011** [2]
A270.250.L.14-19	250	271.4	14	10	60	63	134	5	SD.. 1907..	**75014** [2]	
A270.250.R.14-19	250	271.4	14	10	60	63	134	5	SD.. 1907..		**25014** [2]
A270.315.L.17-19	315	336.4	17	10	60	63	226	5	SD.. 1907..	**81517** [4]	
A270.315.R.17-19	315	336.4	17	10	60	63	226	5	SD.. 1907..		**31517** [3]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply
2) With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm / Without through coolant supply
3) With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm and with 4 threaded holes M20 on the front face, pitch circle diameter = 177.8 mm / Without through coolant supply
4) With 4 threaded holes M16 on the front face, pitch circle diameter = 101.6 mm and with 4 threaded holes M20 on the front face, pitch circle diameter = 177.8 mm

	TORX® interchangeable blade	 Screwdriver	 Molykote	 Clamping screw	 Carbide seat S	 Threaded bush	 Torque screwdriver
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**80 950 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
125 - 315	**037**	**114**	**303**	**302**	**01500**	**01400**	**193**

SDKT

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
SDKT 1907..	19.15	6	19.15	1.5	7.15	15



SD..

CoreLine – Carbide milling indexable insert

SDKT

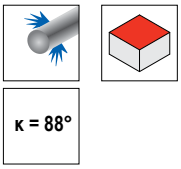
	-M50 CTCP220	-R50 CTPP225	-R50 CTCP230	-M50 CTPP235	-R50 CTPP235	-R50 CTPM225	-R50 CTCK215
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	M SDKT	R SDKT	R SDKT	M SDKT	R SDKT	R SDKT	R SDKT
	IM	IM	IM	IM	IM	IM	IM
ISO / RE mm	51 131 ...	51 132 ...	51 132 ...	51 131 ...	51 132 ...	51 132 ...	51 132 ...
1907AESN 1.6	22001	07000	02100	12000	12300	22200	52000
P	●	●	●	●	●	●	
M				○	○	●	
K			○	○	○		●
N							
S							
H							
O							

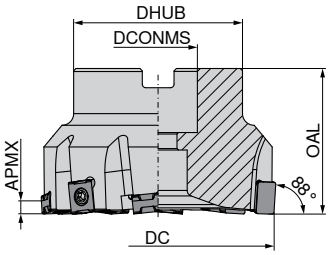
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MaxiMill – Face mills – HEC 11

▲ Not adjustable





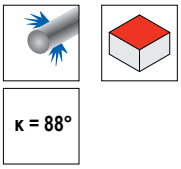


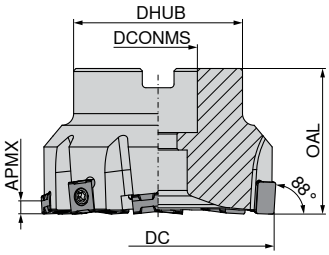
Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	TO 58 725 ...
AHEC.200.R.06-11-A075-175-EF	2.000	6	0.157	1.750	1.750	0.750	12700	3,2	**20006**
AHEC.250.R.08-11-A100-175-EF	2.500	8	0.157	2.250	2.250	1.000	10100	3,2	**25008**
AHEC.300.R.10-11-A100-200-EF	3.000	10	0.157	2.250	2.250	1.000	8000	3,2	**30010**
AHEC.400.R.12-11-B150-200-EF	4.000	12	0.157	3.750	3.750	1.500	6400	3,2	**40012**
AHEC.500.R.16-11-B150-225-EF	5.000	16	0.157	3.750	3.750	1.500	5100	3,2	**50016**
AHEC.600.R.14-11-B150-250-EF	6.000	14	0.157	3.750	3.750	1.500	4000	3,2	**60014**
AHEC.600.R.20-11-A200-250-EF	6.000	20	0.157	2.500	4.882	2.000	4000	3,2	**60020**
AHEC.800.R.20-11-A250-250-EF	8.000	20	0.157	6.890	6.890	2.500	2600	3,2	**80020**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Wedge AS 70 950 ...	 Torque screwdriver AS 80 950 ...
2.000 - 8.000	**036**	**303**	**113**	**199**	**193**

MaxiMill – Face mills – HEC 11

▲ Not adjustable





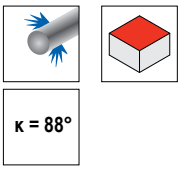


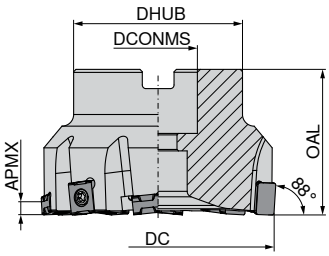
Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 725 ...
AHEC.50.R.06-11	50	6	6	40	48	22	12700	3,2	LNHX 1106	**050**
AHEC.63.R.08-11	63	8	6	40	48	22	10100	3,2	LNHX 1106	**063**
AHEC.80.R.10-11	80	10	6	50	58	27	8000	3,2	LNHX 1106	**080**
AHEC.100.R.12-11	100	12	6	50	78	32	6400	3,2	LNHX 1106	**100**
AHEC.125.R.12-11	125	12	6	63	88	40	5100	3,2	LNHX 1106	**125**
AHEC.125.R.16-11	125	16	6	63	88	40	5100	3,2	LNHX 1106	**12516**
AHEC.160.R.20-11	160	20	6	63	100	40	4000	3,2	LNHX 1106	**160** [1)]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

MaxiMill – Face mills – HEC 11

▲ With irregular pitch, not adjustable







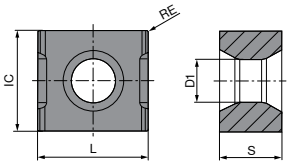
Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 733 ...
AHEC.50.R.04B-11	50	4	6	40	48	22	12700	3,2	LNHX 1106	**550**
AHEC.63.R.06B-11	63	6	6	40	48	22	10100	3,2	LNHX 1106	**563**
AHEC.80.R.08B-11	80	8	6	50	58	27	8000	3,2	LNHX 1106	**580**
AHEC.100.R.10B-11	100	10	6	50	78	32	6400	3,2	LNHX 1106	**600**
AHEC.125.R.12B-11	125	12	6	63	88	40	5100	3,2	LNHX 1106	**625**
AHEC.160.R.14B-11	160	14	6	63	100	40	4000	3,2	LNHX 1106	**660** [1)]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Molykote AS 70 950 ...	 Coolant disc AS 70 950 ...	 Clamping screw AS 70 950 ...	 Wedge AS 70 950 ...	 Torque screwdriver AS 80 950 ...
50 - 63	**036**	**303**	**852**	**113**		**193**
80	**036**	**303**	**853**	**113**	**199**	**193**
100	**036**	**303**	**854**	**113**		**193**
125	**036**	**303**	**855**	**113**		**193**
160	**036**	**303**		**113**		**193**

LNHX

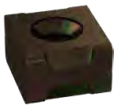
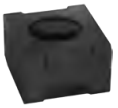
Designation	IC mm	D1 mm	L mm	S mm
LNHX 1106..	10	4.27	11	6.35



LNHX

MaxiMill – Carbide milling indexable insert

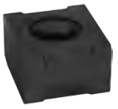
LNHX

		CTEP210	CTCK215	-R50 CTCK215	-Q CTCK215
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		CERMET LNHX	LNHX	LNHX	LNHX
		IM	MA	MA	MA
ISO	RE mm	**51 046 ...**	**51 046 ...**	**51 024 ...**	**51 045 ...**
1106PNER	0.5		**520**	**520**	
1106ZZER	0.5				**520** [1]
1106PNER	0.8	**820**			
110616EN	1.6		**51600**		
P		●			
M					
K		●	●	●	●
N					
S					
H					
O					

1) -Q = Wiper insert

MaxiMill – PcBN milling indexable insert

LNHX

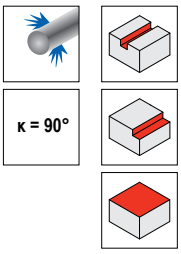
		CTPK220	-R50 CTPK220	CTN3105	CTL3215	-Q CTL3215
		DRAGONSKIN	DRAGONSKIN			
						
		LNHX	LNHX	**CERAMIC** LNHX	**CBN** LNHX	**CBN** LNHX
		MA	MA	IC	PC	PC
ISO	RE mm	**51 046 ...**	**51 024 ...**	**50 500 ...**	**51 046 ...**	**51 045 ...**
110608EN	0.8		**608**			
1106PNER	0.5	**620**	**620**			
1106PNSR	0.5			**904**	**87200**	
1106ZZER	0.5					**87000** [1]
P						
M						
K		●	●	●	●	●
N						
S						
H					○	○
O						

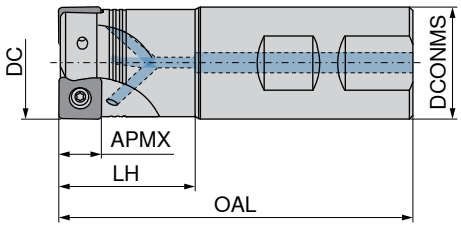
1) -Q = Wiper insert

Milling guide

→ Cutting data standard values
→ Assembly instructions
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – 491-09



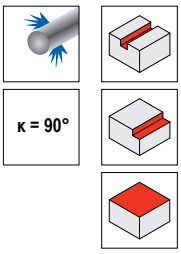


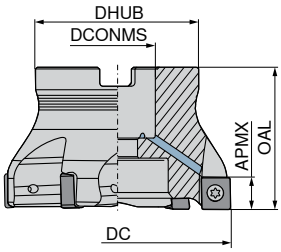


Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 774 ...	TO 58 774 ...
C491.100.R.03-09-B-125-EF	1.000	3	0.236	3.600	1.250	1.000	17125	2	SNHU 09T3		**30003**
C491.100.R.03-09-A-200-EF-800	1.000	3	0.236	8.000	2.000	1.000	17125	2	SNHU 09T3	**10003**	
C491.125.R.03-09-B-150-EF	1.250	3	0.236	4.000	1.500	1.250	13700	2	SNHU 09T3		**32503**
C491.125.R.04-09-B-150-EF	1.250	4	0.236	4.000	1.500	1.250	13700	2	SNHU 09T3		**32504**
C491.125.R.03-09-A-250-EF-1000	1.250	3	0.236	10.000	2.500	1.250	13700	2	SNHU 09T3	**12503**	
C491.125.R.04-09-A-250-EF-1000	1.250	4	0.236	10.000	2.500	1.250	13700	2	SNHU 09T3	**12504**	

Spare parts DC	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.000 - 1.250	**119**	**303**	**710**

CoreLine – Face mills – 491-09







Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS $_{H6}$ inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 776 ...	TO 58 775 ...
A491.150.R.03-09-A050-175-EF	1.500	3	0.236	1.750	1.421	0.500	11900	2	SNHU 09T3	**15003**	
A491.150.R.05-09-A050-175-EF	1.500	5	0.236	1.750	1.421	0.500	11900	2	SNHU 09T3		**15005**
A491.200.R.04.09-A075-175-EF	2.000	4	0.236	1.750	1.750	0.750	9700	2	SNHU 09T3	**20004**	
A491.200.R.06-09-A075-175-EF	2.000	6	0.236	1.750	1.750	0.750	9700	2	SNHU 09T3		**20006**
A491.250.R.05-09-A100-200-EF	2.500	5	0.236	2.000	2.250	1.000	8500	2	SNHU 09T3	**25005**	
A491.250.R.08-09-A100-200-EF	2.500	8	0.236	2.000	2.250	1.000	8500	2	SNHU 09T3		**25008**
	3.000	6	0.236	2.000	2.250	1.000	7600	2	SNHU 09T3	**30006**	
A491.300.R.10-09-A100-200-EF	3.000	10	0.236	2.000	2.250	1.000	7600	2	SNHU 09T3		**30010**
A491.400.R.07-09-A125-200-EF	4.000	7	0.236	2.000	2.750	1.250	6400	2	SNHU 09T3	**40007**	
A491.400.R.12-09-A125-200-EF	4.000	12	0.236	2.000	2.750	1.250	6400	2	SNHU 09T3		**40012**
A491.500.R.08-09-B150-200-EF	5.000	8	0.236	2.000	3.750	1.500	5700	2	SNHU 09T3	**50008**	
A491.500.R.15-09-B150-200-EF	5.000	15	0.236	2.000	3.750	1.500	5700	2	SNHU 09T3		**50015**

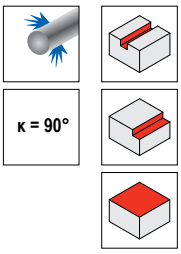

Screwdriver

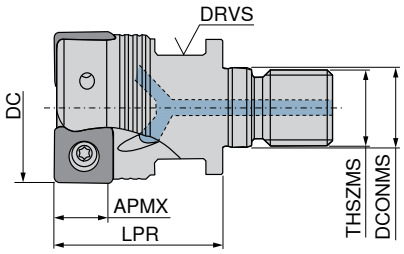

Molykote


Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
1.500 - 5.000	**119**	**303**	**710**

CoreLine – Screw-in cutter – 491-09

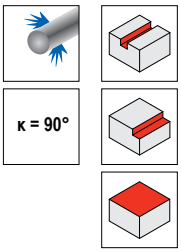


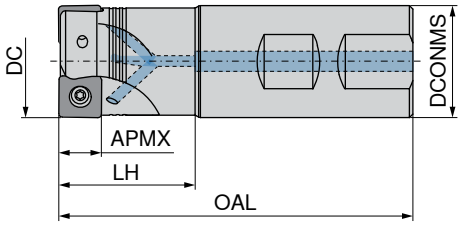




Designation	DC mm	ZNF	APMX mm	LPR mm	THSZMS	DCONMS mm	DRVS mm	Tightening torque Nm	Indexable insert	TO 50 773 ...
G491.25.R.03-09	25	3	6	35	M12	12.5	17	2	SNHU 09T3	125
G491.32.R.03-09	32	3	6	35	M16	17.0	24	2	SNHU 09T3	132
G491.32.R.04-09	32	4	6	35	M16	17.0	24	2	SNHU 09T3	232

CoreLine – End mills – 491-09



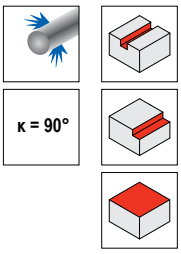


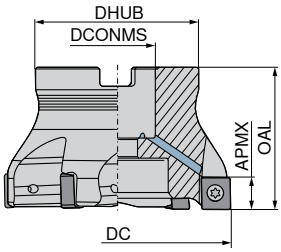


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 774 ...	TO 50 774 ...
C491.25.R.03-09-B-32	25	3	6	89	32	25	23500	2	SNHU 09T3		425
C491.25.R.03-09-A-50-225	25	3	6	225	50	25	23500	2	SNHU 09T3	325	
C491.32.R.03-09-B-40	32	3	6	101	40	32	19600	2	SNHU 09T3		632
C491.32.R.04-09-B-40	32	4	6	101	40	32	19600	2	SNHU 09T3		432
C491.32.R.03-09-A-63-250	32	3	6	250	63	32	19600	2	SNHU 09T3	532	
C491.32.R.04-09-A-63-250	32	4	6	250	63	32	19600	2	SNHU 09T3	332	

Spare parts DC	TORX® interchangeable blade	 Screwdriver	 Molykote	 Clamping screw	 Torque screwdriver
	AS 80 950 ...	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...	AS 80 950 ...
25 - 32	053	119	303	710	193

CoreLine – Face mills – 491-09





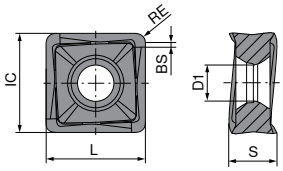


Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 776 ...	TO 50 775 ...
A491.40.R.03-09	40	3	6	40	38	16	16800	2	SNHU 09T3		240
A491.40.R.05-09	40	5	6	40	38	16	16800	2	SNHU 09T3	240	
A491.50.R.04-09	50	4	6	40	43	22	14600	2	SNHU 09T3		250
A491.50.R.06-09	50	6	6	40	43	22	14600	2	SNHU 09T3	250	
A491.63.R.05-09	63	5	6	40	48	22	12700	2	SNHU 09T3		263
A491.63.R.08-09	63	8	6	40	48	22	12700	2	SNHU 09T3	263	
A491.80.R.06-09	80	6	6	50	58	27	11100	2	SNHU 09T3		280
A491.80.R.10-09	80	10	6	50	58	27	11100	2	SNHU 09T3	280	
A491.100.R.07-09	100	7	6	50	78	32	9800	2	SNHU 09T3		300
A491.100.R.12-09	100	12	6	50	78	32	9800	2	SNHU 09T3	300	
A491.125.R.08-09	125	8	6	63	88	40	8700	2	SNHU 09T3		325
A491.125.R.15-09	125	15	6	63	88	40	8700	2	SNHU 09T3	325	

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40	053	040	119	151	303	710	193
50 - 125	053		119		303	710	193

SNHU

Designation	IC mm	L mm	S mm	D1 mm
SNHU 09T3..	9.15	9.15	3.7	3.85



CoreLine – Carbide milling indexable insert

SNHU

		-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	-F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 SNHU	 SNHU	 SNHU	 SNHU	 SNHU	 SNHU
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 120 ...	51 120 ...	51 119 ...	51 120 ...	51 126 ...	51 126 ...
09T308ER	0.8					45800	90801
09T308SR	0.8	008	108	408	408		
09T312SR	1.2	01200	11200	41200	41200		
09T316SR	1.6	01600	11600	41600	41600		
P		●	●	○	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

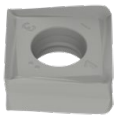
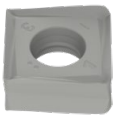
CoreLine – Carbide milling indexable insert

SNHU

ISO	RE mm	-R50 CTCK215	-R50 CTPK220	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN		DRAGONSKIN	
		 SNHU	 SNHU	 SNHU	 SNHU
		IM	IM	IM	IM
		51 121 ...	51 121 ...	51 118 ...	51 118 ...
09T308FR	0.8			00802	358
09T308SR	0.8	508	60800		
09T312FR	1.2				36200
09T312SR	1.2	51200			
09T316FR	1.6				36600
09T316SR	1.6	51600			
P				○	
M				○	
K		●	●	●	○
N				●	●
S				○	
H					
O				○	○

MaxiMill – Carbide milling indexable insert

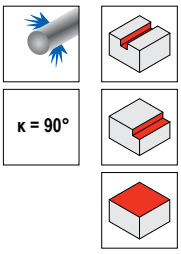
SNHU

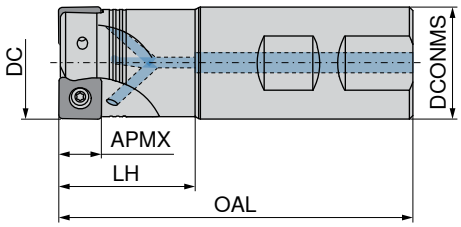
ISO	RE mm	-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
		 SNHU	 SNHU
		MA	MA
		51 126 ...	51 126 ...
09T308ER	0.8	15800	55800
P			
M			
K			
N			
S		●	●
H			
O			

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – 491-12







Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 774 ...	TO 58 774 ...
C491.125.R.02-12-B-150-EF	1.250	2	0.315	4.000	1.500	1.250	13700	3,2	SNHU 1204		**52502**
C491.125.R.02-12-A-250-EF-1000	1.250	2	0.315	10.000	2.500	1.250	13700	3,2	SNHU 1204	**42502**	

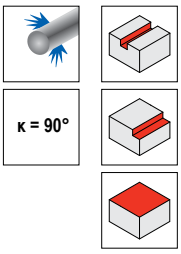

Screwdriver

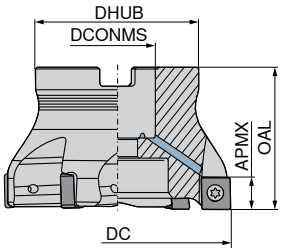

Molykote


Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
1.250	**120**	**303**	**859**

CoreLine – Face mills – 491-12







Designation	DC inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 776 ...	TO 58 775 ...
A491.150.R.03-12-A050-175-EF	1.500	3	0.315	1.420	1.420	0.500	11900	3,2	SNHU 1204	**15103**	
A491.200.R.04-12-A075-175-EF	2.000	4	0.315	1.750	1.750	0.750	9700	3,2	SNHU 1204	**20104**	
A491.200.R.05-12-A075-175-EF	2.000	5	0.315	1.750	1.750	0.750	9700	3,2	SNHU 1204		**20105**
A491.250.R.05-12-A100-200-EF	2.500	5	0.315	2.250	2.250	1.000	8500	3,2	SNHU 1204	**25105**	
A491.250.R.06-12-A100-200-EF	2.500	6	0.315	2.250	2.250	1.000	8500	3,2	SNHU 1204		**25106**
A491.300.R.06-12-A100-200-EF	3.000	6	0.315	2.250	2.250	1.000	7600	3,2	SNHU 1204	**30106**	
A491.300.R.08-12-A100-200-EF	3.000	8	0.315	2.250	2.250	1.000	7600	3,2	SNHU 1204		**30108**
A491.400.R.07-12-A125-200-EF	4.000	7	0.315	2.750	2.750	1.250	6400	3,2	SNHU 1204	**40107**	
A491.400.R.10-12-A125-200-EF	4.000	10	0.315	2.750	2.750	1.250	6400	3,2	SNHU 1204		**40110**
A491.500.R.08-12-B150-200-EF	5.000	8	0.315	3.750	3.750	1.500	5700	3,2	SNHU 1204	**50108**	
A491.500.R.12-12-B150-200-EF	5.000	12	0.315	3.750	3.750	1.500	5700	3,2	SNHU 1204		**50112**
A491.600.R.09-12-B150-200-EF	6.000	9	0.315	3.750	3.750	1.500	5100	3,2	SNHU 1204	**60109**	
A491.600.R.13-12-B150-200-EF	6.000	13	0.315	3.750	3.750	1.500	5100	3,2	SNHU 1204		**60113**

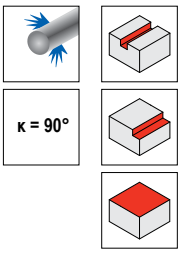

Screwdriver

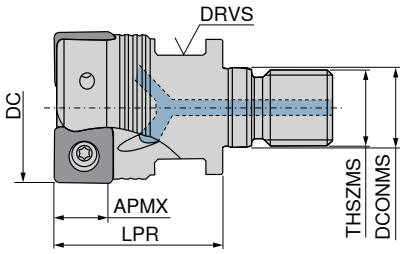

Molykote


Clamping screw

Spare parts DC	Screwdriver AS 80 950 ...	Molykote AS 70 950 ...	Clamping screw AS 70 950 ...
1.500 - 6.000	**120**	**303**	**859**

CoreLine – Screw-in cutter – 491-12

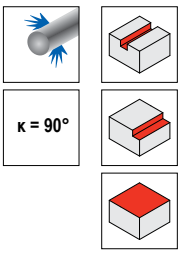


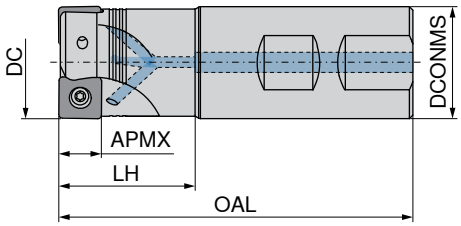




Designation	DC mm	ZNF	APMX mm	LPR mm	THSZMS	DCONMS mm	DRVS mm	Tightening torque Nm	Indexable insert	TO 50 773 ...
G491.32.R.02-12	32	2	8	35	M16	17	24	3,2	SNHU 1204	**032**

CoreLine – End mills – 491-12





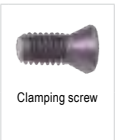


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS h6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 774 ...	TO 50 774 ...
C491.32.R.02-12-B-40	32	2	8	102	40	32	13600	3,2	SNHU 1204		**032**
C491.32.R.02-12-A-63-250	32	2	8	250	63	32	10200	3,2	SNHU 1204	**232**	





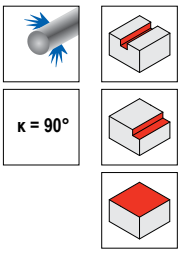


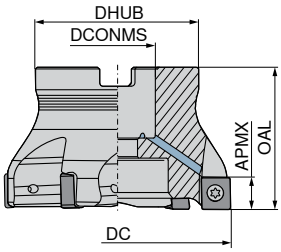




Spare parts DC	AS 80 950 ...	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...	AS 80 950 ...
32	**054**	**120**	**303**	**859**	**193**

CoreLine – Face mills – 491-12







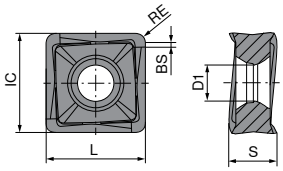
Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 776 ...	TO 50 775 ...
A491.40.R.03-12	40	3	8	40	38	16	11500	3,2	SNHU 1204		**040**
A491.40.R.04-12	40	4	8	40	38	16	11500	3,2	SNHU 1204	**040**	
A491.50.R.04-12	50	4	8	40	43	22	9800	3,2	SNHU 1204		**050**
A491.50.R.05-12	50	5	8	40	43	22	9800	3,2	SNHU 1204	**050**	
A491.63.R.05-12	63	5	8	40	48	22	8500	3,2	SNHU 1204		**063**
A491.63.R.06-12	63	6	8	40	48	22	8500	3,2	SNHU 1204	**063**	
A491.80.R.06-12	80	6	8	50	58	27	7400	3,2	SNHU 1204		**080**
A491.80.R.08-12	80	8	8	50	58	27	7400	3,2	SNHU 1204	**080**	
A491.100.R.07-12	100	7	8	50	78	32	6500	3,2	SNHU 1204		**100**
A491.100.R.10-12	100	10	8	50	78	32	6500	3,2	SNHU 1204	**100**	
A491.125.R.08-12	125	8	8	63	88	40	5700	3,2	SNHU 1204		**125**
A491.125.R.12-12	125	12	8	63	88	40	5700	3,2	SNHU 1204	**125**	
A491.160.R.09-12	160	9	8	63	98	40	5000	3,2	SNHU 1204		**160** [1)]
A491.160.R.14-12	160	14	8	63	98	40	5000	3,2	SNHU 1204	**160** [1)]	

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

	TORX® interchangeable blade	 Clamping key T	 Screwdriver	 Power screw	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**80 950 ...**	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
40	**054**	**040**	**120**	**151**	**303**	**859**	**193**
50 - 160	**054**		**120**		**303**	**859**	**193**

SNHU

Designation	IC mm	L mm	S mm	D1 mm
SNHU 1204..	12.2	12.2	5.0	4.4



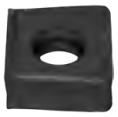
CoreLine – Carbide milling indexable insert

SNHU

		-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	-F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
		 SNHU	 SNHU	 SNHU	 SNHU	 SNHU	 SNHU
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 100 ...	51 100 ...	51 102 ...	51 100 ...	51 128 ...	51 128 ...
120408ER	0.8					45800	90801
120408SR	0.8	008	108	408	408		
120412SR	1.2		112	412			
120416SR	1.6		116	416			
120420SR	2.0		120	420			
P		●	●	○	○	●	●
M			○	●	●	●	●
K		○	○				
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

SNHU

		-R50 CTCK215	-R50 CTPK220	-F10 CTPX715	-F10 CTWN215
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
		SNHU	SNHU	SNHU	SNHU
		IM	IM	IM	IM
ISO	RE mm	51 103 ...	51 103 ...	51 101 ...	51 101 ...
120408FR	0.8			00802	358
120408SR	0.8	508	608		
120412FR	1.2				362
120412SR	1.2	512			
120416FR	1.6				366
120416SR	1.6	516			
120420FR	2.0				370
120420SR	2.0	520			
P				○	
M				○	
K		●	●	●	○
N				●	●
S				○	
H					
O				○	○

MaxiMill – Carbide milling indexable insert

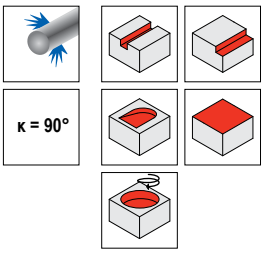
SNHU

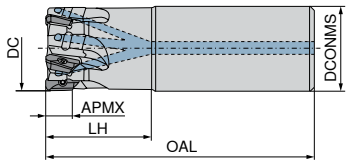
		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		SNHU	SNHU
		MA	MA
ISO	RE mm	51 128 ...	51 128 ...
120408ER	0.8	15800	55800
P			
M			
K			
N			
S		●	●
H			
O			

Milling guide

→ Cutting data standard values
→ Technical information
→ Grade description and overview
→ Starting parameters
→ Chip breaker descriptions and overview

CoreLine – End mills – 211-07

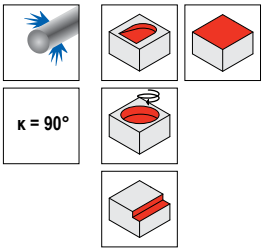


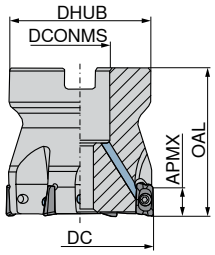




Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 752 ...
C211.0375.R.01-07-A-0750-EF	0.375	1	0.236	3.000	0.750	0.375	68000	1	XD.T 0703	**03701**
C211.0500.R.02-07-A-0750-EF	0.500	2	0.236	3.000	0.750	0.500	66600	1	XD.T 0703	**05002**
C211.0625.R.03-07-A-125-EF-650	0.625	3	0.236	6.500	1.250	0.625	17760	1	XD.T 0703	**06203**
C211.0750.R.04-07-A-150-EF-800	0.750	4	0.236	8.000	1.500	0.750	12600	1	XD.T 0703	**07504**
C211.100.R.06-07-A0875-125-EF	1.000	6	0.236	3.500	1.250	0.875	39840	1	XD.T 0703	**10006**
C211.125.R.08-07-A100-150-EF	1.250	8	0.236	3.500	1.500	1.000	36240	1	XD.T 0703	**12508**

CoreLine – Face mills – 211-07







Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	RPMX 1/min.	Indexable insert	TO 58 753 ...
A211.150.R.08-07-A050-175-EF	1.500	8	0.236	1.420	0.500	1.420	33240	XD.T 0703	**15008**
A211.200.R.10-07-A075-175-EF	2.000	10	0.236	1.750	0.750	1.750	30480	XD.T 0703	**20010**

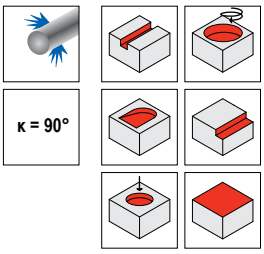

Screwdriver

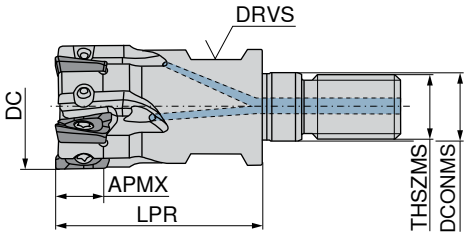

Molykote


Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
0.375 - 2.000	**117**	**303**	**137**

CoreLine – Screw-in cutter – 211-07

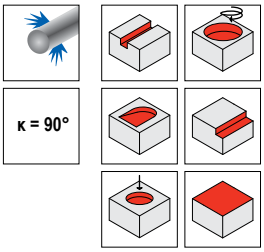


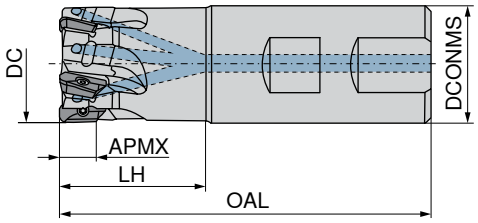




Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 751 ...
G211.16.R.04-07	16	4	6	27	8.5	M8	10	50400	1	XD.T 0703	**016**
G211.20.R.05-07	20	5	6	33	10.5	M10	15	44280	1	XD.T 0703	**020**
G211.25.R.06-07	25	6	6	35	12.5	M12	17	39480	1	XD.T 0703	**025**
G211.32.R.08-07	32	8	6	35	17.0	M16	24	36240	1	XD.T 0703	**032**

CoreLine – End mills – 211-07

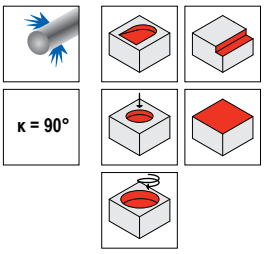


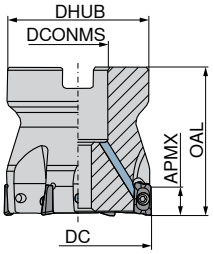




Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 752 ...	TO 50 752 ...
C211.10.R.01-07-A-20	10	1	6	61.0	20	10	72000	1	XD.T 0703	**010**	
C211.12.R.02-07-A-20	12	2	6	66.5	20	12	66600	1	XD.T 0703	**012**	
C211.16.R.04-07-A/B-25	16	4	6	74.5	25	16	50400	1	XD.T 0703	**016**	**216**
C211.16.R.03-07-A-32-165	16	3	6	165.0	32	16	17760	1	XD.T 0703	**116**	
C211.20.R.05-07-A/B-25	20	5	6	77.0	25	20	44280	1	XD.T 0703	**020**	**220**
C211.20.R.04-07-A-40-200	20	4	6	200.0	40	20	12600	1	XD.T 0703	**120**	
C211.25.R.06-07-A/B20-32	25	6	6	84.0	32	20	39840	1	XD.T 0703	**025**	**225**
C211.25.R.05-07-A20-50-225	25	5	6	225.0	50	20	11280	1	XD.T 0703	**125**	
C211.32.R.08-07-A/B25-40	32	8	6	98.0	40	25	36240	1	XD.T 0703	**032**	**232**

CoreLine – Face mills – 211-07





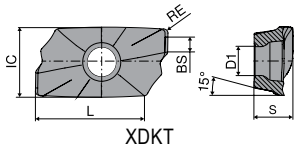


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 753 ...	TO 50 754 ...
A211.32.R.06-07	32	6	6	40	16	38	36240	1	XD.T 0703	**032**	
A211.32.R.08-07	32	8	6	40	16	38	36240	1	XD.T 0703		**032**
A211.40.R.08-07	40	8	6	40	16	38	33240	1	XD.T 0703	**040**	
A211.40.R.10-07	40	10	6	40	16	38	33240	1	XD.T 0703		**040**
A211.50.R.10-07	50	10	6	40	22	43	30480	1	XD.T 0703	**050**	
A211.50.R.12-07	50	12	6	40	22	43	30480	1	XD.T 0703		**050**

	TORX® interchangeable blade	 Clamping key T	 Screwdriver	 Power screw	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**80 950 ...**	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
10 - 32	**051**		**117**		**303**	**137**	**191**
32	**051**	**040**	**117**	**151**	**303**	**137**	**191**
40 - 50	**051**		**117**		**303**	**137**	**191**

XDKT

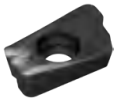
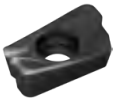
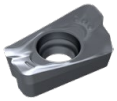
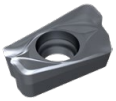
Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDKT 0703..	4.9	2.5	7.8	1.2	3.18



XDKT

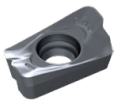
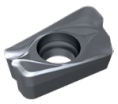
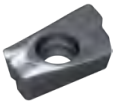
CoreLine – Carbide milling indexable insert

XDKT

	-F50 CTCP230	-M50 CTCP230	-F50 CTPP235	-M50 CTPP235
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F XDKT	M XDKT	F XDKT	M XDKT
ISO / RE mm	IM 51 033 ...	IM 51 036 ...	IM 51 033 ...	IM 51 036 ...
070304SR 0.4	004	004	104	104
070308SR 0.8	008	008	108	108
P	●	●	●	●
M			○	○
K	○	○	○	○
N				
S				
H				
O				

CoreLine – Carbide milling indexable insert

XDKT

	-F50 CTPM240	-M50 CTPM240	-F40 CTPM245	-F40 CTCM245	-F20 CTWN215
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
	F XDKT	M XDKT	F XDKT	F XDKT	F XDKT
ISO / RE mm	IM 51 033 ...	IM 51 036 ...	IM 51 112 ...	IM 51 112 ...	IM 50 507 ...
070304ER 0.4			454	90401	
070304FR 0.4					504
070304SR 0.4	404	404			
070308ER 0.8			458	90801	
070308FR 0.8					508
070308SR 0.8	408	408			
P	○	○	●	●	
M	●	●	●	●	
K					○
N					●
S				○	
H					
O					○

MaxiMill – Carbide milling indexable insert

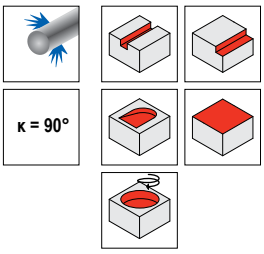
XDKT

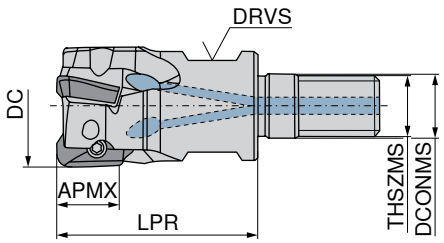
		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		F XDKT	F XDKT
		MA	MA
ISO	RE mm	50 498 ...	51 112 ...
070304ER	0.4	544	
070308ER	0.8	548	558
P			
M			
K			
N			
S		●	●
H			
O			

Milling guide

→ Cutting data standard values
→ Machining strategy
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Screw-in cutter – 211-11





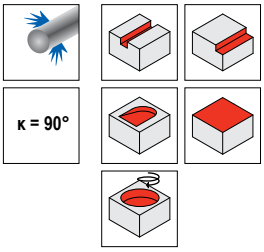


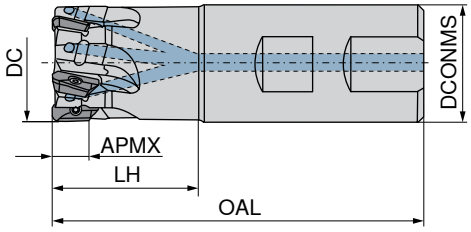
Designation	DC inch	ZNF	APMX inch	LPR inch	DCONMS inch	THSZMS	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 736 ...
G211.0625.R.02-11-125-F	0.625	2	0.394	1.250	0.335	M8	42000	1,6	XD.T 11T3	**06202** [1]
G211.0750.R.03-11-118-F	0.750	3	0.394	1.118	0.492	M10	36900	1,6	XD.T 11T3	**07503**
G211.100.R.04-11-150-F	1.000	4	0.394	1.500	0.492	M12	33200	1,6	XD.T 11T3	**10004**
G211.125.R.05-11-150-F	1.250	5	0.394	1.500	0.669	M16	30200	1,6	XD.T 11T3	**12505**

1) Not in stock

CoreLine – End mills – 211-11

▲ Insert radius > 0.063": Modify cutter body







Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS $_{h6}$ inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 737 ...	TO 58 737 ...
C211.0625.R.02-11-B-100-EF	0.625	2	0.394	3.250	1.000	0.625	42000	1,6	XD.T 11T3		**26202**
C211.0625.R.02-11-A-125-EF-650	0.625	2	0.394	6.500	1.250	0.625	14800	1,6	XD.T 11T3	**06202**	
C211.0750.R.03-11-B-100-EF	0.750	3	0.394	3.500	1.000	0.750	36900	1,6	XD.T 11T3		**27503**
C211.0750.R.03-11-A-125-EF-650	0.750	3	0.394	6.500	1.250	0.750	15800	1,6	XD.T 11T3	**07503**	
C211.100.R.04-11-B-125-EF	1.000	4	0.394	3.500	1.250	1.000	33200	1,6	XD.T 11T3		**30004**
C211.100.R.04-11-A-150-EF-650	1.000	4	0.394	6.500	1.500	1.000	19900	1,6	XD.T 11T3	**10004**	
C211.125.R.05-11-B100-150-EF	1.250	5	0.394	3.750	1.500	1.000	30200	1,6	XD.T 11T3		**32505**
C211.125.R.05-11-A100-200-EF-650	1.250	5	0.394	6.500	2.000	1.000	20900	1,6	XD.T 11T3	**12505**	
C211.150.R.06-11-B-200-EF	1.500	6	0.394	4.000	2.000	1.250	27700	1,6	XD.T 11T3		**35006**

Screwdriver

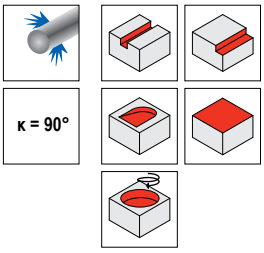

Molykote

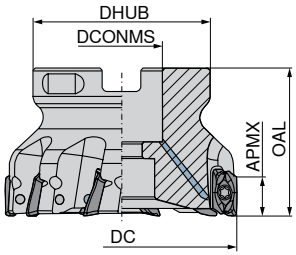

Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
0.625 - 1.250	**039**	**303**	**128**
1.500	**039**	**303**	**131**

CoreLine – Face mills – 211-11

▲ Insert radius > 0.063": Modify cutter body







Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 738 ...	TO 58 739 ...
A211.150.R.04-11-A050-175-EF	1.500	4	0.394	1.420	0.500	1.420	27700	1,6	XD.T 11T3	**15004**	
A211.150.R.06-11-A050-175-EF	1.500	6	0.394	1.420	0.500	1.420	27700	1,6	XD.T 11T3		**15006**
A211.200.R.05-11-A075-175-EF	2.000	5	0.394	1.750	0.750	1.750	25400	1,6	XD.T 11T3	**20005**	
A211.200.R.08-11-A075-175-EF	2.000	8	0.394	1.750	0.750	1.750	25400	1,6	XD.T 11T3		**20008**
A211.250.R.06-11-A100-200-EF	2.500	6	0.394	2.250	1.000	2.250	23300	1,6	XD.T 11T3	**25006**	
A211.250.R.10-11-A100-200-EF	2.500	10	0.394	2.250	1.000	2.250	23300	1,6	XD.T 11T3		**25010**
A211.300.R.07-11-A100-200-EF	3.000	7	0.394	2.250	1.000	2.250	21300	1,6	XD.T 11T3	**30007**	
A211.300.R.12-11-A100-200-EF	3.000	12	0.394	2.250	1.000	2.250	21300	1,6	XD.T 11T3		**30012**
A211.400.R.08-11-B125-200-EF	4.000	8	0.394	2.750	1.250	2.750	19600	1,6	XD.T 11T3	**40008**	
A211.400.R.14-11-B125-200-EF	4.000	14	0.394	2.750	1.250	2.750	19600	1,6	XD.T 11T3		**40014**
A211.500.R.10-11-B150-200-EF	5.000	10	0.394	3.750	1.500	3.750	17900	1,6	XD.T 11T3	**50010**	
A211.600.R.12-11-B150-200-EF	6.000	12	0.394	3.750	1.500	3.750	16500	1,6	XD.T 11T3	**60012**	


Screwdriver

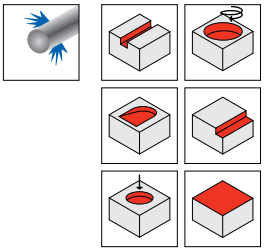

Molykote

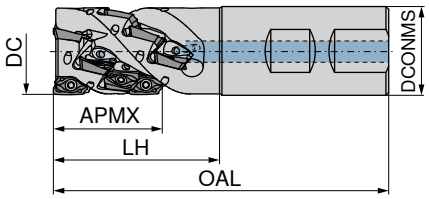

Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
0.625 - 1.250	**039**	**303**	**128**
1.500 - 6.000	**039**	**303**	**131**

CoreLine – Extended flute cutter – 211-11K

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth







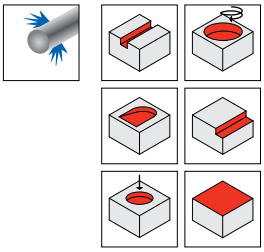


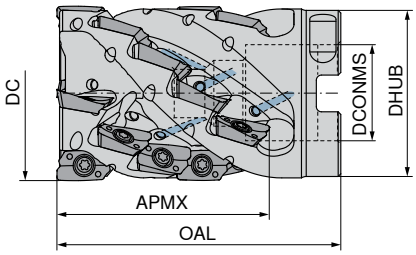
Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	ZEFP	ZNP	Tightening torque Nm	TO 58 758 ...
C211.100.R.02K3-11-B-150-EF	1.000	2	1.060	3.750	1.500	1.000	6	3	1,6	**10002**
C211.125.R.02K4-11-B-200-EF	1.250	2	1.430	4.500	2.000	1.250	8	4	1,6	**12502**
C211.150.R.03K4-11-A-225-EF	1.500	3	1.420	5.100	2.250	1.500	12	4	1,6	**15003** [1)]

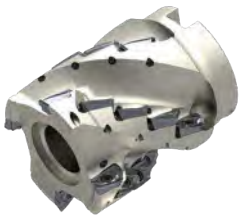
1) DIN 1835 A Shank

CoreLine – Shell end face mill – 211-11K

▲ ZEFP = Number of inserts
▲ ZNP = Number of teeth





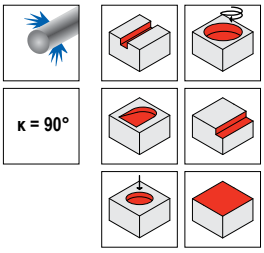


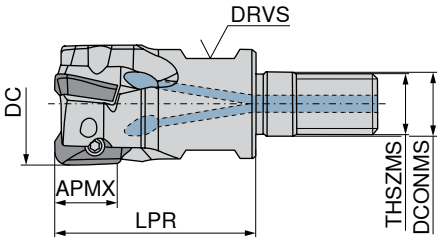
Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	Tightening torque Nm	Indexable insert	TO 58 757 ...
A211.200.R.04K5-11-A075-EF	2.000	4	1.800	20	5	2.500	0.750	1.750	1,6	XD.T 11T3	**20004**
A211.250.R.05K7-11-A100-EF	2.500	5	2.500	35	7	3.250	1.000	2.250	1,6	XD.T 11T3	**25005**
A211.300.R.06K9-11-A125-EF	3.000	6	3.200	54	9	4.000	1.250	2.750	1,6	XD.T 11T3	**30006**

Spare parts DC	 Cap screw AS 70 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.000 - 1.500		039	303	131

CoreLine – Screw-in cutter – 211-11

▲ Insert radius >1.6 mm: modify base body



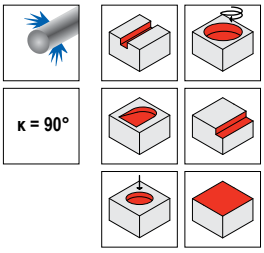


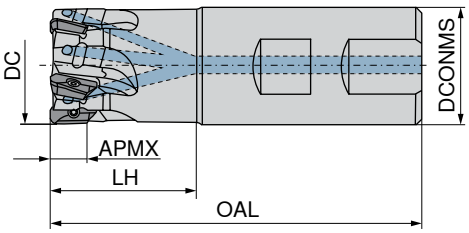


Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 736 ...
G211.16.R.02-11	16	2	10	27	8.5	M8	10	42000	1,6	XD.T 11T3	**016**
G211.20.R.03-11	20	3	10	33	10.5	M10	15	36900	1,6	XD.T 11T3	**020**
G211.25.R.03-11	25	3	10	35	12.5	M12	17	33200	1,6	XD.T 11T3	**12500**
G211.25.R.04-11	25	4	10	35	12.5	M12	17	33200	1,6	XD.T 11T3	**025**
G211.32.R.04-11	32	4	10	35	17.0	M16	24	30200	1,6	XD.T 11T3	**13200**
G211.32.R.05-11	32	5	10	35	17.0	M16	24	30200	1,6	XD.T 11T3	**032**
G211.40.R.06-11	40	6	10	35	17.0	M16	27	27700	1,6	XD.T 11T3	**040**

CoreLine – End mills – 211-11

▲ Insert radius >1.6 mm: modify base body



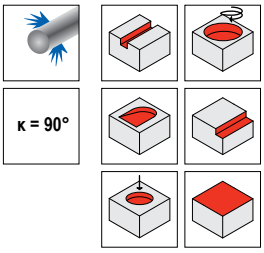


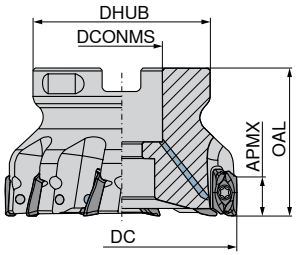


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS h6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 737 ...	TO 50 737 ...
C211.12.R.01-11-B-20	12	1	10	75	20	16	55000	1,6	XD.T 11T3		**012**
C211.16.R.02-11-A/B-25	16	2	10	75	25	16	42000	1,6	XD.T 11T3	**116**	**016**
C211.16.R.02-11-A15-32-165	16	2	10	165	32	15	14800	1,6	XD.T 11T3	**316**	
C211.16.R.02-11-A-32-165	16	2	10	165	32	16	14800	1,6	XD.T 11T3	**216**	
C211.20.R.03-11-A-25	20	3	10	77	25	20	36900	1,6	XD.T 11T3	**120**	
C211.20.R.03-11-B-25	20	3	10	77	25	20	36900	1,6	XD.T 11T3		**020**
C211.20.R.02-11-B-25	20	2	10	77	25	20	36900	1,6	XD.T 11T3		**02002**
C211.20.R.02-11-A-25	20	2	10	77	25	20	36900	1,6	XD.T 11T3	**12002**	
C211.20.R.03-11-A-32-165	20	3	10	165	32	20	15800	1,6	XD.T 11T3	**320**	
C211.20.R.02-11-A-40-200	20	2	10	200	40	20	10500	1,6	XD.T 11T3	**420**	
C211.20.R.02-11-A19-40-200	20	2	10	200	40	19	10500	1,6	XD.T 11T3	**620**	
C211.25.R.03-11-A/B-32	25	3	10	90	32	25	33200	1,6	XD.T 11T3	**625**	**725**
C211.25.R.04-11-A/B-32	25	4	10	90	32	25	33200	1,6	XD.T 11T3	**125**	**025**
C211.25.R.04-11-A-40-165	25	4	10	165	40	25	19900	1,6	XD.T 11T3	**325**	
C211.25.R.03-11-A24-50-225	25	3	10	225	50	24	9400	1,6	XD.T 11T3	**825**	
C211.25.R.03-11-A-50-225	25	3	10	225	50	25	9400	1,6	XD.T 11T3	**425**	
C211.25.R.02-11-A-50-225	25	2	10	225	50	25	9400	1,6	XD.T 11T3	**02502**	
C211.32.R.05-11-B25-40	32	5	10	96	40	25	30200	1,6	XD.T 11T3		**73200**
C211.32.R.04-11-A-40	32	4	10	102	40	32	30200	1,6	XD.T 11T3	**13204**	
C211.32.R.05-11-A/B-40	32	5	10	102	40	32	30200	1,6	XD.T 11T3	**132**	**032**
C211.32.R.04-11-B-25	32	4	10	102	40	32	30200	1,6	XD.T 11T3		**83200**
C211.32.R.04-11-A25-40	32	4	10	102	40	25	30200	1,6	XD.T 11T3	**53204**	
C211.32.R.05-11-A-50-165	32	5	10	165	50	32	20900	1,6	XD.T 11T3	**332**	
C211.32.R.04-11-A-64-250	32	4	10	250	64	32	8500	1,6	XD.T 11T3	**432**	
C211.40.R.06-11-B32-50	40	6	10	110	50	32	27700	1,6	XD.T 11T3		**04000**
C211.40.R.06-11-B-50	40	6	10	122	50	40	27700	1,6	XD.T 11T3		**14000**

CoreLine – Face mills – 211-11

▲ Insert radius >1.6 mm: modify base body





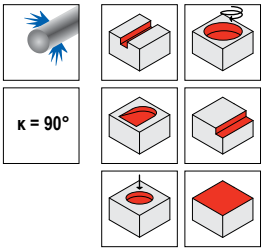


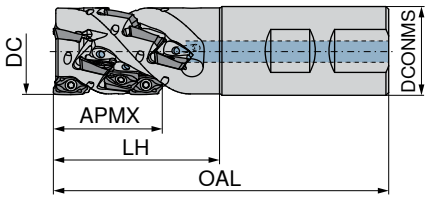
Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 738 ...	TO 50 739 ...
A211.40.R.04-11	40	4	10	40	16	38	27700	1,6	XD.T 11T3	**040**	
A211.40.R.06-11	40	6	10	40	16	38	27700	1,6	XD.T 11T3		**040**
A211.50.R.05-11	50	5	10	40	22	43	25400	1,6	XD.T 11T3	**050**	
A211.50.R.08-11	50	8	10	40	22	43	25400	1,6	XD.T 11T3		**050**
A211.63.R.06-11	63	6	10	40	22	48	23300	1,6	XD.T 11T3	**063**	
A211.63.R.10-11	63	10	10	40	22	48	23300	1,6	XD.T 11T3		**063**
A211.80.R.07-11	80	7	10	50	27	58	21300	1,6	XD.T 11T3	**080**	
A211.80.R.10-11	80	10	10	50	27	58	21300	1,6	XD.T 11T3		**180**
A211.80.R.12-11	80	12	10	50	27	58	21300	1,6	XD.T 11T3		**08012**
A211.100.R.08-11	100	8	10	50	32	78	19600	1,6	XD.T 11T3	**10000**	
A211.100.R.14-11	100	14	10	50	32	78	19600	1,6	XD.T 11T3		**10014**
A211.125.R.10-11	125	10	10	63	40	88	17900	1,6	XD.T 11T3	**12500**	

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
12	**043**		**039**		**303**	**92000**	**191**
16 - 32	**043**		**039**		**303**	**128**	**191**
40	**043**	**040**	**039**	**151**	**303**	**131**	**191**
50	**043**	**050**	**039**	**154**	**303**	**131**	**191**
63 - 125	**043**		**039**		**303**	**131**	**191**

CoreLine – Shell end face mill – 211-11KN

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows



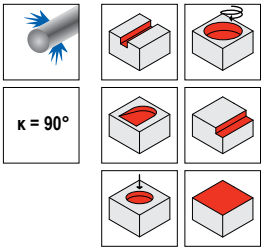


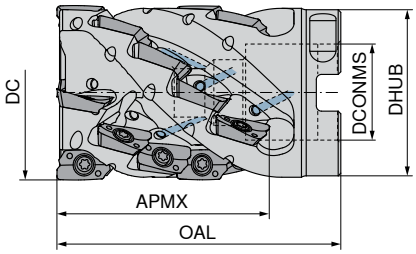


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	ZEFP	ZNP	Tightening torque Nm	Indexable insert	TO 50 784 ...
C211.25.R.02KN3-11-B-40	25	2	28	97	40	25	6	3	1,6	XD.T 11T3	**02523**
C211.25.R.02KN4-11-B-50	25	2	37	107	50	25	8	4	1,6	XD.T 11T3	**02524**
C211.25.R.02KN5-11-B-60	25	2	46	117	60	25	10	5	1,6	XD.T 11T3	**02525**
C211.32.R.02KN4-11-B-50	32	2	37	111	50	32	8	4	1,6	XD.T 11T3	**03224**
C211.32.R.03KN5-11-B-60	32	3	46	121	60	32	15	5	1,6	XD.T 11T3	**03235**
C211.40.R.03KN4-11-B32-50	40	3	37	111	50	32	12	4	1,6	XD.T 11T3	**04034**
C211.40.R.04KN5-11-B32-60	40	4	46	121	60	32	20	5	1,6	XD.T 11T3	**04045**

CoreLine – Shell end face mill – 211-11KN

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows





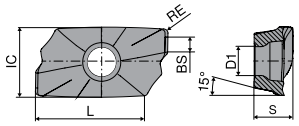


Designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 794 ...
A211.40.R.03KN4-11	40	3	37	12	4	65	22	38	1,6	XD.T 11T3	**04034**
A211.40.R.04KN4-11	40	4	37	16	4	65	22	38	1,6	XD.T 11T3	**04044**
A211.40.R.04KN5-11	40	4	46	20	5	74	22	38	1,6	XD.T 11T3	**04045**
A211.50.R.04KN5-11	50	4	46	20	5	75	27	48	1,6	XD.T 11T3	**05045**
A211.50.R.05KN5-11	50	5	46	25	5	75	27	48	1,6	XD.T 11T3	**05055**
A211.50.R.05KN6-11	50	5	55	30	6	85	27	48	1,6	XD.T 11T3	**05056**

Spare parts Designation	 Cap screw AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Socket head screw AS 70 950 ...	Torque screwdriver AS 80 950 ...
A211.40.R.03KN4-11		043	039	303	20400	20900	191
A211.40.R.04KN4-11		043	039	303	20400	20900	191
A211.40.R.04KN5-11		043	039	303	20400	21000	191
A211.50.R.04KN5-11	002	043	039	303	20400	181	191
A211.50.R.05KN5-11	002	043	039	303	20400	181	191
A211.50.R.05KN6-11	002	043	039	303	20400	181	191
C211.25.R.02KN3-11-B-40		043	039	303	20700		191
C211.25.R.02KN4-11-B-50		043	039	303	20700		191
C211.25.R.02KN5-11-B-60		043	039	303	20700		191
C211.32.R.02KN4-11-B-50		043	039	303	20700		191
C211.32.R.03KN5-11-B-60		043	039	303	20700		191
C211.40.R.03KN4-11-B32-50		043	039	303	20400		191
C211.40.R.04KN5-11-B32-60		043	039	303	20400		191

XDKT / XDHT

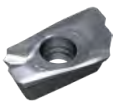
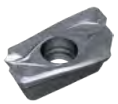
Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
XD.T 11T302..	6.8	2.8	10.6	2	3.8
XD.T 11T304..	6.8	2.8	10.6	1.8	3.8
XD.T 11T308..	6.8	2.8	10.6	1.4	3.8
XD.T 11T312..	6.8	2.8	10.6	1.4	3.8
XD.T 11T316..	6.8	2.8	10.6	1.4	3.8
XD.T 11T320..	6.8	2.8	10.6	1.4	3.8
XD.T 11T325..	6.8	2.8	10.6	1.4	3.8
XD.T 11T332..	6.8	2.8	10.6	0.8	3.8
XD.T 11T340..	6.8	2.8	10.6	-	3.8
XDHT 11T350..	6.8	2.8	10.6	-	3.8



XDKT

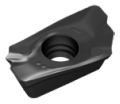
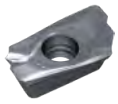
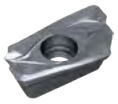
CoreLine – Carbide milling indexable insert

XDKT

	-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225	-M50 CT-P30
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
	F XDKT	M XDKT	F XDKT	M XDKT	M XDKT
	IM	IM	IM	IM	CX
ISO / RE mm	51 034 ...	51 037 ...	51 034 ...	51 037 ...	51 297 ...
11T304SR 0.4					20406
11T308SR 0.8	258	258	058	058	20806
11T312SR 1.2					21206
P	●	●	●	●	●
M					○
K					○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

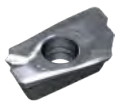
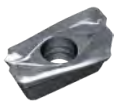
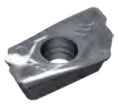
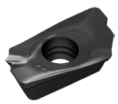
XDKT

		-F50 CTCP230	-M50 CTCP230	-R50 CTCP230	-F50 CTPP235	-M50 CTPP235	-R50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F XDKT	M XDKT	R XDKT	F XDKT	M XDKT	R XDKT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 034 ...	51 037 ...	51 039 ...	51 034 ...	51 037 ...	51 039 ...
11T304SR	0.4	004	004	004	104	104	104
11T308SR	0.8	008	008	008	108	108	108
11T312SR	1.2		012			112	
11T320SR	2.0	020 [1]	020 [1]	020 [1]	120 [1]	120 [1]	120 [1]
11T325SR	2.5	025 [1]	025 [1]	025 [1]	125 [1]	125 [1]	125 [1]
P		●	●	●	●	●	●
M					○	○	○
K		○	○	○	○	○	○
N							
S							
H							
O							

1) Insert radius > 0.063": Modify cutter body

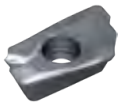
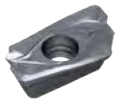
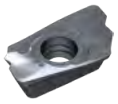
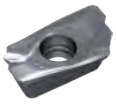
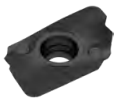
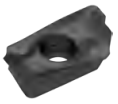
CoreLine – Carbide milling indexable insert

XDKT

		-F50 CTPM225	-M50 CTPM225	-R50 CTPM225	-F50 CTCM235	-M50 CTCM235	-R50 CTCM235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F XDKT	M XDKT	R XDKT	F XDKT	M XDKT	R XDKT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 034 ...	51 037 ...	51 039 ...	51 034 ...	51 037 ...	51 039 ...
11T308SR	0.8	208	208	208	308	308	308
P		●	●	●	●	●	●
M		●	●	●	●	●	●
K							
N							
S							
H							
O							

CoreLine – Carbide milling indexable insert

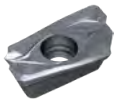
XDKT

		-F50 CTPM240	-M50 CTPM240	-R50 CTPM240	-F40 CTPM245	-F50 CTPM245	-F40 CTCM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		F	M	R	F	F	F	F
		XDKT	XDKT	XDKT	XDKT	XDKT	XDKT	XDKT
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 034 ...	51 037 ...	51 039 ...	51 113 ...	51 034 ...	51 113 ...	51 034 ...
11T304ER	0.4				454		90401	
11T304SR	0.4		404					
11T308ER	0.8				458		90801	
11T308SR	0.8	408	408	408		458		90801
11T312ER	1.2				462		91201	
11T312SR	1.2	412	412	412				
11T316ER	1.6				466		91601	
11T320ER	2.0				470 [1)]		92001 [1)]	
11T320SR	2.0	420 [1)]	420 [1)]	420 [1)]				
11T325ER	2.5				475 [1)]		92501 [1)]	
11T332ER	3.2				482 [1)]		93201 [1)]	
11T332SR	3.2	432 [1)]	432 [1)]	432 [1)]				
11T340ER	4.0				490 [1)]		94001 [1)]	
P		○	○	○	●	●	●	●
M		●	●	●	●	●	●	●
K								
N								
S							○	○
H								
O								

1) Insert radius > 0.063": Modify cutter body

CoreLine – Carbide milling indexable insert

XDKT / XDHT

		-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-F20 CTWN215	-F10 CTPX715	-27P H216T
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN	
							
		M	R	M	F	F	F
		XDKT	XDKT	XDKT	XDKT	XDHT	XDHT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 037 ...	51 039 ...	51 037 ...	50 478 ...	51 155 ...	50 477 ...
11T302FR	0.2				502	00202	502
11T304FR	0.4				504	00402	504
11T304SR	0.4	504					
11T308FR	0.8				508	00802	508
11T308SR	0.8	508	508	608			
11T312FR	1.2					01202	512
11T316FR	1.6					01602	516
11T320FR	2.0				520 1)	02002 1)	520 1)
11T325FR	2.5				525 1)	02502 1)	525 1)
11T332FR	3.2					03202 1)	532 1)
11T340FR	4.0					04002 1)	540 1)
11T350FR	5.0					05002 1)	550 1)
P						○	
M						○	
K		●	●	●	○	●	○
N					●	●	●
S						○	
H							
O					○	○	○

1) Insert radius > 0.063": Modify cutter body

CoreLine – Carbide milling indexable insert

XDKT

		-R60 CTP6215
		
		R
		XDKT
		IM
ISO	RE mm	50 464 ...
11T308SR	0.8	300
P		
M		
K		●
N		
S		
H		●
O		

MaxiMill – Carbide milling indexable insert

XDKT

		-F40 CTC5240 DRAGONSKIN	-F40 CTCS245 DRAGONSKIN
			
		F XDKT	F XDKT
		MA	MA
ISO	RE mm	50 463 ...	51 113 ...
11T304ER	0.4	504	
11T308ER	0.8	500	558
11T312ER	1.2	512	562
11T316ER	1.6	516	566
11T320ER	2.0	520 1)	570 1)
11T325ER	2.5	525 1)	57500 1)
11T332ER	3.2	532 1)	582 1)
11T340ER	4.0	540 1)	59000 1)
P			
M			
K			
N			
S		●	●
H			
O			

1) Insert radius > 0.063": Modify cutter body

CoreLine – Carbide milling indexable insert

XDKT

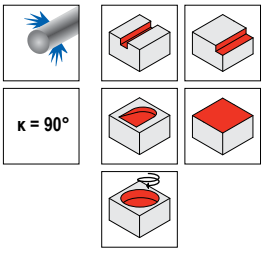
		-M50 CT-P30
		
		M XDKT
		CX
ISO	RE mm	51 297 ...
11T304SR	0.4	20406
11T308SR	0.8	20806
11T312SR	1.2	21206
P		●
M		○
K		○
N		
S		
H		
O		

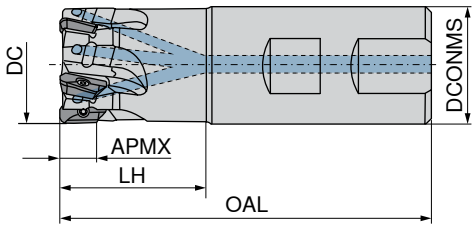
Milling guide

→ Cutting data standard values
→ Starting parameters
→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

CoreLine – End mills – 211-15

▲ Insert radius > 0.098": Modify cutter body



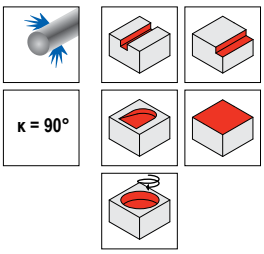


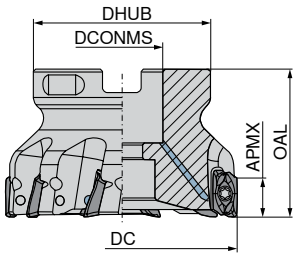


Designation	DC inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 747 ...	TO 58 747 ...
C211.100.R.02-15-A-200-EF-800	1.000	2	0.551	8.000	2.000	1.000	7520	3,2	XD.T 1505	10002	
C211.125.R.03-15-B-150-EF-400	1.250	3	0.551	4.000	1.500	1.250	24160	3,2	XD.T 1505		32503
C211.125.R.03-15-A-250-EF-1000	1.250	3	0.551	10.000	2.500	1.250	6800	3,2	XD.T 1505	12503	
C211.150.R.03-15-B125-200-EF-450	1.500	3	0.551	4.500	2.000	1.250	22160	3,2	XD.T 1505		35003
C211.150.R.04-15-B125-200-EF-450	1.500	4	0.551	4.500	2.000	1.250	22160	3,2	XD.T 1505		35004
C211.150.R.03-15-A125-300-EF-1000	1.500	3	0.551	10.000	3.000	1.250	6120	3,2	XD.T 1505	15003	

CoreLine – Face mills – 211-15

▲ Insert radius > 0.098": Modify cutter body







Designation	DC inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 748 ...	TO 58 749 ...
A211.150.R.03-15-A050-175-EF	1.500	3	0.551	1.420	0.500	1.420	22160	3,2	XD.T 1505	15003	
A211.200.R.05-15-A075-175-EF	2.000	5	0.551	1.750	0.750	1.750	20320	3,2	XD.T 1505	20005	
A211.250.R.06-15-A100-200-EF	2.500	6	0.551	2.250	1.000	2.250	18640	3,2	XD.T 1505	25006	
A211.300.R.05-15-A100-200-EF	3.000	5	0.551	2.250	1.000	2.250	17040	3,2	XD.T 1505	30005	
A211.300.R.08-15-A100-200-EF	3.000	8	0.551	2.250	1.000	2.250	17040	3,2	XD.T 1505		30008
A211.400.R.06-15-A125-200-EF	4.000	6	0.551	2.750	1.250	2.750	16000	3,2	XD.T 1505	40006	
A211.400.R.09-15-A125-200-EF	4.000	9	0.551	2.750	1.250	2.750	16000	3,2	XD.T 1505		40009
A211.500.R.10-15-B150-250-EF	5.000	10	0.551	3.750	1.500	3.750	14320	3,2	XD.T 1505	50010	
A211.600.R.08-15-B150-250-EF	6.000	8	0.551	2.500	1.500	3.750	13200	3,2	XD.T 1505	60008	
A211.600.R.10-15-B150-250-EF	6.000	10	0.551	3.750	1.500	3.750	13200	3,2	XD.T 1505		60010


Screwdriver

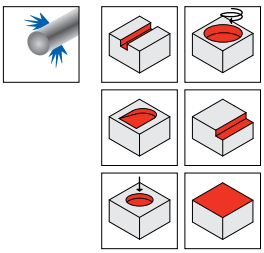

Molykote

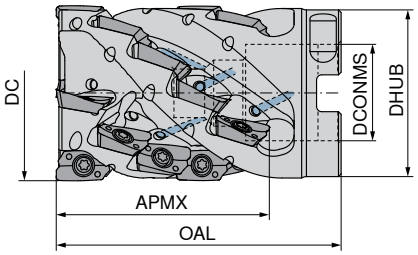

Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
1.000 - 6.000	120	303	839

CoreLine – Extended flute cutter – 211-15K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows



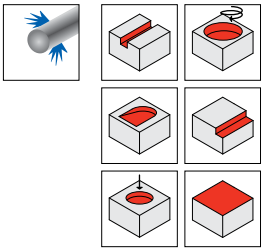


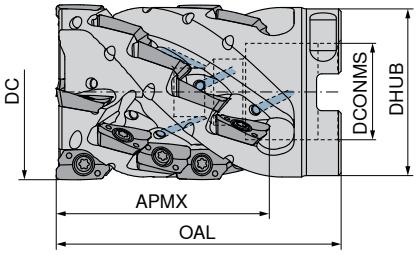


Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 759 ...
A211.200.R.03K4-15-A075-EF	2.000	3	2.000	12	4	3.000	0.750	1.750	13600	3,2	XD.T 1505	**20003**
A211.250.R.04K5-15-A100-EF	2.500	4	2.500	20	5	3.500	1.000	2.250	12500	3,2	XD.T 1505	**25004**
A211.300.R.04K6-15-A125-EF	3.000	4	3.000	24	6	4.000	1.250	2.750	11360	3,2	XD.T 1505	**30104**

CoreLine – Extended flute cutter – 211-15K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows





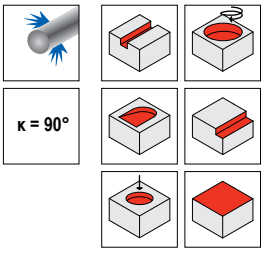


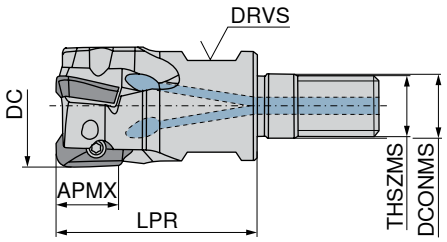
Designation	DC inch	ZNF	APMX inch	ZEFP	ZNP	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 759 ...
A211.400.R.05KN6-15-A150-EF	4.000	5	3.091	30	6	4.250	1.500	3.750	10100	3,2	XD.T 1505	**40005**

Spare parts DC	 Cap screw AS 70 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
2.000	**002**	**120**	**303**	**839**
2.500 - 3.000	**003**	**120**	**303**	**839**
4.000	**004**	**120**	**303**	**20500**

CoreLine – Screw-in cutter – 211-15

▲ Insert radius >2.5 mm: modify base body



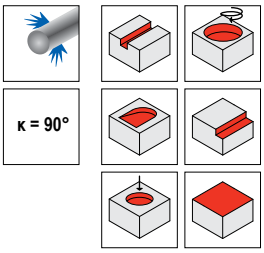


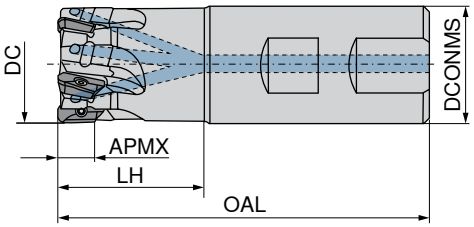


Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 746 ...
G211.25.R.02-15	25	2	14	35	12.5	M12	17	26560	3,2	XD.T 1505	**025**
G211.32.R.03-15	32	3	14	35	17.0	M16	24	30200	3,2	XD.T 1505	**032**
G211.40.R.04-15	40	4	14	40	17.0	M16	27	27700	3,2	XD.T 1505	**040**

CoreLine – End mills – 211-15

▲ Insert radius >2.5 mm: modify base body



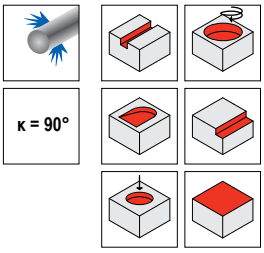


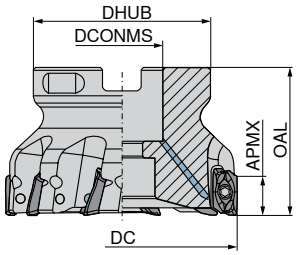


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 747 ...	TO 50 747 ...
C211.25.R.02-15-B20-32	25	2	14	83	32	20	26560	3,2	XD.T 1505		**125**
C211.25.R.02-15-B/A-32	25	2	14	90	32	25	26560	3,2	XD.T 1505	**225**	**025**
C211.25.R.02-15-A-50-225	25	2	14	225	50	25	7520	3,2	XD.T 1505	**325**	
C211.32.R.03-15-B25-40	32	3	14	96	40	25	22160	3,2	XD.T 1505		**132**
C211.32.R.03-15-A-40	32	3	14	103	40	32	24160	3,2	XD.T 1505	**232**	
C211.32.R.03-15-B-40	32	3	14	103	40	32	24160	3,2	XD.T 1505		**032**
C211.32.R.03-15-A-63-250	32	3	14	250	63	32	6800	3,2	XD.T 1505	**332**	
C211.40.R.04-15-A-50	40	4	14	110	50	32	22160	3,2	XD.T 1505	**240**	
C211.40.R.04-15-B32-50	40	4	14	110	50	32	22160	3,2	XD.T 1505		**040**
C211.40.R.03-15-A-50-275	40	3	14	275	50	32	6120	3,2	XD.T 1505	**340**	

CoreLine – Face mills – 211-15

▲ Insert radius >2.5 mm: modify base body







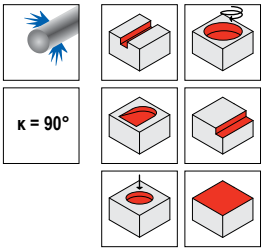
Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 748 ...	TO 50 749 ...
A211.40.R.03-15	40	3	14	40	16	38	22160	3,2	XD.T 1505	**040**	
A211.40.R.04-15	40	4	14	40	16	38	22160	3,2	XD.T 1505		**040**
A211.50.R.03-15	50	3	14	40	22	43	20320	3,2	XD.T 1505	**050**	
A211.50.R.05-15	50	5	14	40	22	43	20320	3,2	XD.T 1505		**050**
A211.63.R.04-15	63	4	14	45	22	48	18640	3,2	XD.T 1505	**063**	
A211.63.R.06-15	63	6	14	45	22	48	18640	3,2	XD.T 1505		**063**
A211.80.R.05-15	80	5	14	50	27	58	17040	3,2	XD.T 1505	**080**	
A211.80.R.08-15	80	8	14	50	27	58	17040	3,2	XD.T 1505		**080**
A211.100.R.06-15	100	6	14	50	32	78	15680	3,2	XD.T 1505	**100**	
A211.100.R.10-15	100	10	14	50	32	78	15680	3,2	XD.T 1505		**100**
A211.125.R.07-15	125	7	14	63	40	88	14320	3,2	XD.T 1505	**125**	
A211.125.R.11-15	125	11	14	63	40	88	14320	3,2	XD.T 1505		**125**
A211.160.R.08-15	160	8	14	63	40	93	13200	3,2	XD.T 1505	**160** [1)]	
A211.160.R.12-15	160	12	14	63	40	93	13200	3,2	XD.T 1505		**160** [1)]

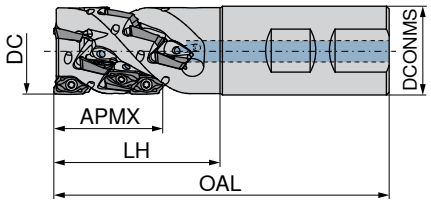
1) Without through coolant supply

Spare parts DC	TORX® interchangeable blade AS **80 950 ...**	 Clamping key T AS **80 397 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
25 - 32	**054**		**120**		**303**	**839**	**193**
40	**054**	**040**	**120**	**151**	**303**	**839**	**193**
50	**054**	**050**	**120**	**154**	**303**	**839**	**193**
63 - 160	**054**		**120**		**303**	**839**	**193**

CoreLine – Shell end face mill – 211-15KN

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows



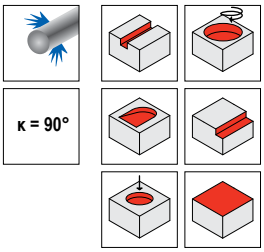


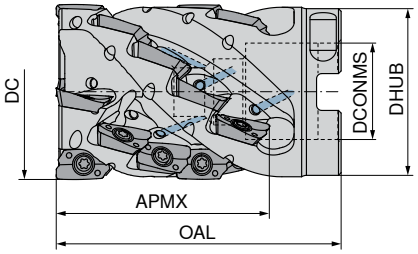


Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	ZEFP	ZNP	Tightening torque Nm	Indexable insert	TO 50 783 ...
C211.40.R.03KN3-15-B32-60	40	3	39.6	121	60	32	9	3	3,2	XD.T 1505	04033
C211.50.R.03KN4-15-B40-68	50	3	52.6	138	67	40	12	4	3,2	XD.T 1505	05034

CoreLine – Shell end face mill – 211-15KN

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows





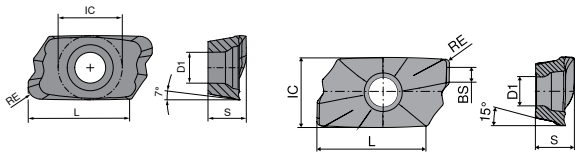


Designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 781 ...
A211.50.R.03KN4-15	50	3	52.6	12	4	87	27	48	3,2	XD.T 1505	05034
A211.50.R.03KN5-15	50	3	65.8	15	5	100	27	48	3,2	XD.T 1505	05035
A211.50.R.04KN5-15	50	4	65.8	20	5	100	27	48	3,2	XD.T 1505	05045
A211.63.R.03KN4-15	63	3	52.6	12	4	76	27	58	3,2	XD.T 1505	06334
A211.63.R.03KN5-15	63	3	65.8	15	5	90	27	58	3,2	XD.T 1505	06335
A211.63.R.04KN6-15	63	4	78.5	24	6	102	27	58	3,2	XD.T 1505	06346
A211.63.R.05KN5-15	63	5	65.8	25	5	90	27	58	3,2	XD.T 1505	06355
A211.80.R.04KN5-15	80	4	65.8	20	5	90	32	78	3,2	XD.T 1505	08045
A211.80.R.05KN6-15	80	5	78.5	30	6	102	32	78	3,2	XD.T 1505	08056

Spare parts Designation	 Cap screw AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Socket head screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
A211.50.R.03KN4-15	002	054	120	303	20800	181	193
A211.50.R.03KN5-15	002	054	120	303	20800	181	193
A211.50.R.04KN5-15	002	054	120	303	20800	181	193
A211.63.R.03KN4-15	002	054	120	303	20500	181	193
A211.63.R.03KN5-15	002	054	120	303	20500	181	193
A211.63.R.04KN6-15	002	054	120	303	20500	181	193
A211.63.R.05KN5-15	002	054	120	303	20500	181	193
A211.80.R.04KN5-15	004	054	120	303	20500	234	193
A211.80.R.05KN6-15	004	054	120	303	20500	234	193
C211.40.R.03KN3-15-B32-60		054	120	303	20800		193
C211.50.R.03KN4-15-B40-68		054	120	303	20800		193

XDKT

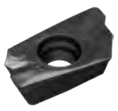
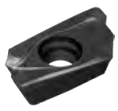
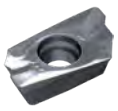
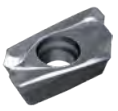
Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDKT 150508..	9.3	4.4	14.8	-	5.56
XDKT 150508..	9.3	4.4	14.8	1.6	5.56
XDKT 150512..	9.3	4.4	14.8	-	5.56
XDKT 150512..	9.3	4.4	14.8	1.6	5.56
XDKT 150516..	9.3	4.4	14.8	1.6	5.56
XDKT 150520..	9.3	4.4	14.8	1.6	5.56
XDKT 150525..	9.3	4.4	14.8	1.6	5.56
XDKT 150530..	9.3	4.4	14.8	1.6	5.56
XDKT 150532..	9.3	4.4	14.8	1.9	5.56
XDKT 150540..	9.3	4.4	14.8	1.2	5.56
XDKT 150560..	9.3	4.4	14.8	-	5.56



XDKT

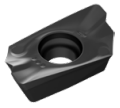
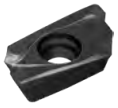
CoreLine – Carbide milling indexable insert

XDKT

ISO	RE mm	-F50 CTCP220	-M50 CTCP220	-F50 CTPP225	-M50 CTPP225
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F XDKT	M XDKT	F XDKT	M XDKT
		IM	IM	IM	IM
150508SR	0.8	51 035 ... 258	51 038 ... 258	51 035 ... 058	51 038 ... 058
P		●	●	●	●
M					
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

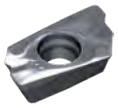
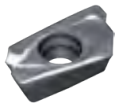
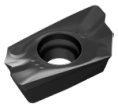
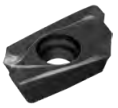
XDKT

		-F50 CTCP230	-M50 CTCP230	-R50 CTCP230	-F50 CTPP235	-M50 CTPP235	-R50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		F XDKT	M XDKT	R XDKT	F XDKT	M XDKT	R XDKT
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 035 ...	51 038 ...	51 040 ...	51 035 ...	51 038 ...	51 040 ...
150508SR	0.8	008	008	008	108	108	108
150512SR	1.2		012			112	
150516SR	1.6		016			116	
150520SR	2.0			020		120	120
150530SR	3.0		030 [1]			130 [1]	
150540SR	4.0		040 [1]			140 [1]	
P		●	●	●	●	●	●
M					○	○	○
K		○	○	○	○	○	○
N							
S							
H							
O							

1) Insert radius > 0.098": Modify cutter body

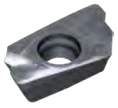
CoreLine – Carbide milling indexable insert

XDKT

		-F50 CTPM225	-M50 CTPM225	-F50 CTCM235	-M50 CTCM235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		F XDKT	M XDKT	F XDKT	M XDKT
		IM	IM	IM	IM
ISO	RE mm	51 035 ...	51 038 ...	51 035 ...	51 038 ...
150508SR	0.8	208	208	308	308
P		●	●	●	●
M		●	●	●	●
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

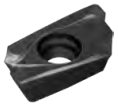
XDKT

		-F50 CTPM240	-M50 CTPM240	-R50 CTPM240	-F40 CTPM245	-F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		F XDKT	M XDKT	R XDKT	F XDKT	F XDKT
		IM	IM	IM	IM	IM
ISO	RE mm	51 035 ...	51 038 ...	51 040 ...	51 114 ...	51 114 ...
150508ER	0.8				458	90801
150508SR	0.8	408	408	408		
150512ER	1.2					91201
150512SR	1.2		412			
150516ER	1.6					91601
150516SR	1.6		416			
150520ER	2.0					92001
150525ER	2.5					92501
150530SR	3.0		430 [1]			
150532ER	3.2				482 [1]	93201 [1]
150540ER	4.0				490 [1]	94001 [1]
150540SR	4.0		440 [1]			
150560ER	6.0					96001 [1]
P		○	○	○	●	●
M		●	●	●	●	●
K						
N						
S						○
H						
O						

1) Insert radius > 0.098": Modify cutter body

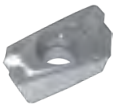
CoreLine – Carbide milling indexable insert

XDKT

		-M50 CTCK215	-R50 CTCK215	-M50 CTPK220	-R50 CTPK220	-F20 CTWN215
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
						
		M XDKT	R XDKT	M XDKT	R XDKT	F XDKT
		IM	IM	IM	IM	IM
ISO	RE mm	51 038 ...	51 040 ...	51 038 ...	51 040 ...	50 479 ...
150508FR	0.8					508
150508SR	0.8	508	508	608	608	
150512FR	1.2					51200
P						
M						
K		●	●	●	●	○
N						●
S						
H						
O						○

CoreLine – Carbide milling indexable insert

XDKT

		-R60 CTP6215
		
		R XDKT
		IM
ISO	RE mm	50 469 ...
150508SR	0.8	300
P		
M		
K		●
N		
S		
H		●
O		

MaxiMill – Carbide milling indexable insert

XDKT

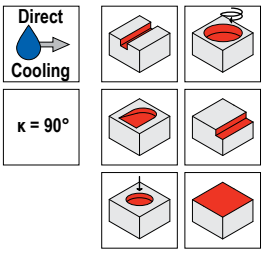
		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		F	F
		XDKT	XDKT
		MA	MA
ISO	RE mm	**50 473 ...**	**51 114 ...**
150508ER	0.8	**508**	**558**
150532ER	3.2	**532** [1]	**58201** [1]
150540ER	4.0	**540** [1]	**59000** [1]
P			
M			
K			
N			
S		●	●
H			
O			

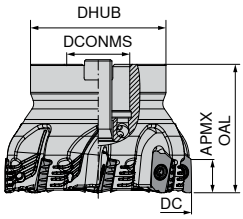
1) Insert radius > 0.098": Modify cutter body

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

MaxiMill – Face mills – 211-15-DC





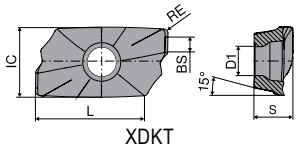


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 798 ...
A211.40.R.04-15-DCA R08	40	4	14	45	16	38	18000	3,2	XDKT 1505..	**04004**
A211.40.R.04-15-DCA R40	40	4	14	45	16	38	18000	3,2	XDKT 1505..	**24004**
A211.50.R.05-15-DCA R40	50	5	14	45	22	45	15000	3,2	XDKT 1505..	**25005**
A211.50.R.05-15-DCA R08	50	5	14	45	22	45	15000	3,2	XDKT 1505..	**05005**
A211.63.R.06-15-DCA R40	63	6	14	50	22	48	14000	3,2	XDKT 1505..	**26306**
A211.63.R.06-15-DCA R08	63	6	14	50	22	48	14000	3,2	XDKT 1505..	**06306**
A211.80.R.08-15-DCA R08	80	8	14	55	27	58	12000	3,2	XDKT 1505..	**08008**
A211.80.R.08-15-DCA R40	80	8	14	55	27	58	12000	3,2	XDKT 1505..	**28008**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40 - 80	**054**	**120**	**303**	**839**	**193**

XDKT

Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
XDKT 150508..	9.3	4.4	14.8	1.6	5.56
XDKT 150532..	9.3	4.4	14.8	1.9	5.56
XDKT 150540..	9.3	4.4	14.8	1.2	5.56



XDKT

MaxiMill – Carbide milling indexable insert

XDKT

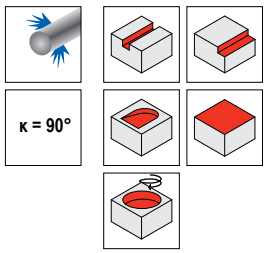
		-F40 CTCS245	-F40 CTC5240
		DRAGONSKIN	DRAGONSKIN
			
		F XDKT	F XDKT
		MA	MA
ISO	RE mm	51 165 ...	51 165 ...
150508ER	0.8	50801	10801
150532ER	3.2	53201	13201
150540ER	4.0	54001	14001
P			
M			
K			
N			
S		●	●
H			
O			

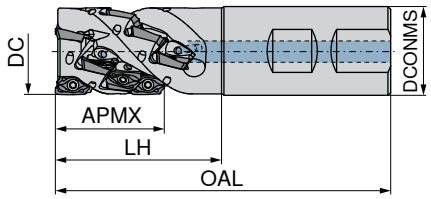
Milling guide

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CoreLine – End mills – 211-20K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows





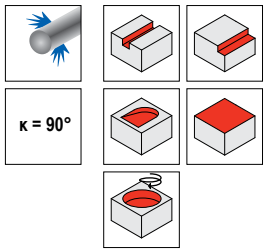


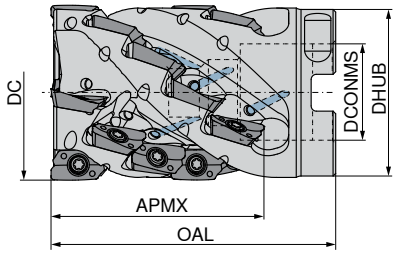


Designation	DC inch	ZNF	APMX inch	ZNP	ZEFP	OAL inch	LH inch	DCONMS inch	Tightening torque Nm	Indexable insert	TO 58 779 ...
C211.200.R.03K10-20-B200-EF	2.000	3	6.500	10	30	11.000	6.690	2.000	5	XD.. 2007..	**20003**

CoreLine – Extended flute cutter – 211-20K

▲ ZEFP = Number of Inserts
▲ ZNP = Number of rows







Designation	DC inch	ZNF	APMX inch	ZNP	ZEFP	OAL inch	DCONMS $_{H6}$ inch	DHUB inch	RPMX 1/min.	Indexable insert	TO 58 780 ...
A211.250.R.04K4-20-A100-EF	2.500	4	2.650	4	16	3.750	1.000	2.250	14300	XD.. 2007..	**25004**
A211.300.R.05K5-20-A125-EF	3.000	5	3.250	5	20	4.250	1.250	2.750	12800	XD.. 2007..	**30005**
A211.400.R.05K5-20-A150-EF	4.000	5	3.340	5	20	4.250	1.500	3.750	10100	XD.. 2007..	**40005**


Cap screw

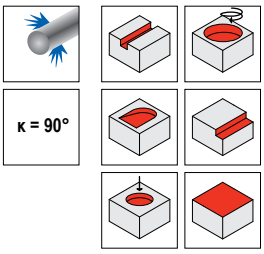

Screwdriver

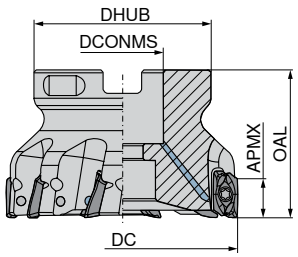

Molykote


Clamping screw

Spare parts DC	AS 70 950 ...	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
2.000		**106**	**303**	**01200**
2.500	**003**	**106**	**303**	**01200**
3.000	**004**	**106**	**303**	**01200**
4.000	**004**	**106**	**303**	**01200**

CoreLine – Face mills – 211-20



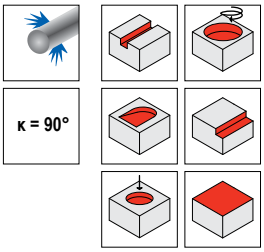


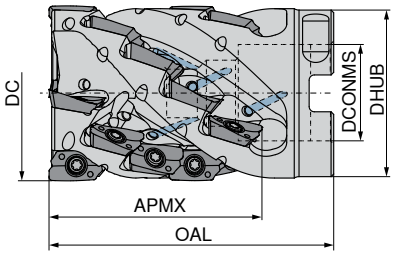


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS H6 mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 778 ...
A211.63.R.05-20	63	5	19	45	22	48	14400	5	XD.. 2007..	**06305**
A211.80.R.06-20	80	6	19	50	27	58	12400	5	XD.. 2007..	**08006**
A211.100.R.07-20	100	7	19	50	32	78	10900	5	XD.. 2007..	**10007**

CoreLine – Shell end face mill – 211-20K

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows





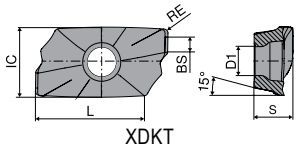


Designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS H6 mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 780 ...
A211.63.R.04K4-20	63	4	68	16	4	92	27	58	5	XD.. 2007..	**06304**
A211.80.R.05K4-20	80	5	68	20	4	92	32	76	5	XD.. 2007..	**08005**

Spare parts DC	 Cap screw AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Socket head screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...	 Tightening screw AS 70 950 ...
63		**037**	**106**	**303**	**01200**	**180**	**193**	
80		**037**	**106**	**303**	**01200**	**181**	**193**	
63	**003**	**037**	**106**	**303**	**01200**	**181**	**193**	
80	**004**	**037**	**106**	**303**	**01200**	**234**	**193**	
100		**037**	**106**	**303**	**01200**		**193**	**86800**

XDKT

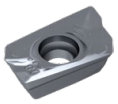
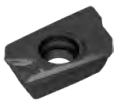
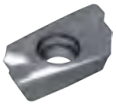
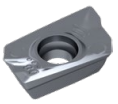
Designation	IC mm	D1 mm	L mm	S mm
XDKT 200708..	12.5	5.5	18.8	6.93
XDKT 200716..	12.5	5.5	18.8	6.89
XDKT 200732..	12.5	5.5	18.8	6.82
XDKT 200740..	12.5	5.5	18.8	6.8
XDKT 200760..	12.5	5.5	18.8	6.8



XDKT

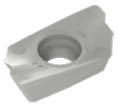
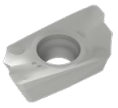
CoreLine – Carbide milling indexable insert

XDKT

		-M50 CTPP235	-M50 CTCP230	-F40 CTPM245	-F40 CTCM245	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		M XDKT	**M** XDKT	**F** XDKT	**F** XDKT	**M** XDKT
		IM	IM	IM	IM	IM
ISO	RE mm	**51 145 ...**	**51 145 ...**	**51 127 ...**	**51 127 ...**	**51 145 ...**
200708ER	0.8	**10800**	**00800**	**45800**	**90801**	**60800**
200716ER	1.6	**11600**	**01600**	**46600**	**91601**	**61600**
200732ER	3.2			**48200**	**93201**	
200740ER	4.0				**94001**	
200760ER	6.0				**96001**	
P		●	●	●	●	
M		○		●	●	
K		○	○			●
N						
S					○	
H						
O						

MaxiMill – Carbide milling indexable insert

XDKT

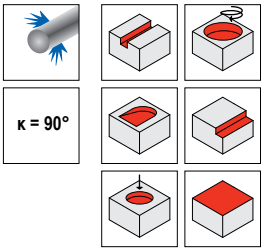
		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		F XDKT	F XDKT
		MA	MA
ISO	RE mm	51 127 ...	51 127 ...
200708ER	0.8	15800	55800
200716ER	1.6	16600	56600
200732ER	3.2	18200	58200
200740ER	4.0	19000	
200760ER	6.0	19200	
P			
M			
K			
N			
S		●	●
H			
O			

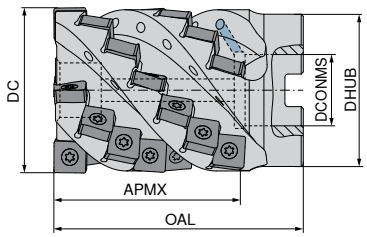
Milling guide

→ Cutting data standard values
→ Starting parameters
→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

MaxiMill – Shell end face mill – RadX

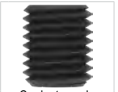
▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows





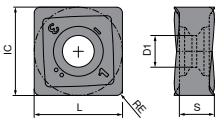


Designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS H6 mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 519 ...
ARADX.50.R.03K5-12	50	3	51.5	15	5	88	27	48	3,2	SXHU 1204..	**05035**
ARADX.63.R.04K6-12	63	4	61.5	24	6	85	27	58	3,2	SXHU 1204..	**06346**
ARADX.63.R.04K7-12	63	4	71.4	28	7	95	27	58	3,2	SXHU 1204..	**06347**
ARADX.80.R.05K6-12	80	5	61.5	30	6	85	32	78	3,2	SXHU 1204..	**08056**
ARADX.80.R.05K8-12	80	5	81.5	40	8	105	32	78	3,2	SXHU 1204..	**08058**

Spare parts for article number	 Cap screw AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Coolant nozzle AS 70 950 ...	 Clamping screw AS 70 950 ...	 Socket head screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
50 519 05035		054	120	303		20500	93800	193
50 519 06346	002	054	120	303	93900	20500	181	193
50 519 06347	002	054	120	303	93900	20500	181	193
50 519 08056	004	054	120	303	93900	20500	234	193
50 519 08058	004	054	120	303	93900	20500	234	193

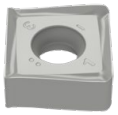
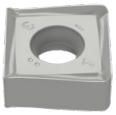
SXHU

Designation	IC mm	D1 mm	L mm	S mm
SXHU 120408..	12.2	4.4	12.2	4.9
SXHU 120412..	12.2	4.4	12.2	4.9

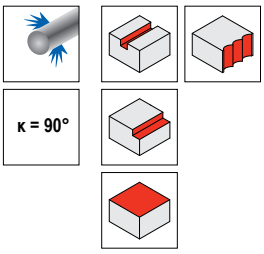


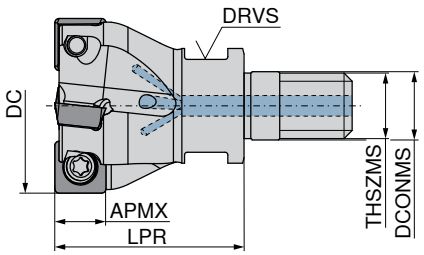
MaxiMill – Carbide milling indexable insert

SXHU

		-F41 CTC5240	-F41 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		SXHU	SXHU
		MA	MA
ISO	RE mm	51 288 ...	51 288 ...
120408ER	0.8	10801	50801
120412ER	1.2	11201	51201
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Screw-in cutter – 490-09



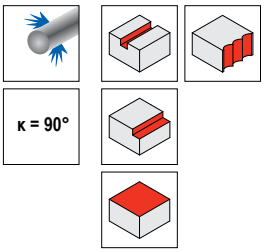


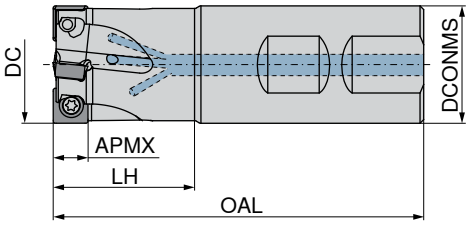


Designation	DC inch	ZNF	APMX inch	LPR inch	THSZMS	DCONMS inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 726 ...
G490.100.R.03-09-125-F	1.000	3	0.315	1.250	M12	0.492	23700	3,2	SD.. 09T3..	**10003** [1]
G490.125.R.04-09-150-F	1.250	4	0.315	1.500	M16	0.669	19700	3,2	SD.. 09T3..	**12504** [1]

1) Not in stock

CoreLine – End mills – 490-09







Designation	DC inch	ZNF	APMX inch	DCONMS inch	OAL inch	LH inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 727 ...	TO 58 727 ...
C490.100.R.03-09-B-125-EF	1.000	3	0.315	1.000	3.500	1.250	23700	3,2	SD.. 09T3..		**30003**
C490.100.R.02-09-A-150-EF-800	1.000	2	0.315	1.000	8.000	1.500	19700	3,2	SD.. 09T3..	**10002**	
C490.125.R.04-09-B-150-EF	1.250	4	0.315	1.250	3.750	1.500	22000	3,2	SD.. 09T3..		**32504**
C490.125.R.03-09-A-200-EF-1000	1.250	3	0.315	1.250	10.000	2.000	14700	3,2	SD.. 09T3..	**12503**	

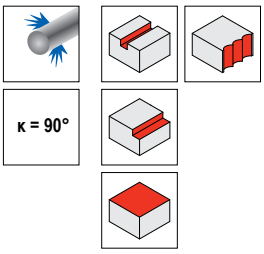

Screwdriver

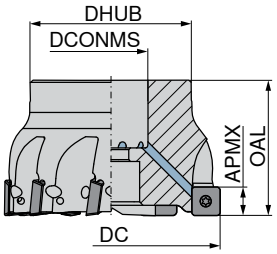

Molykote


Clamping screw

Spare parts DC	Screwdriver AS 80 950 ...	Molykote AS 70 950 ...	Clamping screw AS 70 950 ...
1.000 - 1.250	**105**	**303**	**110**

CoreLine – Face mills – 490-09



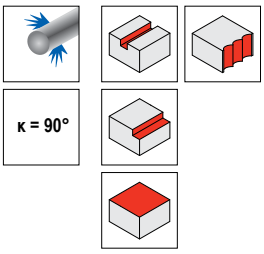


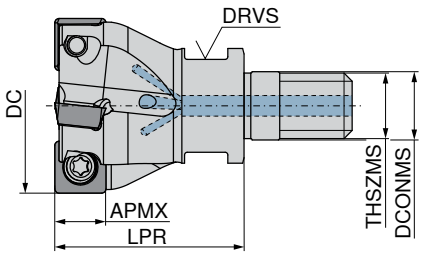


Designation	DC inch	ZNF	APMX inch	DHUB inch	DCONMS H6 inch	OAL inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 728 ...
A490.150.R.05-09-A050-175-EF	1.500	5	0.315	1.250	0.500	1.750	17000	3,2	SD.. 09T3..	**15005**
A490.200.R.06-09-A075-175-EF	2.000	6	0.315	1.750	0.750	1.750	14800	3,2	SD.. 09T3..	**20006**
A490.250.R.07-09-A100-200-EF	2.500	7	0.315	2.000	1.000	2.000	12850	3,2	SD.. 09T3..	**25007**
A490.300.R.09-09-A100-200-EF	3.000	9	0.315	2.130	1.000	2.000	11250	3,2	SD.. 09T3..	**30009**
A490.400.R.10-09-B125-200-EF	4.000	10	0.315	2.870	1.250	2.000	9900	3,2	SD.. 09T3..	**40010**
A490.500.R.11-09-B200-200-EF	5.000	11	0.315	3.750	2.000	2.000		3,2	SD.. 09T3..	**50011**
A490.600.R.12-09-B200-200-EF	6.000	12	0.315	3.750	2.000	2.000		3,2	SD.. 09T3..	**60012**

Spare parts DC	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.500 - 6.000	**105**	**303**	**110**

CoreLine – Screw-in cutter – 490-09

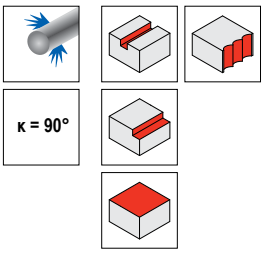


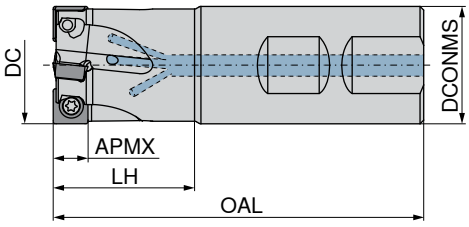




Designation	DC mm	ZNF	APMX mm	LPR mm	THSZMS	DCONMS mm	DRVS mm	Tightening torque Nm	Indexable insert	TO 50 726 ...
G490.25.R.03-09	25	3	8	35	M12	12.5	17	3,2	SD.. 09T3..	025
G490.32.R.04-09	32	4	8	35	M16	17.0	24	3,2	SD.. 09T3..	032

CoreLine – End mills – 490-09

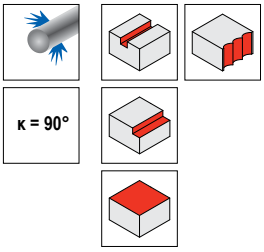


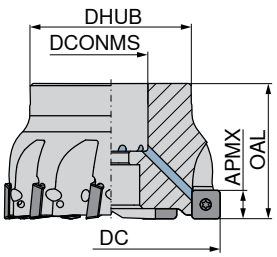




Designation	DC mm	ZNF	APMX mm	DCONMS mm	OAL mm	LH mm	Tightening torque Nm	Indexable insert	TO 50 727 ...	TO 50 727 ...
C490.25.R.03-09-B-32	25	3	8	25	88	32	3,2	SD.. 09T3..		025
C490.25.R.02-09-A-20	25	2	8	20	165	40	3,2	SD.. 09T3..	225	
C490.25.R.02-09-A-40-165	25	2	8	25	165	40	3,2	SD.. 09T3..	125	
C490.32.R.04-09-B-25	32	4	8	25	100	40	3,2	SD.. 09T3..		132
C490.32.R.04-09-B-40	32	4	8	32	100	40	3,2	SD.. 09T3..		032

CoreLine – Face mills – 490-09



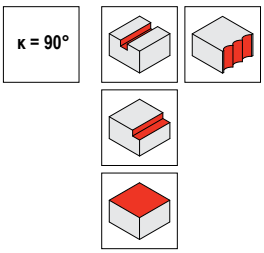


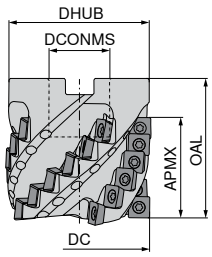


Designation	DC mm	ZNF	APMX mm	DHUB mm	DCONMS H6 mm	OAL mm	Tightening torque Nm	Indexable insert	TO 50 728 ...
A490.40.R.05-09	40	5	8	38	16	40	3,2	SD.. 09T3..	040
A490.42.R.06-09	42	6	8	38	16	40	3,2	SD.. 09T3..	042
A490.50.R.06-09	50	6	8	43	22	40	3,2	SD.. 09T3..	050
A490.52.R.07-09	52	7	8	43	22	40	3,2	SD.. 09T3..	052
A490.63.R.07-09	63	7	8	48	22	40	3,2	SD.. 09T3..	063
A490.66.R.08-09	66	8	8	48	22	40	3,2	SD.. 09T3..	066
A490.80.R.09-09	80	9	8	58	27	50	3,2	SD.. 09T3..	080
A490.100.R.10-09	100	10	8	78	32	50	3,2	SD.. 09T3..	100

CoreLine – Shell end face mill – 490-09K

▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows



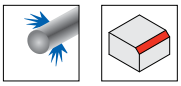


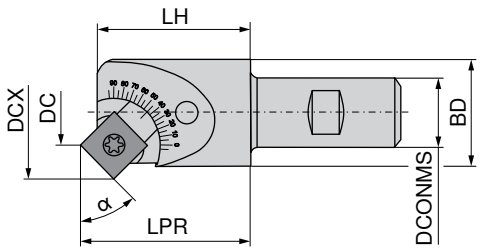


Designation	DC mm	ZNF	APMX mm	ZEFP	ZNP	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 761 ...
A490.40.R.03K6-09	40	3	41	18	6	55	16	38	3,2	SD.. 09T3..	**040**
A490.50.R.04K6-09	50	4	41	24	6	55	22	48	3,2	SD.. 09T3..	**050**
A490.63.R.05K6-09	63	5	41	30	6	60	27	61	3,2	SD.. 09T3..	**063**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
25 - 32	**036**		**113**		**303**	**110**	**192**
40 - 42	**036**	**040**	**113**	**151**	**303**	**110**	**192**
50 - 100	**036**		**113**		**303**	**110**	**192**

CoreLine – Adjustable angle milling cutter – 490-09







Designation	DC mm	DCX mm	LH mm	BD mm	LPR mm	ZNF	DCONMS mm	Tightening torque Nm	Indexable insert	TO 50 690 ...
C490.20.R.01	1,6 - 11,1	20,1 - 23,6	32	18.65	32,9 - 34,6	1	16	3,2	SD.. 09T3..	**01600**

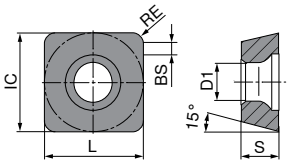
Spare parts for article number	 Cylindrical screw AS 70 950 ...	 Adjustment wedge AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
50 690 01600	**87500**	**87200**	**036**	**113**	**303**	**110**	**192**



→ Angle-dependent dimensions

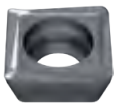
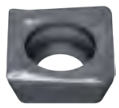
SDHT / SDNT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
SD.T 09T3..	9.52	4.4	9.52	2.5	3.97



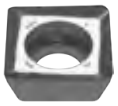
CoreLine – Carbide milling indexable insert

SDHT / SDNT

	TCM10	-29 CTCP230	CTPP235	-29 CTPP235	-33 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	R	M	F	M	F	F	F
	CERMET						
	SDHT	SDNT	SDNT	SDNT	SDNT	SDNT	SDNT
	IM	IM	IM	IM	IM	IM	IM
ISO / RE mm	50 424 ...	51 011 ...	51 082 ...	51 011 ...	51 030 ...	51 111 ...	51 111 ...
09T308ER 0.8			108			458	90801
09T308SR 0.8	900	008		108	408		
P	●	●	●	●	○	●	●
M			○	○	●	●	●
K	○	○	○	○			
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

SDNT / SDHT

		-31 CTCK215	-F10 CTPX715	-27P H216T	-29 CT-P30
		DRAGONSKIN	DRAGONSKIN		
					
		M SDNT	F SDHT	F SDHT	M SDNT
		IM	IM	IM	CX
ISO	RE mm	51 029 ...	51 125 ...	50 424 ...	51 294 ...
09T308FR	0.8		00802	550	
09T308SR	0.8	508			20806
P			○		●
M			○		○
K		●	●	○	○
N			●	●	
S			○		
H					
O			○	○	

MaxiMill – Carbide milling indexable insert

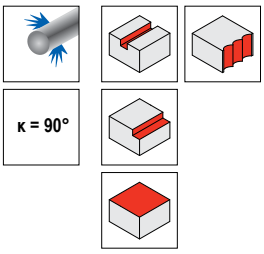
SDHT / SDNT

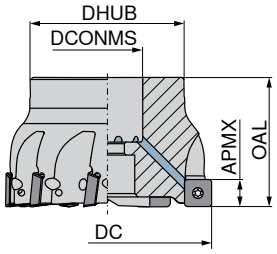
		-27 CTC5240	-M31 CTC5240	-F10 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		F SDHT	M SDNT	F SDHT
		MA	MA	MA
ISO	RE mm	50 496 ...	50 425 ...	51 125 ...
09T308ER	0.8	508	508	55800
P				
M				
K				
N				
S		●	●	●
H				
O				

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Face mills – 490-12



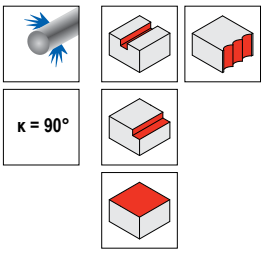


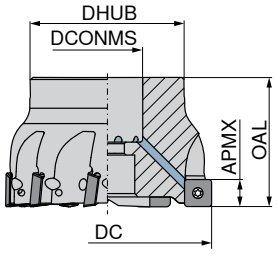


Designation	DC inch	ZNF	APMX inch	DHUB inch	DCONMS inch	OAL inch	Tightening torque Nm	Indexable insert	TO 58 703 ...
A490.200.R.05-12-A075-175-EF	2.000	5	0.393	1.750	0.750	1.750	5	SD.. 1205..	**20005**
A490.250.R.06-12-A100-175-EF	2.500	6	0.433	2.250	1.000	1.750	5	SD.. 1205..	**25006**
A490.300.R.07-12-A100-200-EF	3.000	7	0.433	2.250	1.000	2.000	5	SD.. 1205..	**30007**
A490.400.R.08-12-B150-250-EF	4.000	8	0.433	3.750	1.500	2.500	5	SD.. 1205..	**40008**
A490.600.R.12-12-B200-200-EF	6.000	12	0.433	4.880	2.000	2.000	5	SD.. 1205..	**60012**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
2.000	**037**	**114**	**303**	**01200**	**193**

CoreLine – Face mills – 490-12



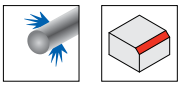


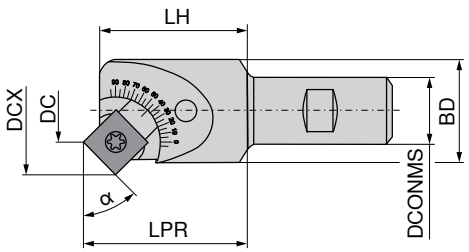


Designation	DC mm	ZNF	APMX mm	DHUB mm	DCONMS mm	OAL mm	Tightening torque Nm	Indexable insert	TO 50 703 ...
A490.40.R.04-12	40	4	11	38	16	40	5	SD.. 1205..	**54000**
A490.50.R.05-12	50	5	11	43	22	40	5	SD.. 1205..	**550**
A490.63.R.06-12	63	6	11	48	22	40	5	SD.. 1205..	**563**
A490.80.R.07-12	80	7	11	58	27	50	5	SD.. 1205..	**580**
A490.100.R.08-12	100	8	11	75	32	50	5	SD.. 1205..	**600**
A490.125.R.10-12	125	10	11	88	40	63	5	SD.. 1205..	**625**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
50	**037**	**040**	**114**	**154**	**303**	**01200**	**193**
63 - 125	**037**	**040**	**114**		**303**	**01200**	**193**

CoreLine – Adjustable angle milling cutter – 490-12







Designation	DC mm	DCX mm	LH mm	BD mm	LPR mm	ZNF	DCONMS mm	Tightening torque Nm	Indexable insert	TO 50 690 ...
C490.26.R.01	1,1 - 14,1	26,6 - 31,5	37	25	38,2 - 40,6	1	20	5	SD.. 1205..	**02000**

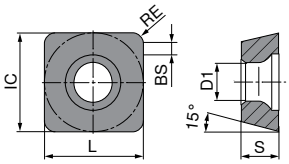
Spare parts for article number	 Cylindrical screw AS 70 950 ...	 Adjustment wedge AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
50 690 02000	**87400**	**87300**	**037**	**114**	**303**	**01200**	**193**



→ Angle-dependent dimensions

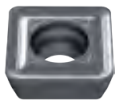
SDHW / SDMT / SDHT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
SDH. 120508..	12.7	5.5	12.7	2.2	5.0
SDHT 120512..	12.7	5.5	12.7	1.8	5.0
SDHT 120520..	12.7	5.5	12.7	1.0	5.0
SDHT 120525..	12.7	5.5	12.7	1.5	5.0
SDMT 120508..	12.7	5.5	12.7	3.0	5.0
SDMT 1205ZZ..	12.7	5.5	12.7	0.9	5.0



CoreLine – Carbide milling indexable insert

SDHW / SDMT / SDHT

	TCM10	-29 CTCP230	-29 CTPP235	-29 CTPM240	-33 CTPM240	-F50 CTPM245	-F50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	R	M	M	M	F	F	F
	CERMET						
	SDHW	SDMT	SDMT	SDMT	SDHT	SDMT	SDMT
	IM	IM	IM	IM	IM	IM	IM
ISO / RE mm	50 428 ...	51 081 ...	51 081 ...	51 081 ...	51 028 ...	51 110 ...	51 110 ...
120508ER 0.8						458	90801
120508SR 0.8	901						
120512SR 1.2					412		
120520SR 2.0					421		
1205ZZSN 0.8		020	120	420			
P	●	●	●	○	○	●	●
M			○	●	●	●	●
K	○	○	○				
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

SDMT / SDHT

		-31 CTCK215	-F10 CTPX715	-27P H216T
		DRAGONSKIN	DRAGONSKIN	
				
		M SDMT	F SDHT	F SDHT
		IM	IM	IM
ISO	RE mm	51 059 ...	51 161 ...	50 426 ...
120508FR	0.8		00802	555
120525FR	2.5			559
1205ZZSN	0.8	521		
P			○	
M			○	
K		●	●	○
N			●	●
S			○	
H				
O			○	○

MaxiMill – Carbide milling indexable insert

SDMT

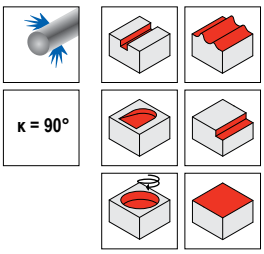
		-M31 CTC5240	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		M SDMT	F SDMT
		MA	MA
ISO	RE mm	50 580 ...	51 110 ...
120508ER	0.8	508	55800
P			
M			
K			
N			
S		●	●
H			
O			

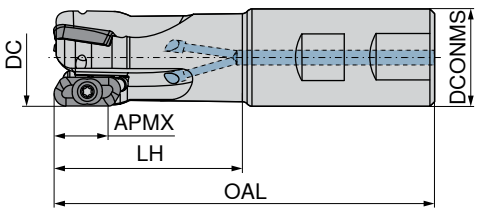
Milling guide

→ Cutting data standard values
→ Starting parameters
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – HSC-11

▲ Insert radius > 0.125": Modify cutter body
▲ High Speed Cutter (HSC)





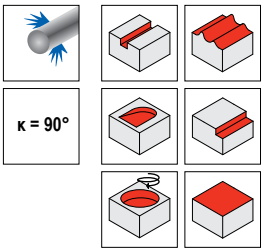


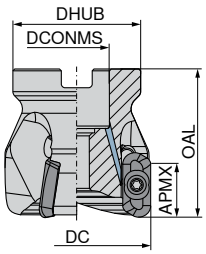


Designation	DC inch	ZNF	APMX inch	DCONMS h6 inch	OAL inch	LH inch	Tightening torque Nm	Indexable insert	TO 58 675 ...
CHSC.0625.R.02-11-A-100-EF	0.625	2	0.393	0.625	3.000	1.000	1,8	XDHT 11T3..	**06202**
CHSC.0625.R.02-11-A-125-EF	0.625	2	0.393	0.625	3.250	1.250	1,8	XDHT 11T3..	**06302**
CHSC.0750.R.02-11-A-150-EF	0.750	2	0.393	0.750	3.600	1.500	1,8	XDHT 11T3..	**07502**
CHSC.100.R.03-11-A-200-EF	1.000	3	0.393	1.000	4.350	2.000	1,8	XDHT 11T3..	**10003**

CoreLine – Face mills – HSC-11

▲ Insert radius > 0.125": Modify cutter body
▲ High Speed Cutter (HSC)







Designation	DC inch	ZNF	APMX inch	DCONMS H6 inch	DHUB inch	OAL inch	Tightening torque Nm	Indexable insert	TO 58 718 ...
AHSC.150.R.04-11-A050-175-EF	1.500	4	0.393	0.500	1.421	1.750	1,8	XDHT 11T3..	**15004**
AHSC.200.R.04-11-A075-175-EF	2.000	4	0.393	0.750	1.750	1.750	1,8	XDHT 11T3..	**20004**
AHSC.250.R.05-11-A100-200-EF	2.500	5	0.393	1.000	2.250	2.000	1,8	XDHT 11T3..	**25005**
AHSC.300.R.05-11-A100-200-EF	3.000	5	0.393	1.000	2.250	2.000	1,8	XDHT 11T3..	**30005**


Screwdriver

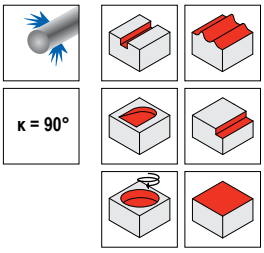

Molykote

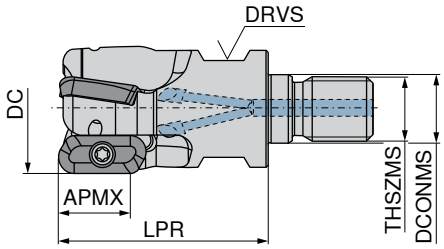

Clamping screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
0.625 - 1.000	**039**	**303**	**128**
1.500 - 3.000	**039**	**303**	**131**

CoreLine – Screw-in cutter – HSC-11

▲ Insert radius >3.2 mm: modify base body



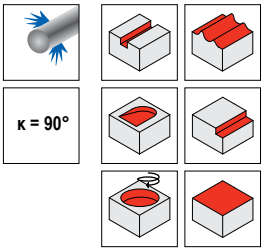


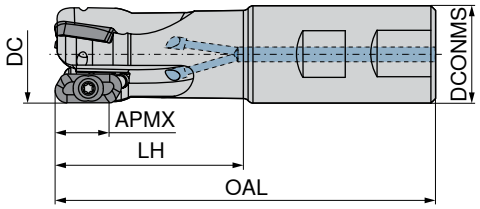


Designation	DC mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	RPMX 1/min.	DRVS mm	Tightening torque Nm	Indexable insert	TO 55 107 ...
GHSC.16.R.02-11	16	2	10	8.5	27	M8	56000	10	1,8	XDHT 11T3..	**016**
GHSC.20.R.02-11	20	2	10	10.5	33	M10	50100	15	1,8	XDHT 11T3..	**020**
GHSC.25.R.03-11	25	3	10	12.5	35	M12	45000	17	1,8	XDHT 11T3..	**025**
GHSC.32.R.03-11	32	3	10	17.0	35	M16	39800	24	1,8	XDHT 11T3..	**032**
GHSC.40.R.03-11	40	3	10	17.0	35	M16	35500	24	1,8	XDHT 11T3..	**040**

CoreLine – End mills – HSC-11

▲ Insert radius >3.2 mm: modify base body



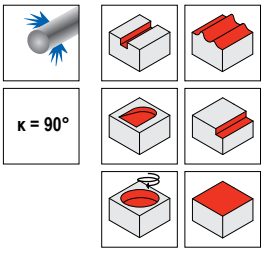


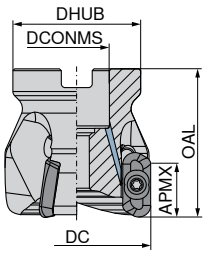


Designation	DC mm	ZNF	APMX mm	DCONMS $_{h6}$ mm	OAL mm	LH mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 675 ...	TO 50 675 ...
CHSC.16.R.02-11-B/A-25	16	2	10	16	75	25	56200	1,8	XDHT 11T3..	**016**	**416**
CHSC.16.R.02-11-A-32	16	2	10	16	165	32	18800	1,8	XDHT 11T3..	**116**	
CHSC.20.R.02-11-A-32	20	2	10	20	84	32	50100	1,8	XDHT 11T3..	**020**	
CHSC.20.R.03-11-B-32	20	3	10	20	84	32	50100	1,8	XDHT 11T3..		**420**
CHSC.20.R.02-11-A-40	20	2	10	20	165	40	26700	1,8	XDHT 11T3..	**120**	
CHSC.25.R.03-11-A-40	25	3	10	25	98	40	45000	1,8	XDHT 11T3..	**225**	
CHSC.25.R.04-11-B-40	25	4	10	25	98	40	45000	1,8	XDHT 11T3..		**425**
CHSC.25.R.02-11-A-50	25	2	10	25	165	50	31700	1,8	XDHT 11T3..	**125**	
CHSC.25.R.03-11-A-50	25	3	10	25	165	50	31700	1,8	XDHT 11T3..	**325**	

CoreLine – Face mills – HSC-11

▲ Insert radius >3.2 mm: modify base body





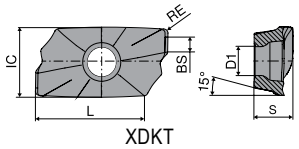


Designation	DC mm	ZNF	APMX mm	DCONMS H6 mm	DHUB mm	OAL mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 718 ...
AHSC.40.R.04-11	40	4	10	16	38	50	35500	1,8	XDHT 11T3..	**040**
AHSC.50.R.04-11	50	4	10	22	43	50	31800	1,8	XDHT 11T3..	**050**
AHSC.63.R.05-11	63	5	10	22	43	50	28300	1,8	XDHT 11T3..	**063**
AHSC.80.R.05-11	80	5	10	27	58	50	25100	1,8	XDHT 11T3..	**080**
AHSC.100.R.05-11	100	5	10	32	78	50	22400	1,8	XDHT 11T3..	**100**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
16 - 25	**043**		**039**		**303**	**128**	**192**
32	**043**		**039**		**303**	**131**	**192**
40	**043**	**040**	**039**	**151**	**303**	**131**	**192**
50 - 63	**043**	**050**	**039**	**154**	**303**	**131**	**192**
80 - 100	**043**		**039**		**303**	**131**	**192**

XDKT / XDHT

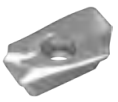
Designation	IC mm	D1 mm	L mm	BS mm	S mm
XD.T 11T302FR	6.8	2.8	10.6	2	3.8
XD.T 11T304FR	6.8	2.8	10.6	1.8	3.8
XD.T 11T308FR	6.8	2.8	10.6	1.4	3.8
XD.T 11T320FR	6.8	2.8	10.6	1.4	3.8
XD.T 11T325FR	6.8	2.8	10.6	1.4	3.8
XDHT 11T312FR	6.8	2.8	10.6	1.4	3.8
XDHT 11T316FR	6.8	2.8	10.6	1.4	3.8
XDHT 11T332FR	6.8	2.8	10.6	0.8	3.8
XDHT 11T340FR	6.8	2.8	10.6	-	3.8
XDHT 11T350FR	6.8	2.8	10.6	-	3.8



XDKT

CoreLine – Carbide milling indexable insert

XDKT / XDHT

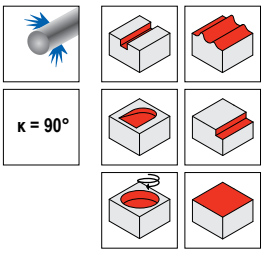
ISO	RE mm	-F20 CTWN215	-27P H216T
			
		F XDKT	F XDHT
		IM	IM
		50 478 ...	50 477 ...
11T302FR	0.2	502	502
11T304FR	0.4	504	504
11T308FR	0.8	508	508
11T312FR	1.2		512
11T316FR	1.6		516
11T320FR	2.0	520 1)	520 1)
11T325FR	2.5	525 1)	525 1)
11T332FR	3.2		532 1)
11T340FR	4.0		540 1)
11T350FR	5.0		550 1)
P			
M			
K		○	○
N		●	●
S			
H			
O		○	○

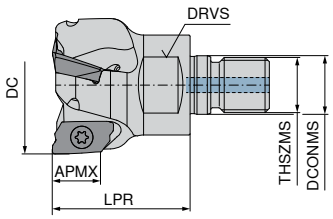
1) Insert radius > 0.063": Modify cutter body

Milling guide

→ Safety information
→ Machining strategy
→ Chip breaker descriptions and overview
→ Cutting data standard values
→ Technical information
→ Grade description and overview

CoreLine – Screw-in cutter – HSC-15

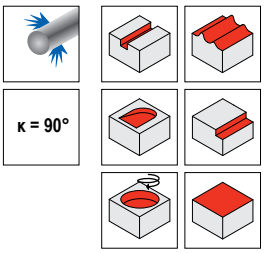


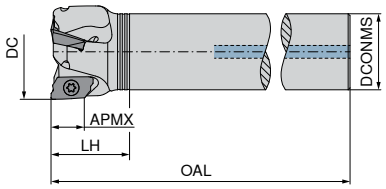




Designation	DC mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 55 109 ...
GHSC.32.R.03-15	32	3	14	17	35	M16	24	39200	3,2	XD.T 1505	**03230**
GHSC.40.R.03-15	40	3	14	17	40	M16	24	36000	3,2	XD.T 1505	**04030**

CoreLine – End mills – HSC-15

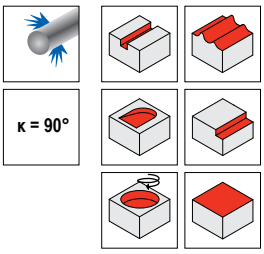


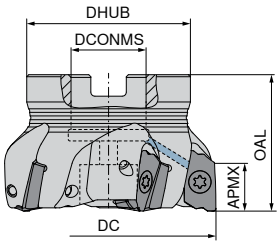


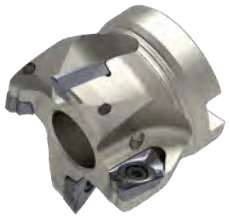


Designation	DC mm	ZNF	APMX mm	DCONMS $_{h6}$ mm	OAL mm	LH mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 763 ...
CHSC.32.R.03-15-A-80	32	3	14	32	140	80.0	39200	3,2	XD.T 1505	**03230**
CHSC.40.R.03-15-A32-100	40	3	14	32	160	33.1	29800	3,2	XD.T 1505	**04030**

CoreLine – Face mills – HSC-15





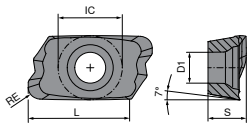


Designation	DC mm	ZNF	APMX mm	DCONMS $_{H6}$ mm	DHUB mm	OAL mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 764 ...
AHSC.40.R.03-15	40	3	14	16	38	40	36000	3,2	XD.T 1505	**04030**
AHSC.50.R.03-15	50	3	14	22	43	40	32800	3,2	XD.T 1505	**05030**
AHSC.50.R.04-15	50	4	14	22	43	40	32800	3,2	XD.T 1505	**05040**
AHSC.63.R.05-15	63	5	14	22	48	40	27500	3,2	XD.T 1505	**06350**
AHSC.80.R.05-15	80	5	14	27	58	50	23400	3,2	XD.T 1505	**08050**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 021 ...
32 - 40	**054**	**120**	**303**	**95100**	**032**
50 - 80	**054**	**120**	**303**	**20500**	**032**

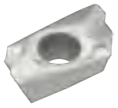
XDKT / XDHT

Designation	IC mm	D1 mm	L mm	S mm
XDHT 150504..	9.3	4.5	14.8	5.56
XDHT 150508..	9.3	4.5	14.8	5.56
XDHT 150512..	9.3	4.5	14.8	5.56
XDHT 150516..	9.3	4.5	14.8	5.56
XDHT 150520..	9.3	4.5	14.8	5.56
XDHT 150525..	9.3	4.5	14.8	5.56
XDHT 150532..	9.3	4.5	14.8	5.56
XDHT 150540..	9.3	4.5	14.8	5.56
XDKT 150508..	9.3	4.4	14.8	5.56
XDKT 150512..	9.3	4.4	14.8	5.56



CoreLine – Carbide milling indexable insert

XDHT / XDKT

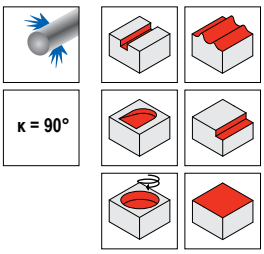
		-F10 CTWN215	-F20 CTWN215
			
		F XDHT	F XDKT
		IM	IM
ISO	RE mm	50 313 ...	50 479 ...
150504FR	0.4	50400	
150508FR	0.8	50800	508
150512FR	1.2	51200	51200
150516FR	1.6	51600	
150520FR	2.0	52000	
150525FR	2.5	52500	
150532FR	3.2	53200	
150540FR	4.0	54000	
P			
M			
K		○	○
N		●	●
S			
H			
O		○	○

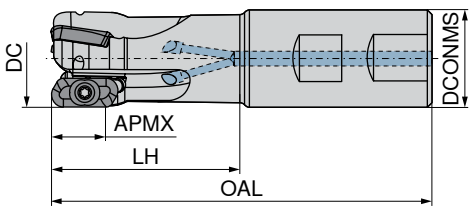
Milling guide

→ Safety information
→ Machining strategy
→ Chip breaker descriptions and overview
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→ Technical information
→ Grade description and overview

CoreLine – End mills – HSC-19

▲ Insert radius > 0.157": Modify cutter body
▲ High Speed Cutter (HSC)





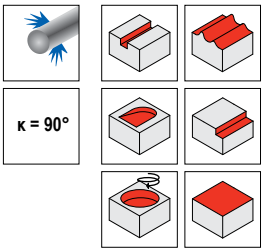


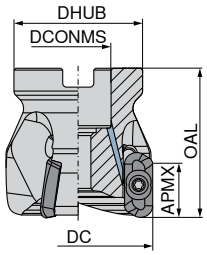


Designation	DC inch	ZNF	APMX inch	DCONMS $_{h5}$ inch	OAL inch	LH inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 679 ...
CHSC.100.R.02-19-A-200-EF	1.000	2	0.709	1.000	4.500	2.000	35000	5	XDHT 1904..	**10002**
CHSC.100.R.02-19-A-250-EF	1.000	2	0.709	1.000	6.500	2.500	32800	5	XDHT 1904..	**10102**
CHSC.125.R.02-19-A-250-EF	1.250	2	0.709	1.250	5.000	2.500	29100	5	XDHT 1904..	**12502**
CHSC.125.R.02-19-A-325-EF	1.250	2	0.709	1.250	6.500	3.250	27200	5	XDHT 1904..	**12602**
CHSC.150.R.03-19-A125-325-EF	1.500	3	0.709	1.250	5.750	3.250	23800	5	XDHT 1904..	**15003**
CHSC.150.R.03-19-A125-400-EF	1.500	3	0.709	1.250	6.500	4.000	21900	5	XDHT 1904..	**15103**

CoreLine – Face mills – HSC-19

▲ Insert radius > 0.157": Modify cutter body
▲ High Speed Cutter (HSC)





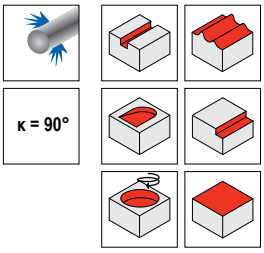


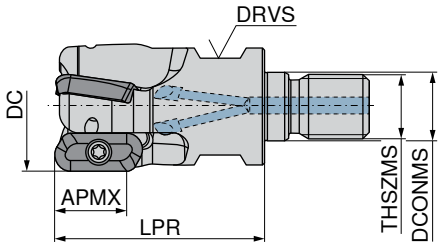
Designation	DC inch	ZNF	APMX inch	DCONMS $_{H6}$ inch	DHUB inch	OAL inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 716 ...
AHSC.200.R.03-19-A075-175-EF	2.000	3	0.709	0.750	1.750	1.750	21600	5	XDHT 1904..	**20003**
AHSC.250.R.03-19-A100-200-EF	2.500	3	0.709	1.000	2.250	2.250	18800	5	XDHT 1904..	**25003**
AHSC.250.R.04-19-A100-200-EF	2.500	4	0.709	1.000	2.250	2.250	18800	5	XDHT 1904..	**25004**
AHSC.300.R.03-19-A100-200-EF	3.000	3	0.709	1.000	2.250	2.250	16400	5	XDHT 1904..	**30003**
AHSC.300.R.04-19-A100-200-EF	3.000	4	0.709	1.000	2.250	2.250	16400	5	XDHT 1904..	**30004**
AHSC.400.R.04-19-B125-200-EF	4.000	4	0.709	1.250	2.750	2.750	14500	5	XDHT 1904..	**40004**
AHSC.500.R.05-19-B150-200-EF	5.000	5	0.709	1.500	3.750	3.750	12800	5	XDHT 1904..	**50005**
AHSC.600.R.05-19-B150-200-EF	6.000	5	0.709	1.500	3.750	3.750	11500	5	XDHT 1904..	**60005**

Spare parts DC	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.000	**105**	**303**	**172**
1.250	**039**	**303**	**128**
1.250 - 1.500	**105**	**303**	**173**
2.000 - 6.000	**105**	**303**	**174**

CoreLine – Screw-in cutter – HSC-19

▲ Insert radius >4.0 mm: modify base body



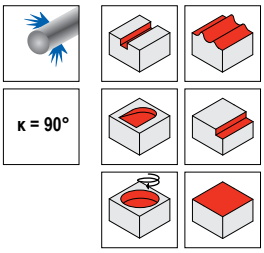


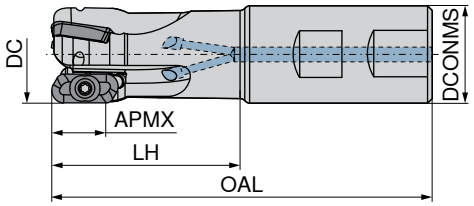


Designation	DC mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 55 108 ...
GHSC.25.R.02-19	25	2	18	12.5	45	M12	17	34400	5	XDHT 1904..	**025**
GHSC.32.R.03-19	32	3	18	17.0	52	M16	24	29100	5	XDHT 1904..	**032**
GHSC.40.R.03-19	40	3	18	17.0	52	M16	24	24900	5	XDHT 1904..	**040**

CoreLine – End mills – HSC-19

▲ Insert radius >4.0 mm: modify base body



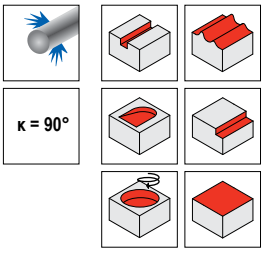


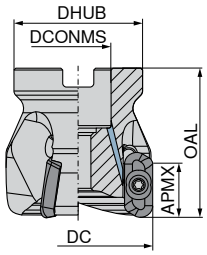


Designation	DC mm	ZNF	APMX mm	DCONMS $_{h5}$ mm	OAL mm	LH mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 679 ...	TO 50 679 ...
CHSC.25.R.02-19-A-50	25	2	18	25	121	50	32400	5	XDHT 1904..	**225**	
CHSC.25.R.02-19	25	2	18	25	121	65	32400	5	XDHT 1904..		**025**
CHSC.25.R.02-19-A-63	25	2	18	25	165	63	24700	5	XDHT 1904..	**325**	
CHSC.32.R.02-19-A-63	32	2	18	32	125	63	28900	5	XDHT 1904..	**232**	
CHSC.32.R.03-19-A-63	32	3	18	32	125	63	28900	5	XDHT 1904..	**432**	
CHSC.32.R.03-19	32	3	18	32	125	65	28900	5	XDHT 1904..		**033**
CHSC.32.R.02-19	32	2	18	32	125	65	28900	5	XDHT 1904..		**032**
CHSC.32.R.02-19-A-80	32	2	18	32	165	80	24400	5	XDHT 1904..	**332**	
CHSC.32.R.03-19-A-80	32	3	18	32	165	80	24400	5	XDHT 1904..	**532**	

CoreLine – Face mills – HSC-19

▲ Insert radius >4.0 mm: modify base body





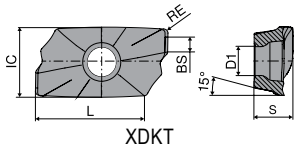


Designation	DC mm	ZNF	APMX mm	DCONMS H6 mm	DHUB mm	OAL mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 716 ...
AHSC.40.R.03-19	40	3	18	16	38	50	24900	5	XDHT 1904..	**040**
AHSC.50.R.04-19	50	4	18	22	43	50	21600	5	XDHT 1904..	**050**
AHSC.63.R.04-19	63	4	18	22	48	50	18800	5	XDHT 1904..	**163**
AHSC.63.R.05-19	63	5	18	22	48	50	18800	5	XDHT 1904..	**063**
AHSC.80.R.04-19	80	4	18	27	58	50	16400	5	XDHT 1904..	**180**
AHSC.80.R.05-19	80	5	18	27	58	50	16400	5	XDHT 1904..	**080**
AHSC.100.R.04-19	100	4	18	32	78	50	14500	5	XDHT 1904..	**200**
AHSC.100.R.05-19	100	5	18	32	78	50	14500	5	XDHT 1904..	**100**
AHSC.125.R.05-19	125	5	18	40	88	63	12800	5	XDHT 1904..	**125**
AHSC.125.R.06-19	125	6	18	40	88	63	12800	5	XDHT 1904..	**225**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Clamping key T AS 80 397 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
25	**036**		**113**		**303**	**172**	**193**
32	**036**		**113**		**303**	**173**	**193**
40	**036**	**040**	**113**	**151**	**303**	**173**	**193**
50 - 63	**036**	**050**	**113**	**154**	**303**	**174**	**193**
80 - 125	**036**		**113**		**303**	**174**	**193**

XDHT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDHT 190402..	9.52	4.65	19	2	4.76
XDHT 190404..	9.52	4.65	19	2	4.76
XDHT 190408..	9.52	4.65	19	2	4.76
XDHT 190412..	9.52	4.65	19	2	4.76
XDHT 190416..	9.52	4.65	19	2	4.76
XDHT 190420..	9.52	4.65	19	2	4.76
XDHT 190425..	9.52	4.65	19	1.4	4.76
XDHT 190432..	9.52	4.65	19	1	4.76
XDHT 190440..	9.52	4.65	19	1	4.76
XDHT 190450..	9.52	4.65	19	-	4.76



XDKT

CoreLine – Carbide milling indexable insert

XDHT

		-F10 CTPX715	-27P H216T
		DRAGONSKIN	
			
		F XDHT	F XDHT
		IM	IM
ISO	RE mm	51 159 ...	50 487 ...
190402FR	0.2	00202	552
190404FR	0.4	00402	554
190408FR	0.8	00802	556
190412FR	1.2	01202	557
190416FR	1.6	01602	558
190420FR	2.0	02002	560
190425FR	2.5	02502	562
190432FR	3.2	03202	564
190440FR	4.0	04002	566
190450FR	5.0	05002 1)	568 1)
P		○	
M		○	
K		●	○
N		●	●
S		○	
H			
O		○	○

1) Insert radius > 0.157": Modify cutter body

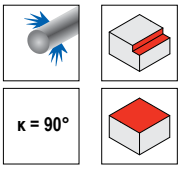
Milling guide

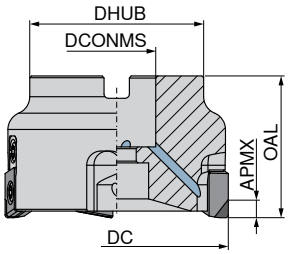
→ Cutting data standard values
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→ Grade description and overview

CoreLine – Face mills – HPC 12

▲ 50 723 ... normal pitch
▲ 50 724 ... fine pitch

Scope of supply:
Tool, adjustment wedges and setting key; incl. wooden box







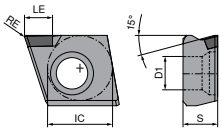
Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS H6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 723 ...	TO 50 724 ...
AHPC.40.R.04-12	40	4	11	40	34	16	32000	5	ZNHW 1205..	**040**	
AHPC.50.R.04-12	50	4	11	40	49	22	32000	5	ZNHW 1205..	**050**	
AHPC.50.R.05-12	50	5	11	40	49	22	32000	5	ZNHW 1205..		**050**
AHPC.63.R.04-12	63	4	11	40	49	22	29000	5	ZNHW 1205..	**063**	
AHPC.63.R.07-12	63	7	11	40	49	22	29000	5	ZNHW 1205..		**063**
AHPC.80.R.05-12	80	5	11	50	60	27	26000	5	ZNHW 1205..	**080**	
AHPC.80.R.09-12	80	9	11	50	60	27	26000	5	ZNHW 1205..		**080**
AHPC.100.R.06-12	100	6	11	50	70	32	24000	5	ZNHW 1205..	**100**	
AHPC.100.R.12-12	100	12	11	50	70	32	24000	5	ZNHW 1205..		**100**
AHPC.125.R.08-12	125	8	11	63	72	40	22000	5	ZNHW 1205..	**125**	
AHPC.125.R.14-12	125	14	11	63	72	40	22000	5	ZNHW 1205..		**12514**
AHPC.160.R.10-12	160	10	11	63	118	40	18000	5	ZNHW 1205..	**16010** [1]	
AHPC.160.R.16-12	160	16	11	63	118	40	18000	5	ZNHW 1205..		**16016** [1]
AHPC.200.R.12-12	200	12	11	63	153	60	16000	5	ZNHW 1205..	**20000** [1]	
AHPC.250.R.14-12	250	14	11	63	200	60	14000	5	ZNHW 1205..	**25014** [1]	
AHPC.315.R.18-12	315	18	11	80	265	60	12000	5	ZNHW 1205..	**31518** [1]	

1) Without through coolant supply

Spare parts DC	TORX® interchangeable blade	 Molykote	 Clamping screw	 Wedge	 Torque screwdriver
	AS	AS	AS	AS	AS
	80 950 ...	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
40 - 315	**036**	**303**	**174**	**199**	**193**

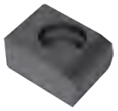
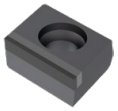
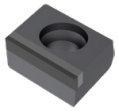
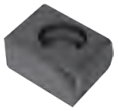
ZNHW

Designation	LE mm	D1 mm	IC mm	S mm
ZNHW 120504ER-1503	3	4.85	10	5.4
ZNHW 120504FR-0007	7	4.85	10	5.4
ZNHW 120508ER-1503	3	4.85	10	5.4
ZNHW 120508SR-0003	3	4.85	10	5.4
ZNHW 1205EOER-1002	2	4.85	10	5.4
ZNHW 1205POER-1511	11	4.85	10	5.4
ZNHW 1205POFR-1003	3	4.85	10	5.4
ZNHW 1205POSR-1503	3	4.85	10	5.4
ZNHW 1205POSR-1506	6	4.85	10	5.4
ZNHW 1205POSR-3003	3	4.85	10	5.4
ZNHW 1205ZZSR-5003	3	4.85	10	5.4



CoreLine – PCD milling indexable insert

ZNHW

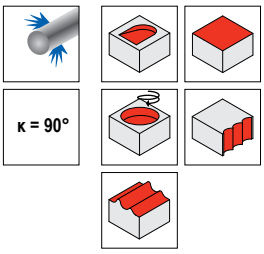
		CTL3215	CTD4205	-R CTD4205	CTD4205	-Q CTD4205
						
		CBN ZNHW	**DIAMOND** ZNHW	**DIAMOND** ZNHW	**DIAMOND** ZNHW	**DIAMOND** ZNHW
		PC	PC	PC	PC	PC
ISO	RE mm	**50 515 ...**	**50 467 ...**	**50 517 ...**	**50 468 ...**	**50 466 ...**
120504ER-1503	0.4				**906**	
120504FR-0007	0.4				**904**	
120508ER-1503	0.8				**910**	
120508SR-0003	0.8				**908**	
1205EOER-1002		**952**				
1205POER-1511			**902**			
1205POFR-1003			**90600**			
1205POSR-1503			**900**			
1205POSR-1506			**90800**	**90800**		
1205POSR-3003			**904**			
1205ZZSR-5003						**900** [1]
P						
M						
K		●				
N			●	●	●	●
S						
H		○				
O			○	○	○	○

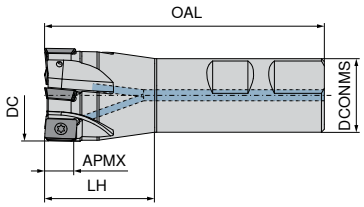
1) -Q = Wiper insert

Milling guide

→ Cutting data standard values
→ Machining strategy
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – 210-10



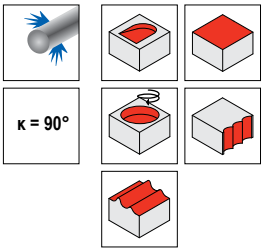


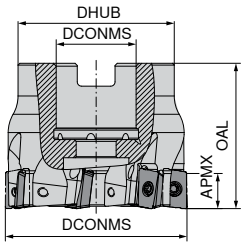




Designation	DC mm	ZNF	APMX mm	DCONMS mm	OAL mm	LH mm	Indexable insert	TO 50 695 ...
C210.16.R.02	16	2	9	16	80	32	AP.. 1003..	**01602**
C210.20.R.03	20	3	9	20	90	40	AP.. 1003..	**02003**
C210.25.R.04	25	4	9	25	100	44	AP.. 1003..	**02504**
C210.32.R.05	32	5	9	25	95	38	AP.. 1003..	**03205**

CoreLine – Face mills – 210-10





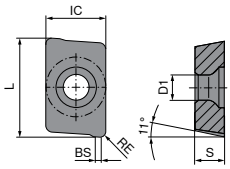


Designation	DC mm	ZNF	APMX mm	DCONMS $_{H6}$ mm	DHUB mm	OAL mm	Indexable insert	TO 50 696 ...
A210.40.R.06/04	40	6	9	22	38	40	AP.. 1003..	**04006**
A210.50.R.08/05	50	8	9	22	43	40	AP.. 1003..	**05008**
A210.63.R.10/06	63	10	9	22	48	40	AP.. 1003..	**06310**
A210.80.R.12	80	12	9	27	58	50	AP.. 1003..	**06012**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
16	**033**	**110**	**303**	**116**	**191**
20 - 80	**033**	**110**	**303**	**13800**	**191**

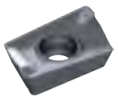
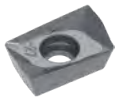
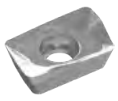
APKT / APHT / APHW

Designation	IC mm	D1 mm	L mm	BS mm	S mm
APHT 100302FR	6.65	2.8	10.80	1.7	3.5
APHT 100304FR	6.65	2.8	10.80	1.7	3.5
APHT 100308FR	6.65	2.8	10.80	1.7	3.5
APHT 100308SR	6.65	2.8	10.70	2.2	3.5
APHT 100312SR	6.65	2.8	10.70	1.8	3.5
APHW 100308SR	6.65	2.8	10.10	1.5	3.5
APKT 1003PDSR	6.65	2.8	10.80	1.1	3.5
APKT 1604PDSR	9.52	4.4	16.39	1.4	5.26



CoreLine – Carbide milling indexable insert

APKT / APHT

	-29 CTPP235	-29 CTCP230	-27P CTPX715	-33 CTPM240	-27P H216T
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
	M APKT	M APKT	F APHT	F APHT	F APHT
	IM	IM	IM	IM	IM
ISO / RE mm	51 021 ...	51 021 ...	51 158 ...	51 084 ...	50 443 ...
100302FR 0.2			00202		546
100304FR 0.4			00402		548
100308FR 0.8					550
100308SR 0.8				408	
100312SR 1.2				412	
1003PDSR 0.5	115	015			
P	●	●	○	○	
M	○		○	●	
K	○	○	●		○
N			●		●
S			○		
H					
O			○		○

CoreLine – Carbide milling indexable insert

APKT

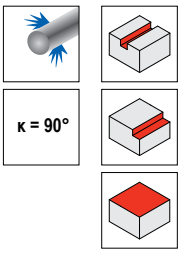
		-31 CTCK215	-29M CTPP235	-29M CTCP230	-29M CT-P30
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
		M APKT	**M** APKT	**M** APKT	**M** APKT
		IM	IM	IM	CX
ISO	RE mm	**51 041 ...** **520**	**51 078 ...** **120**	**51 078 ...** **020**	**51 293 ...** **22006**
1003PDSR	0.5				
P			●	●	●
M			○		○
K		●	○	○	○
N					
S					
H					
O					

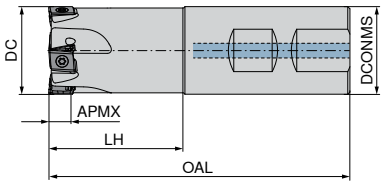
CoreLine – CERMET milling indexable insert

APHW

		TCM10
		
		F **CERMET** APHW
		IM
ISO	RE mm	**51 146 ...** **30803**
100308SR	0.8	
P		●
M		
K		○
N		
S		
H		
O		

CoreLine – End mills – Tangent-09



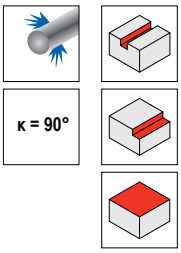


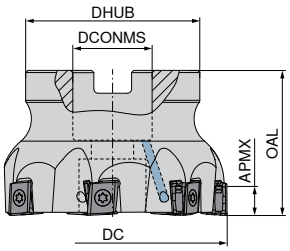




Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 354 ...
CTANG.25.R.03-09-B-43-100	25	3	8	100	43	25	39600	2,2	LN.U 0904	**02503**
CTANG.25.R.04-09-B-43-100	25	4	8	100	43	25	39600	2,2	LN.U 0904	**02504**
CTANG.32.R.04-09-B-49-110	32	4	8	110	49	32	35000	2,2	LN.U 0904	**03204**
CTANG.32.R.05-09-B-49-110	32	5	8	110	49	32	35000	2,2	LN.U 0904	**03205**
CTANG.40.R.04-09-B32-49-110	40	4	8	110	49	32	31300	2,2	LN.U 0904	**04004**
CTANG.40.R.06-09-B32-49-110	40	6	8	110	49	32	31300	2,2	LN.U 0904	**04006**

CoreLine – Face mills – Tangent-09





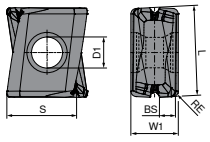


Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 353 ...	TO 50 353 ...
ATANG.40.R.04-09-A16	40	4	8	40	38	16	31300	2,2	LN.U 0904		**04004**
ATANG.40.R.06-09-A16	40	6	8	40	38	16	31300	2,2	LN.U 0904	**04006**	
ATANG.50.R.05-09-A22	50	5	8	40	43	22	28000	2,2	LN.U 0904		**05005**
ATANG.50.R.07-09-A22	50	7	8	40	43	22	28000	2,2	LN.U 0904	**05007**	
ATANG.63.R.07-09-A22	63	7	8	40	48	22	25000	2,2	LN.U 0904		**06307**
ATANG.63.R.10-09-A22	63	10	8	40	48	22	25000	2,2	LN.U 0904	**06310**	
ATANG.80.R.08-09-A27	80	8	8	50	58	27	21000	2,2	LN.U 0904		**08008**
ATANG.80.R.11-09-A27	80	11	8	50	58	27	21000	2,2	LN.U 0904	**08011**	

Spare parts **Indexable insert**	 Screwdriver	 Molykote	 Clamping screw	 Torque screwdriver
	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...	AS 80 950 ...
LN.U 0904	**119**	**303**	**710**	**193**

LNHU

Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 0904..	3.45	8.72	1.19	8.0	4.8



CoreLine – Carbide milling indexable insert

LNHU

		-M50 CTCP230	-M50 CTPP235	-M50 CTPM240	-M50 CTCM245	-M50 CTCK215	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M	M	M	M	M	M
		LNHU	LNHU	LNHU	LNHU	LNHU	LNHU
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 257 ...	51 257 ...	51 257 ...	51 257 ...	51 257 ...	51 257 ...
090404	0.4	00400	10400	40400	40401	50400	60400
P		●	●	○	●		
M			○	●	●		
K		○	○			●	●
N							
S					○		
H							
O							

MaxiMill – Carbide milling indexable insert

LNHU

-F40
CTC5240

DRAGONSKIN



F
LNHU

MA

51 258 ...
10401

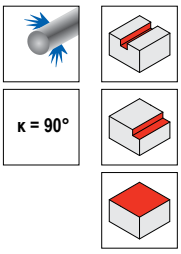
ISO	RE mm
090404	0.4

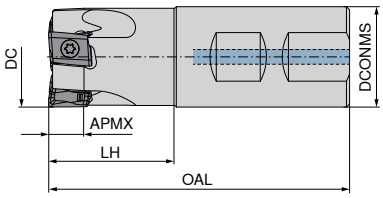
P	
M	
K	
N	
S	●
H	
O	

Milling guide

→ Cutting data standard values
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→ Machining strategy
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CoreLine – End mills – Tangent-13



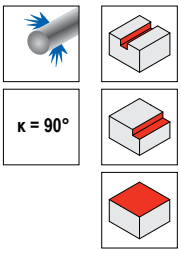


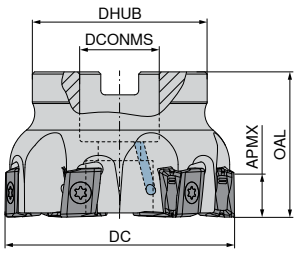




Designation	DC mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 351 ...
CTANG.32.R.03-13-B32-40	32	3	12	110	49	32	25000	5,0	LN.U 1306	**03203**
CTANG.40.R.04-13-B32-50	40	4	12	110	50	32	22500	5,0	LN.U 1306	**04004**

CoreLine – Face mills – Tangent-13







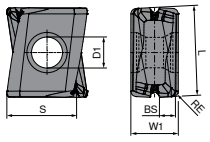
Designation	DC mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 350 ...	TO 50 350 ...
ATANG.40.R.04-13-A16	40	4	12	40	38	16	22500	5,0	LN.U 1306		**04004**
ATANG.40.R.05-13-A16	40	5	12	40	38	16	22500	5,0	LN.U 1306	**04005**	
ATANG.40.R.05-13-A22	40	5	12	40	38	22	22500	5,0	LN.U 1306	**14005**	
ATANG.50.R.05-13-A22	50	5	12	40	43	22	20200	5,0	LN.U 1306		**05005**
ATANG.50.R.06-13-A22	50	6	12	40	43	22	20200	5,0	LN.U 1306	**05006**	
ATANG.50.R.06-13-A27	50	6	12	45	48	27	20200	5,0	LN.U 1306	**15006**	
ATANG.63.R.06-13-A22	63	6	12	40	48	22	18000	5,0	LN.U 1306		**06306**
ATANG.63.R.08-13-A22	63	8	12	40	48	22	18000	5,0	LN.U 1306	**06308**	
ATANG.63.R.08-13-A27	63	8	12	45	48	27	18000	5,0	LN.U 1306	**16308**	
ATANG.80.R.07-13-A27	80	7	12	50	58	27	15900	5,0	LN.U 1306		**08007**
ATANG.80.R.10-13-A27	80	10	12	50	58	27	15900	5,0	LN.U 1306	**08010**	
ATANG.100.R.09-13-A32	100	9	12	50	78	32	14200	5	LN.U 1306		**10009**
ATANG.100.R.13-13-A32	100	13	12	50	78	32	14200	5,0	LN.U 1306	**10013**	
ATANG.125.R.11-13-A40	125	11	12	63	88	40	12700	5,0	LN.U 1306		**12511**
ATANG.125.R.16-13-A40	125	16	12	63	88	40	12700	5,0	LN.U 1306	**12516**	

Spare parts
Indexable insert

	TORX® interchangeable blade	 Screwdriver	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
LN.U 1306	**054**	**120**	**303**	**134**	**193**

LNHU

Designation	D1 mm	L mm	BS mm	S mm	W1 mm
LNHU 1306..	4.5	12.2	1.97	10.2	7



CoreLine – Carbide milling indexable insert

LNHU

ISO	RE mm	-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-F50 CTCM245	-M50 CTCK215	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		M	M	F	F	M	M
		LNHU	LNHU	LNHU	LNHU	LNHU	LNHU
		IM	IM	IM	IM	IM	IM
		51 255 ...	51 255 ...	51 256 ...	51 256 ...	51 255 ...	51 255 ...
130608	0.8	00800	10800	40800	40801	50800	60800
P		●	●	○	●		
M			○	●	●		
K		○	○			●	●
N							
S					○		
H							
O							

MaxiMill – Carbide milling indexable insert

LNHU

-F50
CTC5240

DRAGONSKIN



F
LNHU

MA

51 256 ...
10801

ISO	RE mm
130608	0.8

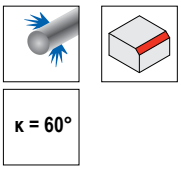
P	
M	
K	
N	
S	●
H	
O	

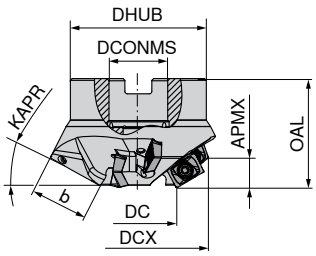
Milling guide

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CoreLine – Chamfer milling cutter – 242-15

▲ Note: only use indexable inserts with a corner radius of less than 1.6 mm
▲ ZEFP = Number of indexable inserts
▲ ZNP = Number of rows

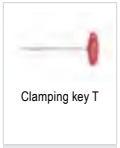
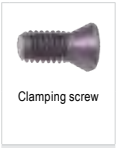
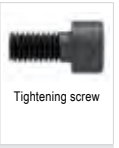






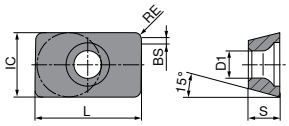
KAPR	DC mm	DCX mm	ZNF	APMX mm	ZEFP	b ±0,3 mm	OAL mm	DCONMS mm	DHUB mm	ZNP	Tightening torque Nm	Indexable insert	TO 50 768 ...
15°	35	89.60	3	7.0	6	27.6	50	27	62.5	2	3,2	LD.. 15...	**11503**
30°	35	83.60	3	13.6	6	27.6	50	27	62.5	2	3,2	LD.. 15...	**13003**
45°	35	74.60	3	19.3	6	27.6	50	27	62.5	2	3,2	LD.. 15...	**14503**
60°	35	62.70	3	23.6	6	27.6	50	22	49.0	2	3,2	LD.. 15...	**16003**
75°	35	49.48	3	26.7	6	27.6	60	22	49.0	2	3,2	LD.. 15...	**17503** [1)]

1) Version with power screw

	 TORX® interchangeable blade	 Clamping key T	 Screwdriver	 Power screw	 Molykote	 Clamping screw	 Torque screwdriver	 Tightening screw
	AS	AS	AS	AS	AS	AS	AS	CT
Spare parts KAPR	**80 950 ...**	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**	**83 950 ...**
15 - 60	**036**		**113**		**303**	**304**	**192**	**125**
75	**036**	**050**	**113**	**154**	**303**	**304**	**192**	

LDFT / LDFW / LDMT

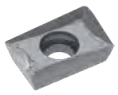
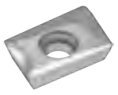
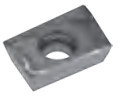
Designation	IC mm	D1 mm	L mm	BS mm	S mm
LD.. 1504PD..	9.52	4.4	15	1.2	4.76
LDFT 150408..	9.52	4.4	15	1.2	4.76
LDFT 1504PD..	9.52	4.4	15	0.8	4.76



L...

CoreLine – LDFT

LDMT / LDFT / LDFW

		-29 CTCP230	-29 CTPP235	-33 CTPM240	CTCK215	-F10 CTPX715	-27P H216T	-27P CTPX715
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		
								
		M	M	F	R	F	F	F
		LDMT	LDMT	LDFT	LDFW	LDFT	LDFT	LDFT
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 080 ...	51 080 ...	51 042 ...	51 043 ...	51 157 ...	50 409 ...	50 409 ...
150405FR	0.5							00502
150408FR	0.8					00802	550	
150440SR	4.0			44000 [1]				
1504PDSR	0.8	020	120		520			
1504PDSR	1.2			420				
P		●	●	○		○		○
M			○	●		○		○
K		○	○		●	●	○	●
N						●	●	●
S						○		○
H								
O						○	○	○

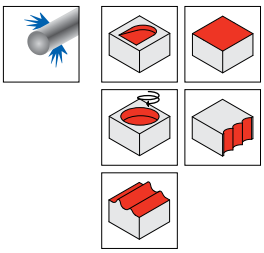
1) Insert radius >3.2 mm: modify base body

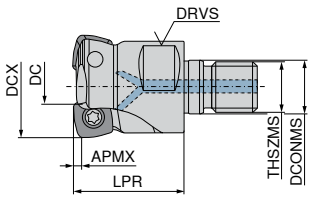
Milling guide

→ Cutting data standard values
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Screw-in cutter – HFC

▲ High Feed Cutter (HFC)





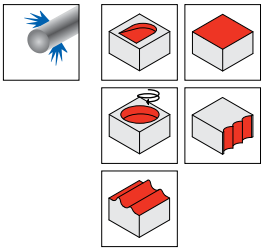


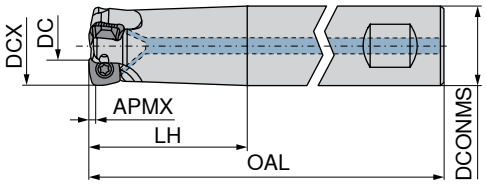
Designation	DC inch	DCX inch	ZNF	APMX inch	LPR inch	DCONMS inch	THSZMS	DRVS inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 682 ...
GHFC.0625.R.02-06-125-F	0.287	0.625	2	0.031	1.250	0.335	M8	0.394	17800	1,2	XPLX 0603..	**06202** 1)
GHFC.0750.R.03-06-125-F	0.412	0.750	3	0.031	1.250	0.413	M10	0.591	21400	1,2	XPLX 0603..	**07503** 1)
GHFC.100.R.04-06-150-F	0.662	1.000	4	0.031	1.500	0.492	M12	0.669	17000	1,2	XPLX 0603..	**10004** 1)
GHFC.125.R.05-06-150-F	0.912	1.250	5	0.031	1.500	0.669	M16	0.945	20300	1,2	XPLX 0603..	**12505** 1)

1) Not in stock

CoreLine – End mills – HFC

▲ High Feed Cutter (HFC)



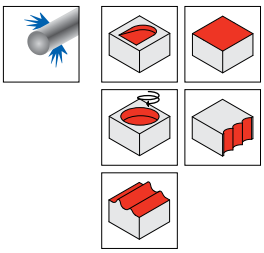


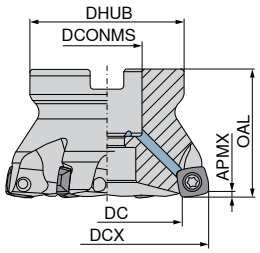


Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS h6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 681 ...	TO 58 681 ...
CHFC.0625.R.02-06-B-150-EF	0.287	0.625	2	0.031	3.500	1.500	0.625	18100	1,2	XPLX 0603..		**26202**
CHFC.0625.R.02-06-A-150-EF-800	0.287	0.625	2	0.031	8.000	1.500	0.625	18100	1,2	XPLX 0603..	**06202**	
CHFC.0750.R.03-06-B-200-EF	0.412	0.750	3	0.031	4.200	2.000	0.750	14100	1,2	XPLX 0603..		**27503**
CHFC.0750.R.03-06-A-200-EF-900	0.412	0.750	3	0.031	9.000	2.000	0.750	14100	1,2	XPLX 0603..	**07503**	
CHFC.100.R.04-06-B-200-EF	0.662	1.000	4	0.031	4.400	2.000	1.000	15400	1,2	XPLX 0603..		**30004**
CHFC.100.R.04-06-A-200-EF-900	0.662	1.000	4	0.031	9.000	2.000	1.000	15400	1,2	XPLX 0603..	**10004**	
CHFC.125.R.05-06-B100-250-EF	0.912	1.250	5	0.031	4.900	2.500	1.000	10700	1,2	XPLX 0603..		**32505**
CHFC.125.R.05-06-A100-250-EF-900	0.912	1.250	5	0.031	9.000	2.500	1.000	10700	1,2	XPLX 0603..	**12505**	
CHFC.100.R.03-09-B-200-EF	0.535	1.000	3	0.039	4.300	2.000	1.000	15400	3,2	XDLX 09T3..		**60003**
CHFC.100.R.03-09-A-200-EF-800	0.535	1.000	3	0.039	8.000	2.000	1.000	9000	3,2	XDLX 09T3..	**50003**	
CHFC.125.R.04-09-B100-250-EF	0.785	1.250	4	0.039	4.800	2.500	1.000	10700	3,2	XDLX 09T3..		**62504**
CHFC.125.R.03-09-A-250-EF-1000	0.785	1.250	3	0.039	10.000	2.500	1.250	8100	3,2	XDLX 09T3..	**52503**	
CHFC.125.R.02-12-A-250-EF-1000	0.596	1.250	2	0.079	10.000	2.500	1.250	6480	5	XOLX 1204..	**82502**	
CHFC.150.R.03-12-A125-250-EF-1000	0.846	1.500	3	0.079	10.000	2.500	1.250	6100	5	XOLX 1204..	**85003**	

CoreLine – Face mills – HFC

▲ High Feed Cutter (HFC)







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DCONMS H6 inch	DHUB inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 683 ...
AHFC.150.R.04-09-A050-175-EF	1.035	1.500	4	0.039	1.420	0.500	1.420	26400	3,2	XDLX 09T3..	**15004**
AHFC.200.R.05-09-A075-175-EF	1.535	2.000	5	0.039	1.750	0.750	1.750	23500	3,2	XDLX 09T3..	**20005**
AHFC.250.R.06-09-A075-200-EF	2.035	2.500	6	0.039	1.750	0.750	1.750	20500	3,2	XDLX 09T3..	**25006**
AHFC.200.R.04-12-A075-175-EF	1.346	2.000	4	0.079	1.750	0.750	1.750	18800	5	XOLX 1204..	**20104**
AHFC.250.R.05-12-A100-200-EF	1.846	2.500	5	0.079	2.250	1.000	2.250	16400	5	XOLX 1204..	**25105**
AHFC.300.R.07-12-A100-200-EF	2.346	3.000	7	0.079	2.250	1.000	2.250	14000	5	XOLX 1204..	**30107**
AHFC.400.R.08-12-A125-200-EF	3.346	4.000	8	0.079	2.750	1.250	2.750	12000	5	XOLX 1204..	**40108**
AHFC.500.R.10-12-B150-250-EF	4.346	5.000	10	0.079	3.750	1.500	3.750	9800	5	XOLX 1204..	**50110**
AHFC.300.R.06-19-A100-200-EF	1.970	3.000	6	0.130	2.250	1.000	2.250	4900	5	XOLX 1906..	**30206**
AHFC.400.R.08-19-A125-200-EF	2.970	4.000	8	0.130	2.750	1.250	2.750	4000	5	XOLX 1906..	**40208**
AHFC.500.R.10-19-B150-250-EF	3.970	5.000	10	0.130	3.750	1.500	3.750	3500	5	XOLX 1906..	**50210**

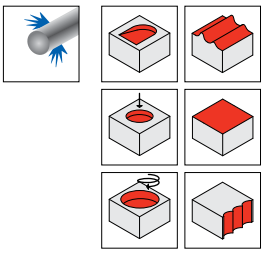

Screwdriver

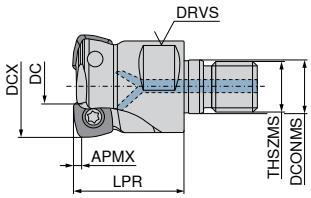

Molykote


Clamping screw

Spare parts Indexable insert	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
XDLX 09T3..	**105**	**303**	**304**
XDLX 09T3.. (Ø1.000)	**105**	**303**	**110**
XOLX 1204..	**106**	**303**	**01200**
XOLX 1906..	**106**	**303**	**010**
XPLX 0603..	**102**	**303**	**116**

CoreLine – High-feed screw-in cutter – HFC

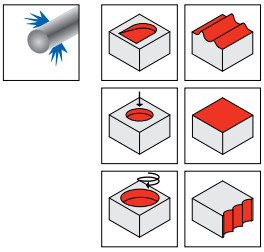


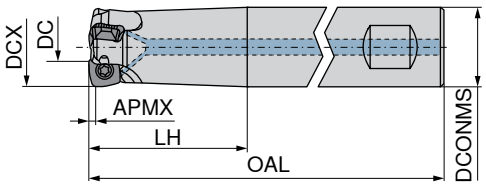




Designation	DC mm	DCX mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 682 ...
GHFC.16.R.02-06	7	16	2	0.8	27	8.5	M8	10	20800	1,2	XPLX 0603..	**616**
GHFC.20.R.03-06	11	20	3	0.8	33	10.5	M10	15	19800	1,2	XPLX 0603..	**620**
GHFC.25.R.04-06	16	25	4	0.8	35	12.5	M12	17	18700	1,2	XPLX 0603..	**625**
GHFC.32.R.05-06	23	32	5	0.8	35	17.0	M16	24	22000	1,2	XPLX 0603..	**632**
GHFC.42.R.07-06	33	42	7	0.8	35	17.0	M16	24	15000	1,2	XPLX 0603..	**04207**
GHFC.25.R.02-09	12	25	2	1.0	35	12.5	M12	17	30000	3,2	XDLX 09T3..	**025**
GHFC.25.R.03-09	12	25	3	1.0	35	12.5	M12	17	30000	3,2	XDLX 09T3..	**125**
GHFC.32.R.03-09	19	32	3	1.0	35	17.0	M16	24	27000	3,2	XDLX 09T3..	**032**
GHFC.42.R.05-09	19	42	5	1.0	35	17.0	M16	24	26100	3,2	XDLX 09T3..	**04205**
GHFC.32.R.02-12	15	32	2	2.0	35	17.0	M16	24	21600	5	XOLX 1204..	**132**
GHFC.35.R.03-12	18	35	3	2.0	35	17.0	M16	24	21360	5	XOLX 1204..	**035**
GHFC.42.R.04-12	25	42	4	2.0	35	17.0	M16	24	20800	5	XOLX 1204..	**04204**

CoreLine – High-feed end mill – HFC

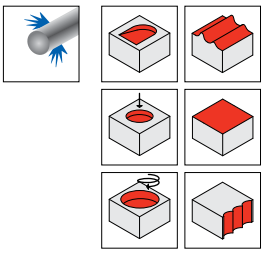


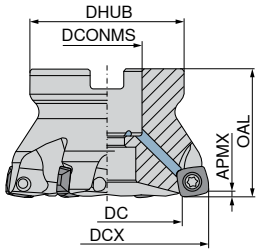




Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 681 ...	TO 50 681 ...
CHFC.16.R.02-06-B-40	7.0	16	2	0.8	89	40	16	17300	1,2	XPLX 0603..		**616**
CHFC.16.R.02-06-A-40-200	7.0	16	2	0.8	200	40	16	4600	1,2	XPLX 0603..	**716**	
CHFC.20.R.03-06-B-50	11.0	20	3	0.8	101	50	20	14500	1,2	XPLX 0603..		**620**
CHFC.20.R.03-06-A-50-225	11.0	20	3	0.8	225	50	20	4200	1,2	XPLX 0603..	**720**	
CHFC.25.R.04-06-B-50	16.0	25	4	0.8	107	50	25	15600	1,2	XPLX 0603..		**625**
CHFC.25.R.04-06-A-50-225	16.0	25	4	0.8	225	50	25	4600	1,2	XPLX 0603..	**725**	
CHFC.32.R.05-06-B-25-60	23.0	32	5	0.8	117	60	25	11000	1,2	XPLX 0603..		**632**
CHFC.32.R.05-06-A-25-60-225	23.0	32	5	0.8	225	60	25	3900	1,2	XPLX 0603..	**732**	
CHFC.25.R.02-09-A-50-225	12.3	25	2	1.0	225	50	25	9000	3,2	XDLX 09T3..	**025**	
CHFC.25.R.03-09-A-50-225	12.3	25	3	1.0	225	50	25	9000	3,2	XDLX 09T3..	**125**	
CHFC.32.R.03-09-A-63-250	19.3	32	3	1.0	250	63	32	8100	3,2	XDLX 09T3..	**032**	
CHFC.32.R.02-12-A-63-250	14.8	32	2	2.0	250	63	32	6480	5	XOLX 1204..	**132**	
CHFC.35.R.03-12-A-63-250	17.8	35	3	2.0	250	63	32	6480	5	XOLX 1204..	**035**	

CoreLine – High-feed face mill – HFC





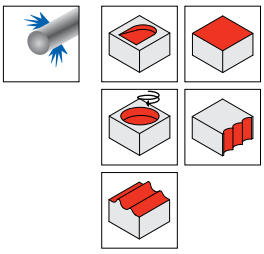


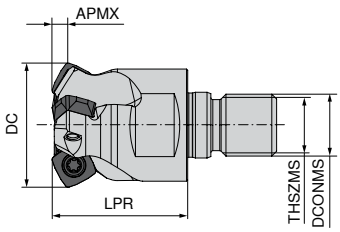
Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 683 ...
AHFC.32.R.03-09	19.3	32	3	1.0	40	16	38	27700	3,2	XDLX 09T3..	**032**
AHFC.35.R.04-09	19.3	35	4	1.0	40	16	38	26700	3,2	XDLX 09T3..	**035**
AHFC.40.R.04-09	27.3	40	4	1.0	40	16	38	26400	3,2	XDLX 09T3..	**140**
AHFC.42.R.05-09	29.3	42	5	1.0	40	16	38	26100	3,2	XDLX 09T3..	**142**
AHFC.50.R.05-09	37.3	50	5	1.0	40	22	43	23500	3,2	XDLX 09T3..	**150**
AHFC.52.R.06-09	39.3	52	6	1.0	40	22	43	23000	3,2	XDLX 09T3..	**152**
AHFC.63.R.06-09	50.3	63	6	1.0	40	22	48	20500	3,2	XDLX 09T3..	**163**
AHFC.66.R.07-09	53.3	66	7	1.0	40	22	48	20000	3,2	XDLX 09T3..	**16600**
AHFC.40.R.03-12	22.8	40	3	2.0	40	16	38	21120	5	XOLX 1204..	**040**
AHFC.42.R.04-12	24.8	42	4	2.0	40	16	38	20880	5	XOLX 1204..	**042**
AHFC.50.R.04-12	32.8	50	4	2.0	40	22	43	18800	5	XOLX 1204..	**050**
AHFC.52.R.05-12	34.8	52	5	2.0	40	22	43	18400	5	XOLX 1204..	**052**
AHFC.63.R.05-12	45.8	63	5	2.0	40	22	48	16400	5	XOLX 1204..	**063**
AHFC.66.R.06-12	48.8	66	6	2.0	40	22	48	16000	5	XOLX 1204..	**066**
AHFC.80.R.07-12	62.8	80	7	2.0	50	27	58	14000	5	XOLX 1204..	**080**
AHFC.100.R.08-12	82.8	100	8	2.0	50	32	78	12000	5	XOLX 1204..	**100**
AHFC.63.R.05-19	36.7	63	5	3.3	40	22	48	5500	5	XOLX 1906..	**263**
AHFC.80.R.06-19	53.7	80	6	3.3	50	27	58	4700	5	XOLX 1906..	**280**
AHFC.100.R.08-19	73.7	100	8	3.3	52	32	78	4100	5	XOLX 1906..	**300**
AHFC.125.R.10-19	98.7	125	10	3.3	63	40	88	3600	5	XOLX 1906..	**325**
AHFC.160.R.11-19	133.7	160	11	3.3	63	40	98	3100	5	XOLX 1906..	**360** [1]

1) With 4 threaded holes M12 on the front face, pitch circle diameter = 66.7 mm / Without through coolant supply

Spare parts Indexable insert	TORX® interchangeable blade AS **80 950 ...**	 Clamping key T AS **80 397 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
XDLX 09T3..	**036**		**113**		**303**	**110**	**192**
XDLX 09T3.. (Ø32 – Ø42)	**036**	**040**	**113**	**151**	**303**	**304**	**192**
XOLX 1204..	**037**		**114**		**303**	**01200**	**193**
XOLX 1204.. (Ø40 – Ø42)	**037**	**040**	**114**	**151**	**303**	**01200**	**193**
XOLX 1906..	**037**		**114**		**303**	**010**	**193**
XPLX 0603..	**033**		**110**		**303**	**116**	**192**

CoreLine – Screw-in cutter – HFC - TUR

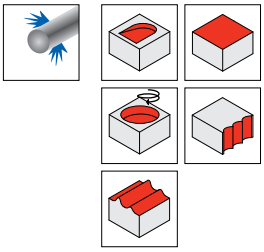


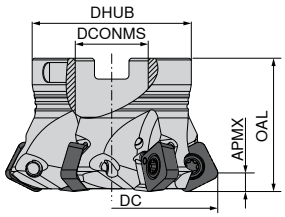




Designation	DC mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 692 ...
GHFC.32.R.03-09-TUR	32	3	3.6	35	17	M16	27000	3,2	XDLX 09T3..	**03203**

CoreLine – Face mills – HFC - TUR





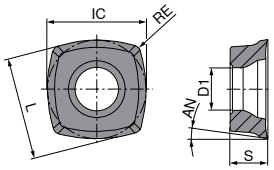


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 693 ...
AHFC.40.R.04-09-TUR	40	4	3.6	40	16	38	26400	3,2	XDLX 09T3..	**04004**
AHFC.42.R.05-09-TUR	42	5	3.6	40	16	38	26100	3,2	XDLX 09T3..	**04205**
AHFC.50.R.04-12-TUR	50	5	5.0	40	22	43	18800	5	XOLX 1204..	**05005**
AHFC.52.R.05-12-TUR	52	5	5.0	40	22	43	18400	5	XOLX 1204..	**05205**
AHFC.63.R.06-12-TUR	63	6	5.0	40	22	48	16400	5	XOLX 1204..	**06306**

	TORX® interchangeable blade	 Clamping key T	 Screwdriver	 Power screw	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**80 950 ...**	**80 397 ...**	**80 950 ...**	**70 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
32	**036**		**113**		**303**	**304**	**192**
40	**036**	**040**	**113**	**151**	**303**	**304**	**192**
42	**036**	**040**	**113**	**151**	**303**	**304**	**192**
50	**037**		**114**		**303**	**01200**	**193**
52	**037**		**114**		**303**	**01200**	**193**
63	**037**		**114**		**303**	**01200**	**193**

XPLX / XDLX / XOLX / XOHX

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
XPLX 0603..	6.35	2.8	6	1	2.75	11
XDLX 09T3..	9.52	4.4	9	1.9	3.97	15
XO.X 1204..	12.70	5.5	12	1.3	4.76	10
XOLX 1906..	19.14	6.0	19	-	6.35	10



CoreLine – Carbide milling indexable insert

XPLX

		-M50 CTCP220	-M50 CTPP225	-M50 CTPP235	-M50 CTPM225	-M50 CTPM240	-F40 CTPM245	-F40 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		XPLX	XPLX	XPLX	XPLX	XPLX	XPLX	XPLX
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 019 ...	51 019 ...	51 019 ...	51 019 ...	51 019 ...	51 116 ...	51 116 ...
060305ER	0.5						455	90501
060305SR	0.5	255	055	105	205	405		
P		●	●	●	●	○	●	●
M				○	●	●	●	●
K				○				
N								
S								○
H								
O								

CoreLine – Carbide milling indexable insert

XPLX

		-M50 CTCK215
		DRAGONSKIN
		
		XPLX
		IM
ISO	RE mm	51 019 ...
060305SR	0.5	505
P		
M		
K		●
N		
S		
H		
O		

MaxiMill – Carbide milling indexable insert

XPLX

		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		XPLX	XPLX
		MA	MA
ISO	RE mm	50 518 ...	51 116 ...
060305ER	0.5	558	55500
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Carbide milling indexable insert

XDLX

		-M50 CTCP220	-M50 CTPP225	-M50 CTCP230	-M50 CTPP235	-M50 CT-P30
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
						
		XDLX	XDLX	XDLX	XDLX	XDLX
		IM	IM	IM	IM	CX
ISO	RE mm	51 016 ...	51 016 ...	51 016 ...	51 016 ...	51 296 ...
09T308SR	0.8	258	058	008	108	20806
P		●	●	●	●	●
M					○	○
K				○	○	○
N						
S						
H						
O						

CoreLine – Carbide milling indexable insert

XDLX

		-M50 CTPM225	-M50 CTCM235	-M50 CTPM240	-F40 CTPM245	-M50 CTPM245	-M50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
		XDLX	XDLX	XDLX	XDLX	XDLX	XDLX
		IM	IM	IM	IM	IM	IM
ISO	RE mm	51 016 ...	51 016 ...	51 016 ...	51 115 ...	51 016 ...	51 016 ...
09T308ER	0.8				458		
09T308SR	0.8	208	308	408		458	90801
P		●	●	○	●	●	●
M		●	●	●	●	●	●
K							
N							
S							○
H							
O							

CoreLine – Carbide milling indexable insert

XDLX

		-M50 CTCK215
		DRAGONSKIN
		
		XDLX
		IM
ISO	RE mm	51 016 ...
09T308SR	0.8	508
P		
M		
K		●
N		
S		
H		
O		

MaxiMill – Carbide milling indexable insert

XDLX

		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		XDLX	XDLX
		MA	MA
ISO	RE mm	50 503 ...	51 115 ...
09T308ER	0.8	558	558
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Carbide milling indexable insert

XOLX

		-M50 CTCP220	-M50 CTPP225	-M50 CTCP230	-M50 CTPP235	-R50 CTPP235
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		XOLX	XOLX	XOLX	XOLX	XOLX
		IM	IM	IM	IM	IM
ISO	RE mm	51 017 ...	51 017 ...	51 017 ...	51 017 ...	51 018 ...
120410SR	1.0	260	060	010	110	110
P		●	●	●	●	●
M					○	○
K				○	○	○
N						
S						
H						
O						

CoreLine – Carbide milling indexable insert

XOLX

		-M50 CTPM225	-M50 CTCM235	-M50 CTPM240	-F40 CTPM245	-M50 CTPM245	-F40 CTCM245	-M50 CTCM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		XOLX	XOLX	XOLX	XOLX	XOLX	XOLX	XOLX
		IM	IM	IM	IM	IM	IM	IM
ISO	RE mm	51 017 ...	51 017 ...	51 017 ...	51 022 ...	51 017 ...	51 022 ...	51 017 ...
120410ER	1.0				460		91001	
120410SR	1.0	210	310	410		460		91001
P		●	●	○	●	●	●	●
M		●	●	●	●	●	●	●
K								
N								
S								○
H								
O								

CoreLine – Carbide milling indexable insert

XOLX

		-M50 CTCK215
		DRAGONSKIN
		
		XOLX
		IM
ISO	RE mm	51 017 ...
120410SR	1.0	510
P		
M		
K		●
N		
S		
H		
O		

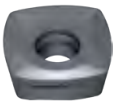
MaxiMill – Carbide milling indexable insert

XOLX / XOHX

ISO	RE mm	-F40 CTC5240	-F50 CTC5240	-F40 CTCS245	-F50 CTCS245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XOLX	XOHX	XOLX	XOHX
		MA	MA	MA	MA
		50 504 ...	51 124 ...	51 022 ...	51 124 ...
120410ER	1.0	558		560	
120410SR	1.0		16000		56000
P					
M					
K					
N					
S		●	●	●	●
H					
O					

CoreLine – Carbide milling indexable insert

XOLX

ISO	RE mm	-M50 CTCP230	-M50 CTPP235	-M50 CTPM240	-F40 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		XOLX	XOLX	XOLX	XOLX
		IM	IM	IM	IM
		51 017 ...	51 017 ...	51 017 ...	51 022 ...
190615ER	1.5				465
190615SR	1.5	015	115	415	
P		●	●	○	●
M			○	●	●
K		○	○		
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

XOLX

		-F40 CTCM245	-M50 CTCK215	-M50 CTPK220
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		XOLX	XOLX	XOLX
		IM	IM	IM
ISO	RE mm	51 022 ...	51 017 ...	51 017 ...
190615ER	1.5	91501		
190615SR	1.5		515	61500
P		●		
M		●		
K			●	●
N				
S		○		
H				
O				

MaxiMill – Carbide milling indexable insert

XOLX

		-F40 CTC5240	-F40 CTCS245
		DRAGONSKIN	DRAGONSKIN
			
		XOLX	XOLX
		MA	MA
ISO	RE mm	50 504 ...	51 022 ...
190615ER	1.5	515	56500
P			
M			
K			
N			
S		●	●
H			
O			

CoreLine – Carbide milling indexable insert

XDLX

-M50
CT-P30



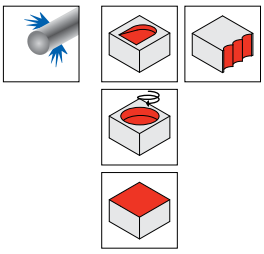
XDLX

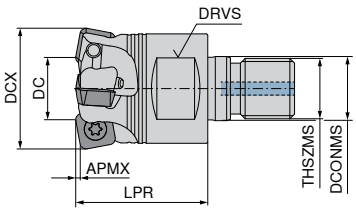
ISO	RE mm	CX 51 296 ... 20806
09T308SR	0.8	
P		●
M		○
K		○
N		
S		
H		
O		

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

MaxiMill – High-feed screw-in cutter – HFC-10

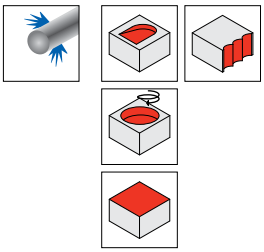


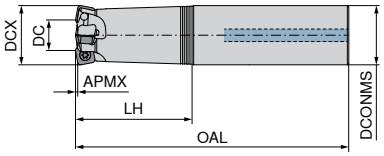




Designation	DC mm	DCX mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 346 ...
GHFC.25.R.03-10	9.50	25	3	1.2	35	12.5	M12	17	24100	3,2	SOHX 10...	**02503**
GHFC.32.R.04-10	16.50	32	4	1.2	35	17.0	M16	24	19800	3,2	SOHX 10...	**03204**
GHFC.40.R.05-10	24.55	40	5	1.2	35	17.0	M16	24	16800	3,2	SOHX 10...	**04005**

MaxiMill – High-feed end mill – HFC-10



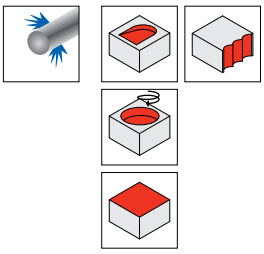


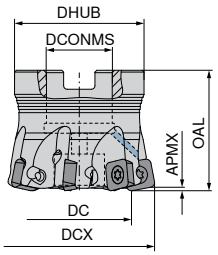




Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS $_{h6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 345 ...
CHFC.25.R.03-10-A-50-225	9.5	25	3	1.2	225	50	25	6900	3,2	SOHX 10...	**02503**
CHFC.32.R.04-10-A-63-250	16.5	32	4	1.2	250	63	32	9700	3,2	SOHX 10...	**03204**

MaxiMill – High-feed face mill – HFC-10





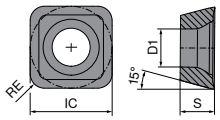


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 347 ...
AHFC.40.R.05-10	24.55	40	5	1.2	40	16	38	15800	3,2	SOHX 10...	**04005**
AHFC.42.R.06-10	26.63	42	6	1.2	40	16	38	15300	3,2	SOHX 10...	**04206**
AHFC.50.R.07-10	34.79	50	7	1.2	40	22	43	12500	3,2	SOHX 10...	**05007**
AHFC.52.R.08-10	36.62	52	8	1.2	40	22	43	12500	3,2	SOHX 10...	**05208**
AHFC.63.R.09-10	47.62	63	9	1.2	40	22	48	10300	3,2	SOHX 10...	**06309**
AHFC.66.R.10-10	50.62	66	10	1.2	40	22	48	9800	3,2	SOHX 10...	**06610**

Spare parts **Indexable insert**	 TORX® interchangeable blade AS **80 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
SOHX 10...	**054**	**120**	**303**	**009**	**192**

SOHX

Designation	IC mm	D1 mm	S mm
SOHX 10T3..	9.5	4.4	4.0



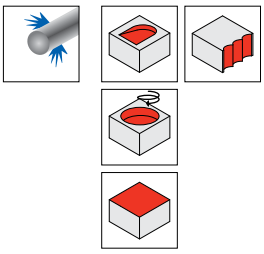
MaxiMill – Carbide milling indexable insert

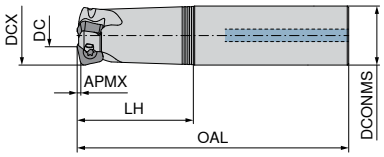
SOHX

▲ Programmed radius r3D = 2.4 mm

ISO	RE mm	-F51 CTC5240	-F51 CTCS245	-F51 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		F SOHX	F SOHX	F SOHX
		MA 51 298 ...	MA 51 298 ...	MA 51 298 ...
10T316ER	1.6	**11601**	**51601**	**41601**
P				
M				●
K				
N				
S		●	●	
H				
O				

MaxiMill – High-feed end mill – HFC-13

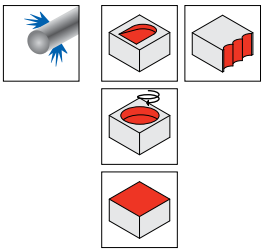


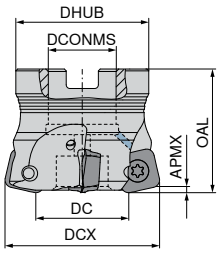




Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS h6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 343 ...
CHFC.32.R.03-13-A-63-250	12.13	32	3	2	250	63	32	5200	5	SOHX 13...	**03203**

MaxiMill – High-feed face mill – HFC-13





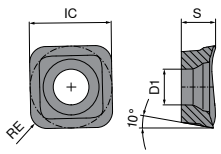


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS h6 mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 344 ...
AHFC.40.R.04-13	20.090	40	4	2	40	16	38	15700	5	SOHX 13...	**04004**
AHFC.42.R.05-13	22.200	42	5	2	40	16	38	15000	5	SOHX 13...	**04205**
AHFC.50.R.04-13	30.070	50	4	2	40	22	43	13500	5	SOHX 13...	**05004**
AHFC.50.R.05-13	30.070	50	5	2	40	22	43	13500	5	SOHX 13...	**05005**
AHFC.52.R.06-13	32.160	52	6	2	40	22	43	13100	5	SOHX 13...	**05206**
AHFC.52.R.05-13	32.161	52	5	2	40	22	43	13100	5	SOHX 13...	**05205**
AHFC.63.R.06-13	43.058	63	6	2	40	22	48	10100	5	SOHX 13...	**06306**
AHFC.63.R.07-13	43.058	63	7	2	40	22	48	10100	5	SOHX 13...	**06307**
AHFC.80.R.07-13	60.050	80	7	2	50	27	58	9100	5	SOHX 13...	**08007**
AHFC.80.R.08-13	60.050	80	8	2	50	27	58	9100	5	SOHX 13...	**08008**
AHFC.100.R.10-13	80.120	100	10	2	50	32	78	7200	5	SOHX 13...	**10010**
AHFC.125.R.11-13	105.200	125	11	2	63	40	88	5800	5	SOHX 13...	**12511**

Spare parts Indexable insert	TORX® interchangeable blade AS **80 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
SOHX 13...	**055**	**121**	**303**	**864**	**193**
SOHX 13...	**055**	**121**	**303**	**94500**	**193**

SOHX

Designation	IC mm	D1 mm	S mm
SOHX 1304..	12.6	5.5	5.3



MaxiMill – Carbide milling indexable insert

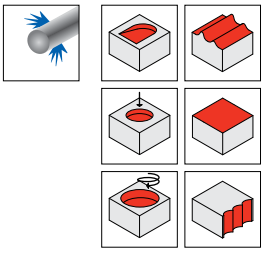
SOHX

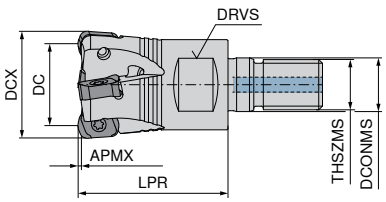
▲ Programmed radius r3D = 4.2 mm

ISO	RE mm	-F51 CTC5240	-F51 CTCS245	-F51 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
		F SOHX	F SOHX	F SOHX
		MA 51 299 ... 12501	MA 51 299 ... 52501	MA 51 299 ... 42501
130425SR	2.5			
P				
M				●
K				
N				
S		●	●	
H				
O				

CoreLine – High-feed screw-in cutter – HFCD

▲ Programmed radius r3D = 2.0 mm



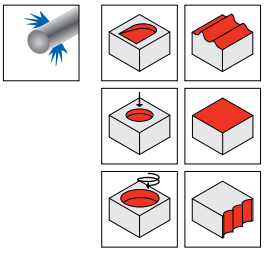


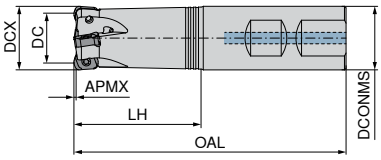


Designation	DC mm	DCX mm	ZNF	APMX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 357 ...
GHFCD.16.R.02-06	10	16	2	0.8	27	8.5	M8	10	23500	1,2	XNEU 06T3..	**01602**
GHFCD.20.R.03-06	14	20	3	0.8	33	10.5	M10	15	20200	1,2	XNEU 06T3..	**02003**
GHFCD.25.R.04-06	19	25	4	0.8	35	12.5	M12	17	18100	1,2	XNEU 06T3..	**02504**
GHFCD.32.R.05-06	26	32	5	0.8	35	17.0	M16	24	17300	1,2	XNEU 06T3..	**03205**
GHFCD.35.R.06-06	29	35	6	0.8	35	17.0	M16	24	16100	1,2	XNEU 06T3..	**03506**
GHFCD.42.R.06-06	36	42	6	0.8	35	17.0	M16	24	14100	1,2	XNEU 06T3..	**04206**

CoreLine – High-feed end mill – HFCD

▲ Programmed radius r3D = 2.0 mm



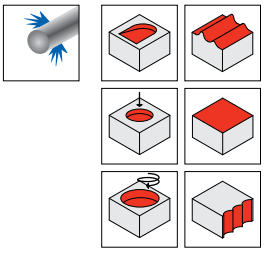


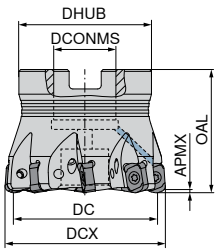


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS h6 mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 356 ...	TO 50 356 ...
CHFCD.16.R.02-06-B-40	10	16	2	0.8	89	40	16	21700	1,2	XNEU 06T3..		**11602**
CHFCD.16.R.02-06-A-40	10	16	2	0.8	89	40	16	21700	1,2	XNEU 06T3..	**01602**	
CHFCD.16.R.02-06-A-40-200	10	16	2	0.8	200	40	16	12300	1,2	XNEU 06T3..	**21602**	
CHFCD.20.R.03-06-B-50	14	20	3	0.8	101	50	20	17000	1,2	XNEU 06T3..		**12003**
CHFCD.20.R.03-06-A-50	14	20	3	0.8	101	50	20	17000	1,2	XNEU 06T3..	**02003**	
CHFCD.20.R.03-06-A-50-225	14	20	3	0.8	225	50	20	8700	1,2	XNEU 06T3..	**22003**	
CHFCD.25.R.04-06-B-50	19	25	4	0.8	107	50	25	15400	1,2	XNEU 06T3..		**12504**
CHFCD.25.R.04-06-A-50	19	25	4	0.8	107	50	25	15400	1,2	XNEU 06T3..	**02504**	
CHFCD.25.R.04-06-A-50-225	19	25	4	0.8	225	50	25	7100	1,2	XNEU 06T3..	**22504**	
CHFCD.32.R.05-06-B25-50	26	32	5	0.8	107	50	25	14400	1,2	XNEU 06T3..		**13205**
CHFCD.32.R.05-06-A25-50	26	32	5	0.8	107	50	25	14400	1,2	XNEU 06T3..	**03205**	
CHFCD.32.R.05-06-A25-50-225	26	32	5	0.8	225	50	25	6400	1,2	XNEU 06T3..	**23205**	

CoreLine – High-feed face mill – HFCD

▲ Programmed radius r3D = 2.0 mm





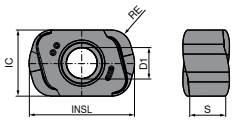


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 358 ...
AHFCD.32.R.05-06	26	32	5	0.8	40	16	38	17300	1,2	XNEU 06T3..	**03205**
AHFCD.35.R.05-06	29	35	5	0.8	40	16	38	16100	1,2	XNEU 06T3..	**03505**
AHFCD.40.R.06-06	34	40	6	0.8	40	16	38	14600	1,2	XNEU 06T3..	**04006**
AHFCD.42.R.06-06	36	42	6	0.8	40	16	38	14100	1,2	XNEU 06T3..	**04206**
AHFCD.50.R.07-06	44	50	7	0.8	40	22	43	12500	1,2	XNEU 06T3..	**05007**
AHFCD.52.R.08-06	46	52	8	0.8	40	22	43	12200	1,2	XNEU 06T3..	**05208**
AHFCD.63.R.09-06	57	63	9	0.8	40	22	48	10800	1,2	XNEU 06T3..	**06309**
AHFCD.66.R.10-06	60	66	10	0.8	40	22	48	10500	1,2	XNEU 06T3..	**06610**

Spare parts Indexable insert	TORX® interchangeable blade	 Screwdriver	 Molykote	 Clamping screw	 Torque screwdriver
	AS	AS	AS	AS	AS
	80 950 ...	**80 950 ...**	**70 950 ...**	**70 950 ...**	**80 950 ...**
XNEU 06T3..	**033**	**110**	**303**	**13800**	**192**

XNEU

Designation	IC mm	D1 mm	INSL mm	r_{3D} mm	S mm
XNEU 06T3..	6.05	2.8	9.65	2	3.0



CoreLine – Carbide milling indexable insert

XNEU

ISO	RE mm	-M50 CTCP230	-M50 CTPP235	-F50 CTPM240	-M50 CTPM240	-F50 CTPM245
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
		M XNEU	**M** XNEU	**F** XNEU	**M** XNEU	**F** XNEU
		IM	IM	IM	IM	IM
		51 261 ...	**51 261 ...**	**51 260 ...**	**51 261 ...**	**51 260 ...**
06T318SER	1.8	**01800**	**11800**	**41800**	**41800**	**41801**
P		●	●	○	○	●
M			○	●	●	●
K		○	○			
N						
S						
H						
O						

CoreLine – Carbide milling indexable insert

XNEU

	-F50 CTCM245	-R50 CTCK215	-R50 CTPK220
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
			
	F XNEU	R XNEU	R XNEU
	IM	IM	IM
ISO / RE mm	51 260 ...	51 262 ...	51 262 ...
06T318SER 1.8	91801	51800	61800
P	●		
M	●		
K		●	●
N			
S	○		
H			
O			

MaxiMill – Carbide milling indexable insert

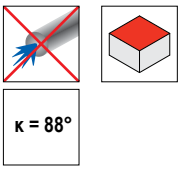
XNEU

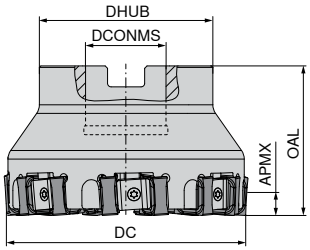
	-F40 CTC5240	-F40 CTCS245
	DRAGONSKIN	DRAGONSKIN
		
	F XNEU	F XNEU
	MA	MA
ISO / RE mm	51 259 ...	51 259 ...
06T318ER 1.8	11801	51801
P		
M		
K		
N		
S	●	●
H		
O		

Milling guide

→ Cutting data standard values
→ Starting parameters
→ Chip breaker descriptions and overview
→ Machining strategy
→ Technical information
→ Grade description and overview

MaxiMill – Face mills – S-Power





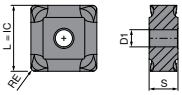


Designation	DC mm	ZNF	APMX mm	OAL mm	DCONMS $_{H6}$ mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 687 ...
APOW.56.R.10-SN12	56	10	8	40	22	43	4,0	SNHF 12..	**05610**
APOW.63.R.12-SN12	63	12	8	40	22	48	4,0	SNHF 12..	**06312**
APOW.80.R.14-SN12	80	14	8	50	27	58	4,0	SNHF 12..	**08014**
APOW.100.R.18-SN12	100	18	8	50	32	78	4,0	SNHF 12..	**10018**
APOW.125.R.24-SN12	125	24	8	63	40	88	4,0	SNHF 12..	**12524**

Spare parts DC	 TORX® interchangeable blade AS **80 950 ...**	 Clamping wedge AS **70 950 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Torque screwdriver AS **80 021 ...**	 Differential screw AS **70 950 ...**
56	**054**	**94400**	**120**	**154**	**303**	**040**	**71400**
63	**054**	**94300**	**120**		**303**	**040**	**71400**
80	**054**	**94200**	**120**		**303**	**040**	**71400**
100	**054**	**94100**	**120**		**303**	**040**	**71400**
125	**054**	**94000**	**120**		**303**	**040**	**71400**

SNHF

Designation	IC mm	D1 mm	L mm	S mm
SNHF 1205..	12.7	3.3	12.7	5.56



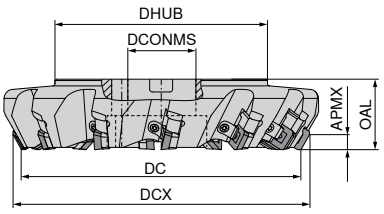
MaxiMill – Carbide milling indexable insert

SNHF

		-R30 CTPK220	-R30 CTCP230
		DRAGONSKIN	DRAGONSKIN
		 SNHF	 SNHF
		MA	MA
ISO	RE mm	**51 292 ...**	**51 292 ...**
120504EN	0.4	**60400**	**00400**
120508EN	0.8	**60800**	**00800**
120512EN	1.2	**61200**	**01200**
P			●
M			
K		●	○
N			
S			
H			
O			

MaxiMill – Face mills – HeavyDC

κ = 60°



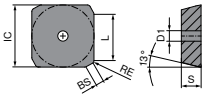


Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS H6 mm	OAL mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 377 ...	TO 50 378 ...
AHDC.160.R.08-60-SD20	160	175.3	8	13.0	40	63	104	5	SDKR / SDKN 2006	**16008**	
AHDC.160.R.08-60-SD25	160	180.3	8	17.5	40	63	104	5	SDHN 2506		**16008**
AHDC.200.R.10-60-SD20	200	215.3	10	13.0	60	63	190	5	SDKR / SDKN 2006	**20010**	
AHDC.200.R.10-60-SD25	200	220.3	10	17.5	60	63	190	5	SDHN 2506		**20010**
AHDC.250.R.12-60-SD20	250	265.3	12	13.0	60	63	190	5	SDKR / SDKN 2006	**25012**	
AHDC.250.R.12-60-SD25	250	270.4	12	17.5	60	63	190	5	SDHN 2506		**25012**
AHDC.315.R.16-60-SD20	315	330.3	16	13.0	60	63	226	5	SDKR / SDKN 2006	**31516**	
AHDC.315.R.16-60-SD25	315	335.3	16	17.5	60	63	226	5	SDHN 2506		**31516**

Spare parts Indexable insert	 Clamping wedge screw AS 70 950 ...	 Clamping wedge AS 70 950 ...	 Clamping screw AS 70 950 ...	 Carbide seat AS 70 950 ...	 Torque screwdriver set AS 80 950 ...	 System element R AS 70 950 ...	 System element N AS 70 950 ...	 System element L AS 70 950 ...
SDHN 2506	**09300**	**09200**	**821**	**08800**	**33000**		**09100**	
SDKR / SDKN 2006	**09300**	**09200**	**821**	**08700**	**33000**	**09000**		**08900**

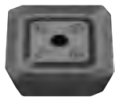
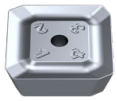
SDKN / SDHN / SDKR

Designation	IC mm	D1 mm	L mm	BS mm	S mm	AN °
SDK. 2006..	20	3.3	14.8	2.3	6.35	15
SDHN 2506..	25	3.3	20.0	2.3	6.35	15



MaxiMill – Carbide milling indexable insert

SDKR / SDKN

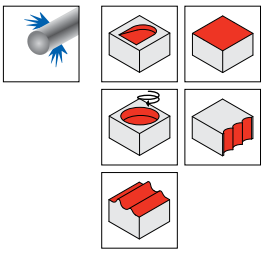
	-M50 CTCP230	-M50 CTPP235	CTPP235	-M50 CTPM225	-M50 CTPK220	CTPK220
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	SDKR	SDKR	SDKN	SDKR	SDKR	SDKN
	MA	MA	MA	MA	MA	MA
ISO / RE mm	51 289 ...	51 289 ...	51 290 ...	51 289 ...	51 289 ...	51 290 ...
2006DESR 1	01000	11000	11000	21000	61000	61000
P	●	●	●	○		
M		○	○	●		
K	○	○	○		●	●
N						
S						
H						
O						

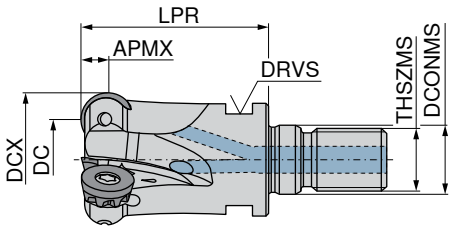
MaxiMill – Carbide milling indexable insert

SDHN

	CTPP235	CTPM225	CTPK220
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
			
	SDHN	SDHN	SDHN
	MA	MA	MA
ISO / RE mm	51 291 ...	51 291 ...	51 291 ...
2506DESR 1	11000	21000	61000
P	●	○	
M	○	●	
K	○		●
N			
S			
H			
O			

CoreLine – Screw-in cutter – 251 RS







Designation	DC inch	DCX inch	ZNF	APMX inch	DCONMS inch	LPR inch	THSZMS	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 684 ...
G251.100.R.03-10-125-RS-F	0.606	1.000	3	0.197	0.492	1.250	M12	25450	2	RP.X 10T3..	**10103**
G251.125.R.04-10-125-RS-F	0.856	1.250	4	0.196	0.669	1.500	M16	25450	2	RP.X 10T3..	**12604** [1]
G251.150.R.05-10-175-RS-F	1.106	1.500	5	0.197	0.669	1.750	M16	15150	2	RP.X 10T3..	**15105** [1]
G251.125.R.03-12-125-RS-F	0.777	1.250	3	0.236	0.492	1.575	M12	25450	3,2	RP.X 1204..	**22503** [1]

1) Not in stock

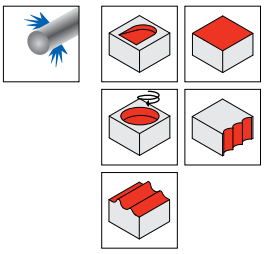

Screwdriver

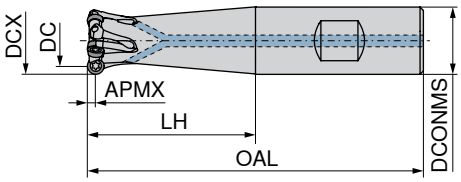

Molykote


Clamping screw

Spare parts Indexable insert	Screwdriver AS 80 950 ...	Molykote AS 70 950 ...	Clamping screw AS 70 950 ...
RP.X 10T3..		**303**	
RP.X 10T3..	**104**	**303**	**840**
RP.X 1204..	**105**	**303**	**304**

CoreLine – End mills – 251 RS







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	LH inch	DCONMS inch	RPMX 1/min.	Indexable insert	TO 58 685 ...	TO 58 685 ...
C251.0750.R.03-08-B-125-RS-EF	0.435	0.750	3	0.157	3.500	1.250	0.750	31800	RDHX 0802..		**27503**
C251.0750.R.03-08-A-200-RS-EF-800	0.435	0.750	3	0.157	8.000	2.000	0.750	22260	RDHX 0802..	**07503**	
C251.100.R.04-08-B-225-RS-EF	0.685	1.000	4	0.157	4.500	2.250	1.000	25450	RDHX 0802..		**30004**
C251.100.R.04-08-A-300-RS-EF-800	0.685	1.000	4	0.157	8.000	3.000	1.000	18000	RDHX 0802..	**10004**	
C251.125.R.05-08-B-275-RS-EF	0.935	1.250	5	0.157	5.250	2.750	1.250	19850	RDHX 0802..		**32505**
C251.125.R.05-08-A-325-RS-EF-1000	0.935	1.250	5	0.157	10.000	3.250	1.250	18000	RDHX 0802..	**12505**	
C251.100.R.03-10-B-225-RS-EF	0.606	1.000	3	0.197	4.500	2.250	1.000	25450	RP.X 10T3..		**50003**
C251.100.R.03-10-A-300-RS-EF-800	0.606	1.000	3	0.197	8.000	3.000	1.000	20000	RP.X 10T3..	**40003**	
C251.125.R.04-10-B-275-RS-EF	0.857	1.250	4	0.197	5.250	2.750	1.250	19850	RP.X 10T3..		**52504**
C251.125.R.04-10-A-325-RS-EF-1000	0.857	1.250	4	0.197	10.000	3.250	1.250	18000	RP.X 10T3..	**42504**	
C251.150.R.05-10-B125-325-RS-EF	1.106	1.500	5	0.197	6.000	3.250	1.250	15100	RP.X 10T3..		**55005**
C251.150.R.05-10-A125-375-RS-EF-1000	1.106	1.500	5	0.197	10.000	3.750	1.250	10700	RP.X 10T3..	**45005**	
C251.125.R.02-12-A-325-RS-EF-1000	0.778	1.250	2	0.236	10.000	3.250	1.250	8500	RP.X 1204..	**62502**	
C251.150.R.03-12-A125-375-RS-EF-1000	1.028	1.500	3	0.236	10.000	3.750	1.250	12500	RP.X 1204..	**65003**	
C251.150.R.02-16-A125-375-RS-EF-1000	0.870	1.500	2	0.315	10.000	3.750	1.250	10500	RP.X 1605..	**75002**	

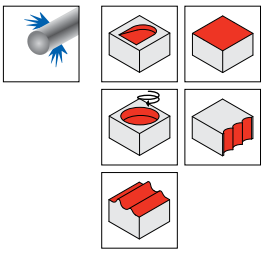

Screwdriver

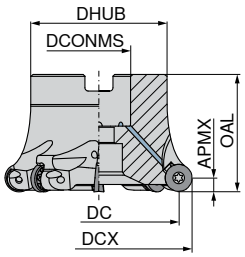

Molykote


Clamping screw

Indexable insert	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
RDHX 0802..	**102**	**303**	**116**
RP.X 10T3..	**104**	**303**	**840**
RP.X 1204..	**105**	**303**	**304**
RP.X 1605..	**106**	**303**	**01200**

CoreLine – Face mills – 251 RS







Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS H6 inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 686 ...
A251.150.R.06-08-A050-175-RS-EF	1.185	1.500	6	0.157	1.420	1.420	0.500	15150	1,2	RDHX 0802..	**15006**
A251.300.R.12-08-A100-200-RS-IN-EF	2.685	3.000	12	0.157	2.250	2.250	1.000	7950	1,2	RDHX 0802..	**30012**
A251.150.R.05-10-A050-175-RS-EF	1.106	1.500	5	0.197	1.420	1.420	0.500	15900	2	RP.X 10T3..	**15105**
A251.200.R.06-10-A075-175-RS-EF	1.606	2.000	6	0.197	1.750	1.750	0.750	12700	2	RP.X 10T3..	**20106**
A251.200.R.05-12-A075-175-RS-EF	1.528	2.000	5	0.236	1.750	1.750	0.750	12700	3,2	RP.X 1204..	**20205**
A251.200.R.06-12-A075-175-RS-EF	1.528	2.000	6	0.236	1.750	1.750	0.750	12700	3,2	RP.X 1204..	**20206**
A251.250.R.06-12-A100-200-RS-EF	2.028	2.500	6	0.236	2.250	2.250	1.000	10100	3,2	RP.X 1204..	**25206**
A251.300.R.07-12-RS-A100-200-EF	2.528	3.000	7	0.236	2.250	2.250	1.000	7950	3,2	RP.X 1204..	**30207**
A251.400.R.10-12-B125-200-RS-EF	3.528	4.000	10	0.236	2.750	2.750	1.250	6350	3,2	RP.X 1204..	**40210**
A251.600.R.12-12-B150-200-RS-EF	5.528	6.000	12	0.236	3.750	3.750	1.500	8300	3,2	RP.X 1204..	**60212** [1]
A251.200.R.03-16-A075-175-RS-EF	1.370	2.000	3	0.315	1.750	1.750	0.750	12700	5	RP.X 1605..	**20303**
A251.250.R.05-16-A100-200-RS-EF	1.870	2.500	5	0.315	2.250	2.250	1.000	10100	5	RP.X 1605..	**25305**
A251.300.R.06-16-A100-200-RS-EF	2.370	3.000	6	0.315	2.250	2.250	1.000	7950	5	RP.X 1605..	**30306**
A251.400.R.07-16-B125-200-RS-EF	3.370	4.000	7	0.315	2.750	2.750	1.250	6350	5	RP.X 1605..	**40307**
A251.500.R.08-16-B150-200-RS-EF	4.370	5.000	8	0.315	3.750	3.750	1.500	5400	5	RP.X 1605..	**50308**
A251.600.R.10-16-B150-200-RS-EF	5.370	6.000	10	0.315	3.750	3.750	1.500	7200	5	RP.X 1605..	**60310**
A251.300.R.05-20-A100-200-RS-EF	2.213	3.000	5	0.394	2.250	2.250	1.000	8600	5	RP.X 2006..	**30405**
A251.400.R.06-20-A125-200-RS-EF	3.213	4.000	6	0.394	2.750	2.750	1.250	6350	5	RP.X 2006..	**40406**
A251.500.R.07-20-B150-200-RS-EF	4.213	5.000	7	0.394	3.750	3.750	1.500	5400	5	RP.X 2006..	**50407**
A251.600.R.08-20-B150-200-RS-EF	5.213	6.000	8	0.394	3.750	3.750	1.500	6500	1,2	RP.X 2006..	**60408**

1) Not in stock

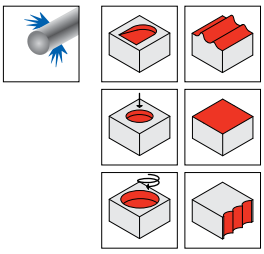

Screwdriver

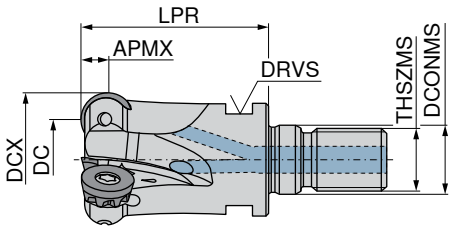

Molykote


Clamping screw

Spare parts Indexable insert	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...
RDHX 0802..	**102**	**303**	**116**
RP.X 10T3..	**104**	**303**	**840**
RP.X 1204..	**105**	**303**	**304**
RP.X 1605..	**106**	**303**	**01200**
RP.X 2006..	**106**	**303**	**302**

CoreLine – Screw-in cutter – 251 RS



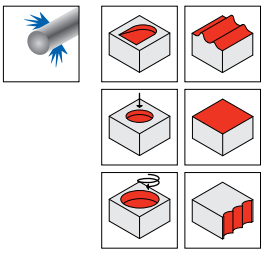


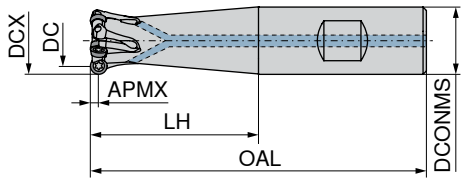


Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 684 ...
G251.20.R.03-08-RS	12	20	3	4	10.5	33	M10	15	25000	1,2	RDHX 0802..	**120**
G251.25.R.04-08-RS	17	25	4	4	12.5	35	M12	17	19000	1,2	RDHX 0802..	**125**
G251.32.R.05-08-35-RS	24	32	5	4	17.0	35	M16	24	19000	1,2	RDHX 0802..	**132**
G251.20.R.02-10-RS	10	20	2	5	10.5	33	M10	15	30000	2	RP.X 10T3..	**020**
G251.25.R.03-10-RS	15	25	3	5	12.5	35	M12	17	30000	2	RP.X 10T3..	**025**
G251.32.R.04-10-RS	22	32	4	5	17.0	35	M16	24	25000	2	RP.X 10T3..	**032**
G251.35.R.05-10-RS	25	35	5	5	17.0	35	M16	24	15900	2	RP.X 10T3..	**03500**
G251.25.R.02-12-35-RS	13	25	2	6	12.5	35	M12	17	25000	3,2	RP.X 1204..	**525**
G251.32.R.03-12-35-RS	20	32	3	6	17.0	35	M16	24	19850	3,2	RP.X 1204..	**532**
G251.35.R.03-12-35-RS	23	35	3	6	17.0	35	M16	24	15900	3,2	RP.X 1204..	**535**
G251.42.R.04-12-42-RS	30	42	4	6	17.0	42	M16	24	15000	3,2	RP.X 1204..	**542**

Spare parts Indexable insert	TORX® interchangeable blade AS **80 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
RDHX 0802..	**033**	**110**	**303**	**116**	**191**
RP.X 10T3..	**035**	**112**	**303**	**840**	**192**
RP.X 1204..	**036**	**113**	**303**	**304**	**192**

CoreLine – End mills – 251 RS



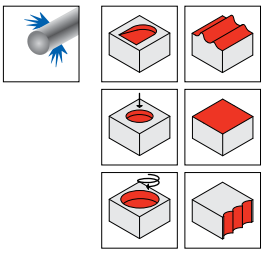


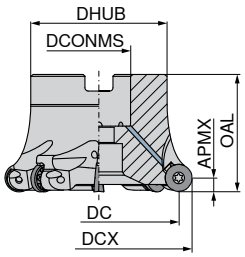


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	LH mm	DCONMS mm	RPMX 1/min.	Indexable insert	TO 50 685 ...	TO 50 685 ...
C251.16.R-02-08-B-32-RS	8	16	2	4	81	32	16	40000	RDHX 0802..		**116**
C251.16.R-02-08-A-40-165-RS	8	16	2	4	165	40	16	18000	RDHX 0802..	**216**	
C251.20.R-03-08-B-40-RS	12	20	3	4	91	40	20	31800	RDHX 0802..		**220**
C251.20.R-03-08-A-60-RS	12	20	3	4	110	60	20	30000	RDHX 0802..	**020**	
C251.20.R-03-08-A-50-200-RS	12	20	3	4	200	50	20	25000	RDHX 0802..	**320**	
C251.25.R-04-08-B-50-RS	17	25	4	4	107	50	25	25500	RDHX 0802..		**625**
C251.25.R-04-08-A-60-RS	17	25	4	4	116	60	25	19000	RDHX 0802..	**125**	
C251.25.R-04-08-A-60-225-RS	17	25	4	4	225	60	25	18000	RDHX 0802..	**225**	
C251.20.R-02-10-A-50-RS	10	20	2	5	102	50	20	25000	RP.X 10T3..	**420**	
C251.20.R-02-10-A-50-200-RS	10	20	2	5	200	50	20	25000	RP.X 10T3..	**520**	
C251.25.R.03-10-A-60-RS	15	25	3	5	116	60	25	25000	RP.X 10T3..	**025**	
C251.25.R-03-10-B-60-RS	15	25	3	5	116	60	25	20000	RP.X 10T3..		**325**
C251.25.R-03-10-A-60-225-RS	15	25	3	5	225	60	25	18000	RP.X 10T3..	**425**	
C251.32.R.04-10-A-70-RS	22	32	4	5	130	70	32	25000	RP.X 10T3..	**032**	
C251.25.R-02-12-B-30-RS	13	25	2	6	86	30	25	25000	RP.X 1204..		**525**
C251.32.R-03-12-A-RS	20	32	3	6	100	40	32	19000	RP.X 1204..	**232**	
C251.32.R-03-12-B-40-RS	20	32	3	6	100	40	32	19000	RP.X 1204..		**132**

Spare parts **Indexable insert**	TORX® interchangeable blade AS **80 950 ...**	 Screwdriver AS **80 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
RDHX 0802..	**033**	**110**	**303**	**116**	**191**
RP.X 10T3..		**112**	**303**	**840**	
RP.X 10T3..	**035**	**112**	**303**	**840**	**192**
RP.X 1204..	**036**	**113**	**303**	**304**	**192**

CoreLine – Face mills – 251 RS





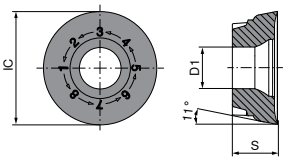


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 686 ...
A251.40.R.03-10-RS	30	40	3	5	40	38	16	15900	2	RP.X 10T3..	**240**
A251.40.R.05-10-RS	30	40	5	5	40	38	16	16000	2	RP.X 10T3..	**140**
A251.42.R.06-10-RS	32	42	6	5	40	38	16	16000	2	RP.X 10T3..	**142**
A251.50.R.04-10-RS	40	50	4	5	40	43	22	12700	2	RP.X 10T3..	**350**
A251.50.R.06-10-RS	40	50	6	5	40	43	22	12500	2	RP.X 10T3..	**150**
A251.52.R.06-10-RS	42	52	6	5	40	43	22	12500	2	RP.X 10T3..	**152**
A251.40.R.04-12-RS	28	40	4	6	40	38	16	15900	3,2	RP.X 1204..	**340**
A251.50.R.04-12-RS	38	50	4	6	40	43	22	12700	3,2	RP.X 1204..	**250**
A251.50.R.05-12-RS	38	50	5	6	40	43	22	12500	3,2	RP.X 1204..	**050**
A251.52.R.05-12-RS	40	52	5	6	40	43	22	12500	3,2	RP.X 1204..	**052**
A251.63.R.06-12-RS	51	63	6	6	40	48	22	10000	3,2	RP.X 1204..	**063**
A251.66.R.07-12-RS	54	66	7	6	40	48	22	9000	3,2	RP.X 1204..	**166**
A251.80.R.05-12-RS	68	80	5	6	50	58	27	7950	3,2	RP.X 1204..	**180**
A251.80.R.07-12-RS	68	80	7	6	50	58	27	8000	3,2	RP.X 1204..	**080**
A251.100.R.06-12-RS	88	100	6	6	50	78	32	6350	3,2	RP.X 1204..	**100**
A251.100.R.10-12-RS	88	100	10	6	50	78	32	6350	3,2	RP.X 1204..	**200**
A251.50.R.04-16-RS	34	50	4	8	40	48	22	12700	5	RP.X 1605..	**450**
A251.52.R.04-16-RS	36	52	4	8	40	48	22	10100	5	RP.X 1605..	**452**
A251.63.R.05-16-RS	47	63	5	8	40	48	22	10100	5	RP.X 1605..	**163**
A251.66.R.05-16-RS	50	66	5	8	40	48	22	7950	5	RP.X 1605..	**466**
A251.80.R.06-16-RS	64	80	6	8	50	58	27	7950	5	RP.X 1605..	**280**
A251.100.R.07-16-RS	84	100	7	8	50	78	32	6350	5	RP.X 1605..	**300**
A251.125.R.08-16-RS	109	125	8	8	63	88	40	5050	5	RP.X 1605..	**225**
A251.80.R.05-20-RS	60	80	5	10	50	58	27	7950	5	RP.X 2006..	**380**
A251.100.R.06-20-RS	80	100	6	10	50	78	32	6350	5	RP.X 2006..	**400**
A251.125.R.06-20-RS	105	125	6	10	63	88	40	5050	5	RP.X 2006..	**125**

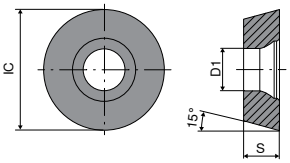
Spare parts **Indexable insert**	TORX® interchangeable blade AS **80 950 ...**	 Clamping key T AS **80 397 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
RP.X 10T3..	**035**	**040**	**112**	**151**	**303**	**840**	**192**
RP.X 1204..	**036**	**040**	**113**	**151**	**303**	**304**	**192**
RP.X 1605..	**037**	**050**	**114**	**154**	**303**	**01200**	**193**
RP.X 2006..	**037**		**114**		**303**	**302**	**193**

RDHX / RPHX / RPNX

Designation	IC mm	D1 mm	S mm
RDHX 0802..	8	2.8	2.38
RP.X 10T3..	10	3.4	3.97
RP.X 1204..	12	4.4	4.76
RP.X 1605..	16	5.5	5.56
RP.X 2006..	20	6.0	6.35



RP.X 10T3.. / RP.X 1204.. / RP.X 1605.. / RPNX 2006..



RDHX0802..

CoreLine – Carbide milling indexable insert

RDHX

	-SN CTCP230	-SN CTPP235	-F50 CTPM240	-F50 CTPM245	-F50 CTCM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	RDHX	RDHX	RDHX	RDHX	RDHX
	IM	IM	IM	IM	IM
ISO	51 048 ...	51 048 ...	51 083 ...	51 083 ...	51 083 ...
0802M0SN	025	125	420	470	92001
0802M4SN				471	92101
P	●	●	○	●	●
M		○	●	●	●
K	○	○			
N					
S					○
H					
O					

CoreLine – Carbide milling indexable insert

RDHX

	-FN H216T
	
	RDHX
	IM
ISO	50 481 ...
0802M0FN	602
P	
M	
K	○
N	●
S	
H	
O	○

MaxiMill – Carbide milling indexable insert

RDHX

	-M31 CTC5240	-F50 CTCS245
	DRAGONSKIN	DRAGONSKIN
		
	RDHX	RDHX
	MA	MA
ISO	50 481 ...	51 083 ...
0802M0EN	500	
0802M0SN		570
0802M4EN	50100	
P		
M		
K		
N		
S	●	●
H		
O		

CoreLine – Carbide milling indexable insert

RPHX / RPNX

	-SN TCM10	-F50 CTCP230	-M50 CTCP230	-SN CTCP230	-SN CTCP230
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	CERMET RPHX	RPNX	RPNX	RPHX	RPNX
	IM	IM	IM	IM	IM
ISO	50 483 ...	51 055 ...	51 054 ...	51 052 ...	51 057 ...
10T3M0SN	900				
10T3M8SN		020	020	020	
1204M0SN	902				
1204M8SN		025	025	025	025
1605M8SN			030	030	030
2006M8SN					035
P	●	●	●	●	●
M					
K	○	○	○	○	○
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

RPHX / RPNX

	-F50 CTPP235 DRAGONSKIN	-F50 CTPP235 DRAGONSKIN	-M30 CTPP235 DRAGONSKIN	-M30 CTPP235 DRAGONSKIN	-M50 CT-P30
	 RPHX	 RPNX	 RPHX	 RPNX	 RPNX
	IM	IM	IM	IM	CX
ISO	51 051 ...	51 055 ...	51 049 ...	51 053 ...	51 295 ...
10T3M8EN			120		
10T3M8SN	12000	120			22006
1204M8SN	125	125			22506
1605M0SN		130			
2006M8EN				120	
P	●	●	●	●	●
M	○	○	○	○	○
K	○	○	○	○	○
N					
S					
H					
O					

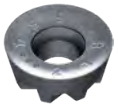
CoreLine – Carbide milling indexable insert

RPNX / RPHX

	-M50 CTPP235 DRAGONSKIN	-M50 CTPP235 DRAGONSKIN	-SN CTPP235 DRAGONSKIN	-SN CTPP235 DRAGONSKIN
	 RPNX	 RPHX	 RPHX	 RPNX
	IM	IM	IM	IM
ISO	51 054 ...	51 050 ...	51 052 ...	51 057 ...
10T3M8SN	12000	12000	120	
1204M8SN	125		125	125
1605M8SN	130		130	130
2006M8SN				135
P	●	●	●	●
M	○	○	○	○
K	○	○	○	○
N				
S				
H				
O				

CoreLine – Carbide milling indexable insert

RPHX

	-F50 CTPM225	-M30 CTPM225	-SN CTPM225	-F50 CTCM235	-M30 CTCM235
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	RPHX	RPHX	RPHX	RPHX	RPHX
	IM	IM	IM	IM	IM
ISO	51 051 ...	51 049 ...	51 052 ...	51 051 ...	51 049 ...
1204M8EN		225			325
1204M8SN	225		225	325	
P	●	●	●	●	●
M	●	●	●	●	●
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

RPHX / RPNX

	-F50 CTPM240	-F50 CTPM240	-M30 CTPM240	-M30 CTPM240	-M50 CTPM240
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	RPHX	RPNX	RPHX	RPNX	RPHX
	IM	IM	IM	IM	IM
ISO	51 051 ...	51 055 ...	51 049 ...	51 053 ...	51 050 ...
10T3M8EN			420		
10T3M8SN	420				420
1204M8EN			425		
1204M8SN	425				425
1605M8EN			430		
1605M8SN	430				
2006M8EN				420	
2006M8SN		435			
P	○	○	○	○	○
M	●	●	●	●	●
K					
N					
S					
H					
O					

CoreLine – Carbide milling indexable insert

RPHX / RPNX

	CTPM245	-F50 CTPM245	-F50 CTPM245	-M32 CTPM245	-M50 CTPM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
	RPHX	RPHX	RPNX	RPHX	RPHX
	IM	IM	IM	IM	IM
ISO	**51 052 ...**	**51 051 ...**	**51 055 ...**	**51 108 ...**	**51 050 ...**
10T3M4SN		470 [1]	470 [1]		470 [1]
10T3M8SN		471	471		471
1204M4EN	475 [1]			475 [1]	
1204M4SN		475 [1]	475 [1]		475 [1]
1204M6SN		476			476
1204M8SN		477	476		477
1605M8SN		480			
2006M4SN		485 [1]			
2006M8SN			485		
P	●	●	●	●	●
M	●	●	●	●	●
K					
N					
S					
H					
O					

1) Indexable insert with 4 indexes

CoreLine – Carbide milling indexable insert

RPNX / RPHX

	-F50 CTCM245 DRAGONSKIN	-M50 CTCM245 DRAGONSKIN	-F50 CTCM245 DRAGONSKIN	-M50 CTCM245 DRAGONSKIN
	 RPNX	 RPNX	 RPHX	 RPHX
	IM	IM	IM	IM
ISO	**51 055 ...**	**51 054 ...**	**51 051 ...**	**51 050 ...**
10T3M4SN	**92001** [1]		**92001** [1]	**92001** [1]
10T3M8SN	**92101**		**92101**	
1204M4SN	**92501** [1]		**92501** [1]	**92501** [1]
1204M6SN		**92601**	**92601**	**92601**
1204M8SN	**92601**			**92701**
1605M8SN	**93001**		**93001**	
2006M8SN	**93501**	**93501**		
P	●	●	●	●
M	●	●	●	●
K				
N				
S	○	○	○	○
H				
O				

1) Indexable insert with 4 indexes

CoreLine – Carbide milling indexable insert

RPHX / RPNX

	-SN CTCK215	-SN CTCK215	-SN CTPK220	-F10 CTPX715	-27P H216T
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	
					
	RPHX	RPNX	RPNX	RPHX	RPHX
	IM	IM	IM	IM	IM
ISO	51 052 ...	51 057 ...	51 057 ...	51 156 ...	50 483 ...
10T3M8FN				02002	600
10T3M8SN	520		620		
1204M8FN				02502	602
1204M8SN	525	525	625		
1605M8FN				03002	604
1605M8SN	530	530	630		
2006M8SN		535	635		
P				○	
M				○	
K	●	●	●	●	○
N				●	●
S				○	
H					
O				○	○

CoreLine – Carbide milling indexable insert

RPNX

	-R60 CTP6215
	
	RPNX
	IM
ISO	50 508 ...
1204M8EN	300
P	
M	
K	●
N	
S	
H	●
O	

MaxiMill – Carbide milling indexable insert

RPNX / RPHX

	-M31 CTC5240 DRAGONSKIN	-M31 CTC5240 DRAGONSKIN	-F50 CTCS245 DRAGONSKIN	-F50 CTCS245 DRAGONSKIN
	 RPNX	 RPHX	 RPHX	 RPNX
	MA	MA	MA	MA
ISO	51 149 ...	50 493 ...	51 051 ...	51 055 ...
10T3M4EN		550 [1]		
10T3M4SN			570 [1]	
10T3M8EN		551		
10T3M8SN			571	
1204M4EN		552 [1]		
1204M4SN			575	
1204M6EN		56200		
1204M6SN			57800	
1204M8EN		582		
1204M8SN			577	
1605M8EN		555	58100	
2006M8EN	12001			
2006M8SN				585
P				
M				
K				
N				
S	●	●	●	●
H				
O				

1) Indexable insert with 4 indexes

MaxiMill – Carbide milling indexable insert

RPHX

ISO	-F50 CTPX245 DRAGONSKIN	-M50 CTPX245 DRAGONSKIN
	 RPHX	 RPHX
	MA	MA
	51 051 ...	51 050 ...
10T3M4SN	12006 [1]	12006 [1]
10T3M8SN	12106	12106
1204M4SN	12506 [1]	12506 [1]
1204M6SN	12606	12606
1204M8SN	12706	12706
P	●	●
M	●	●
K		
N		
S	○	○
H		
O		

1) Indexable insert with 4 indexes

CoreLine – Carbide milling indexable insert

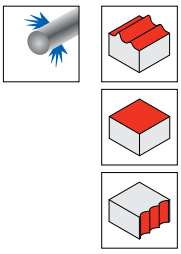
RPNX

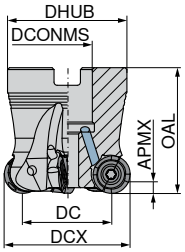
ISO	-M50 CT-P30
	 RPNX
	CX
	51 295 ...
10T3M8SN	22006
1204M8SN	22506
P	●
M	○
K	○
N	
S	
H	
O	

Milling guide

→ Cutting data standard values
→ Machining strategy
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Face mills – 252



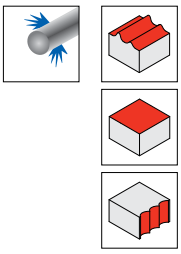


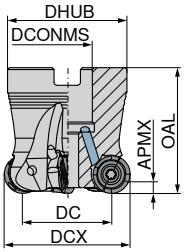


Designation	DC inch	DCX inch	ZNF	APMX inch	OAL inch	DHUB inch	DCONMS inch	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 58 689 ...
A252.150.R.04-12-A050-175-EF	1.027	1.500	4	0.118	1.500	1.500	0.500	15900	3,2	RNHU 1205..	**15004**
A252.200.R.05-12-A075-175-EF	1.527	2.000	5	0.118	1.750	1.750	0.750	12700	3,2	RNHU 1205..	**20005**
A252.250.R.06-12-A100-200-EF	2.027	2.500	6	0.118	2.250	2.250	1.000	10100	3,2	RNHU 1205..	**25006**
A252.300.R.07-12-A100-200-EF	2.527	3.000	7	0.118	2.250	2.250	1.000	7950	3,2	RNHU 1205..	**30007**

Spare parts DCX	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...
1.500 - 3.000	**120**	**303**	**859**

CoreLine – Face mills – 252





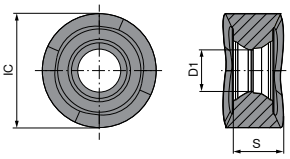


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DCONMS mm	DHUB mm	Tightening torque Nm	Indexable insert	TO 50 689 ...
A252.40.R.05-10	30	40	5	2.5	40	16	38	2	RNHU 1004..	**140**
A252.42.R.05-10	32	42	5	2.5	40	16	38	2	RNHU 1004..	**142**
A252.50.R.06-10	40	50	6	2.5	40	22	43	2	RNHU 1004..	**150**
A252.52.R.07-10	42	52	7	2.5	40	22	43	2	RNHU 1004..	**152**
A252.63.R.08-10	53	63	8	2.5	40	22	48	2	RNHU 1004..	**16300**
A252.80.R.10-10	70	80	10	2.5	50	27	58	2	RNHU 1004..	**18000**
A252.40.R.04-12	28	40	4	3.0	40	16	38	3,2	RNHU 1205..	**240**
A252.50.R.05-12	38	50	5	3.0	40	22	43	3,2	RNHU 1205..	**250**
A252.52.R.05-12	40	52	5	3.0	40	22	43	3,2	RNHU 1205..	**252**
A252.63.R.06-12	51	63	6	3.0	40	22	48	3,2	RNHU 1205..	**263**
A252.66.R.07-12	54	66	7	3.0	40	22	48	3,2	RNHU 1205..	**266**
A252.80.R.08-12	68	80	8	3.0	50	27	58	3,2	RNHU 1205..	**280**
A252.100.R.10-12	88	100	10	3.0	50	32	78	3,2	RNHU 1205..	**30000**
A252.125.R.12-12	113	125	12	3.0	63	40	88	3,2	RNHU 1205..	**32500**

Spare parts Indexable insert	TORX® interchangeable blade AS **80 950 ...**	 Clamping key T AS **80 397 ...**	 Screwdriver AS **80 950 ...**	 Power screw AS **70 950 ...**	 Molykote AS **70 950 ...**	 Clamping screw AS **70 950 ...**	 Torque screwdriver AS **80 950 ...**
RNHU 1004.. (Ø40 – Ø80)	**053**		**119**		**303**	**710**	**192**
RNHU 1205.. (Ø40)	**054**	**040**	**120**	**151**	**303**	**839**	**192**
RNHU 1205.. (Ø50 – Ø125)	**054**		**120**		**303**	**839**	**192**

RNHU

Designation	IC mm	D1 mm	S mm
RN.U 1205..	12	4.4	5.3
RNHU 1004..	10	3.4	4.6



CoreLine – Carbide milling indexable insert

RNHU

▲ Double-sided indexable insert

	-M50 CTPP235	-F50 CTPM240	-M31 CTPM245	-M32 CTPM245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
	 RNHU	 RNHU	 RNHU	 RNHU
	IM	IM	IM	IM
ISO	51 130 ...	51 129 ...	51 106 ...	51 107 ...
1004M4ER	12000	42000	470	470
1205M4ER		42500	475	475
1205M4SR	12500			
P	●	○	●	●
M	○	●	●	●
K	○			
N				
S				
H				
O				

MaxiMill – Carbide milling indexable insert

RNHU

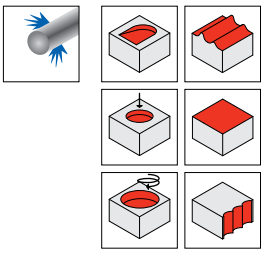
▲ Double-sided indexable insert

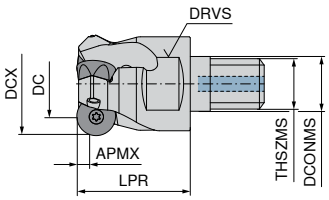
	-M31 CTC5240 DRAGONSKIN	-M31 CTC5240 DRAGONSKIN
	 RNHU	 RNHU
ISO	MA	MA
	50 520 ...	50 521 ...
1004M4ER	550	
1205M4ER		552
P		
M		
K		
N		
S	●	●
H		
O		

Milling guide

→ Cutting data standard values
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→ Grade description and overview
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→ Chip breaker descriptions and overview

MaxiMill – Screw-in cutter – FormFit

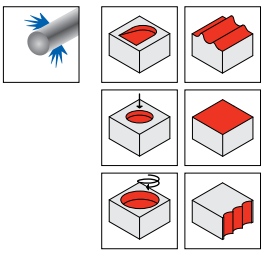


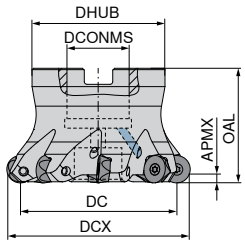




Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 376 ...
GFIT.32.R.03-12	20	32	3	3.8	17	35	M16	24	19000	3,2	RPHT 1204..	**03203**

MaxiMill – Face mills – FormFit





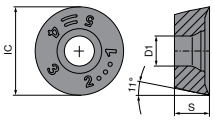


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	TO 50 375 ...
AFIT.40.R.04-12	28	40	4	3.8	40	38	16	15800	3,2	RP.X 1204..	**04004**
AFIT.52.R.05-12	40	52	5	3.8	40	43	22	13400	3,2	RP.X 1204..	**05205**
AFIT.52.R.06-12	40	52	6	3.8	40	43	22	13400	3,2	RP.X 1204..	**05206**
AFIT.66.R.07-12	54	66	7	3.8	40	43	22	11800	3,2	RP.X 1204..	**06607**
AFIT.66.R.07-A27-12	54	66	7	3.8	50	58	27	11800	3,2	RP.X 1204..	**16607**
AFIT.80.R.08-12	68	80	8	3.8	50	58	27	10200	3,2	RP.X 1204..	**08008**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
20	**054**	**120**		**303**	**859**	**193**
28	**054**	**120**	**151**	**303**	**859**	**193**
40 - 68	**054**	**120**		**303**	**859**	**193**

RPHT

Designation	IC mm	D1 mm	S mm
RPHT 1204..	12	4.4	4.76



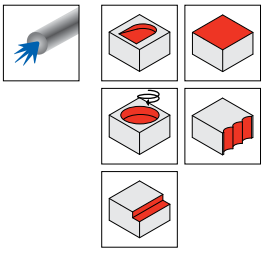
MaxiMill – Carbide milling indexable insert

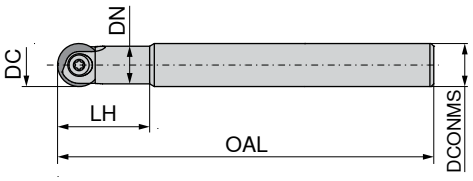
RPHT

	-F50 CTPX245	-M50 CTPM245	-M50 CTPX245
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
			
	F RPHT	M RPHT	M RPHT
ISO	MA 51 286 ...	MA 51 287 ...	MA 51 287 ...
1204M5SN	12506	42501	12506
P	●	●	●
M	●	●	●
K			
N			
S	○		○
H			
O			

CoreLine – Shank copy milling cutter – K 2001

▲ With carbide shank







Designation	DC mm	DN mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	Tightening torque Nm	TO 56 100 ...	TO 56 101 ...
K2000C.6.16.100	6	5.3	16	100	8	0,5	**060** [1]	
K2000C.6.20.100	6	5.8	20	100	6	0,5	**061** [1]	
K2000C.6.70.150	6	5.8	70	150	6	0,5	**062** [1]	
K2000C.6.100.200	6	5.8	100	200	6	0,5	**063** [1]	
K2000C.8.25.80	8	7.0	25	80	8	1	**081** [1]	
K2000C.8.25.100	8	7.0	25	100	8	1	**082** [1]	
K2000C.8.40.150	8	7.0	40	150	8	1	**083** [1]	
K2000C.10.35.80	10	8.8	35	80	10	3	**101** [1]	
K2000C.10.35.120	10	8.8	35	120	10	3	**102** [1]	
K2000C.10.50.150	10	8.8	50	150	10	3	**103** [1]	
K2000C.12.35.80	12	10.5	35	80	12	4	**121** [1]	
K2001C.12.35.80	12	10.5	35	80	12	4		**121**
K2000C.12.35.120	12	10.5	35	120	12	4	**122** [1]	
K2001C.12.35.120	12	10.5	35	120	12	4		**122**
K2000C.12.50.160	12	10.5	50	160	12	4	**123** [1]	
K2001C.12.50.160	12	10.5	50	160	12	4		**123**
K2001C.16.40.100	16	14.0	40	100	16	5		**161**
K2001C.16.40.140	16	14.0	40	140	16	5		**162**
K2001C.16.55.175	16	14.0	55	175	16	5		**163**
K2001C.20.50.100	20	18.0	50	100	20	5		**201**
K2001C.20.50.140	20	18.0	50	140	20	5		**202**
K2001C.20.75.190	20	18.0	75	190	20	5		**203**
K2001C.25.60.160	25	22.4	60	160	25	8		**252**
K2001C.25.90.210	25	22.4	90	210	25	8		**253**

1) Without through coolant supply

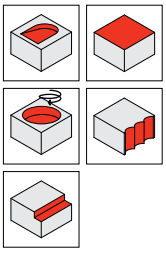
Applicable inserts

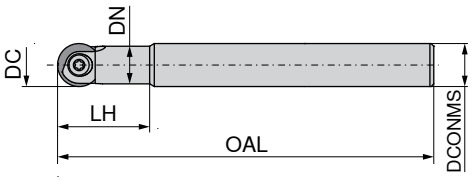
	**ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4**

	**XOHX06.. -MR2, XOHX-FM1**

CoreLine – Shank copy milling cutter – K 2002

▲ With cylindrical steel shank version







Designation	DC mm	DN mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	Tightening torque Nm	TO 56 102 ...
K2002C.12.32.90	12	10.5	32	90	12	4	**121**
K2002C.12.32.130	12	10.5	32	130	12	4	**122**
K2002C.12.46.150	12	10.5	46	150	12	4	**123**
K2002C.16.36.100	16	14.0	36	100	16	5	**161**
K2002C.16.36.140	16	14.0	36	140	16	5	**162**
K2002C.16.53.160	16	14.0	53	160	16	5	**163**
K2002C.20.45.160	20	18.0	45	160	20	5	**202**
K2002C.20.61.175	20	18.0	61	175	20	5	**203**
K2002C.25.45.160	25	22.4	45	160	25	8	**252**
K2002C.25.70.190	25	22.4	70	190	25	8	**253**
K2002C.32.56.175	32	28.6	56	175	32	8	**322**
K2002C.32.80.210	32	28.6	80	210	32	8	**323**

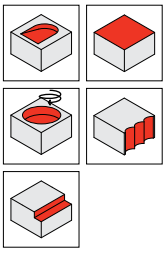
Applicable inserts

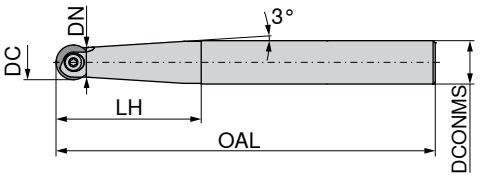
	**ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4**

	**XOHX-FM1**

CoreLine – Shank copy milling cutter – K 2003

▲ Tapered version







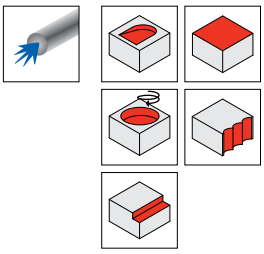
Designation	DC mm	DN mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	Tightening torque Nm	TO 56 104 ...
K2003C.6.16.90	6	5.3	40	90	10	0,5	**061**
K2003C.8.50.85	8	7.5	50	85	12	1	**081**
K2003C.8.50.140	8	7.5	50	140	12	1	**082**
K2003C.10.35.85	10	9.0	35	85	12	3	**101**
K2003C.10.35.150	10	9.0	35	150	12	3	**102**
K2003C.12.60.110	12	10.5	60	110	16	4	**121**
K2003C.12.60.160	12	10.5	60	160	16	4	**122**
K2003C.16.67.120	16	14.0	67	120	20	5	**161**
K2003C.16.67.175	16	14.0	67	175	20	5	**162**
K2003C.20.80.190	20	18.0	80	190	25	5	**201**
K2003C.25.100.210	25	22.4	100	210	32	8	**251**
K2003C.32.123.240	32	28.6	123	240	40	8	**321**

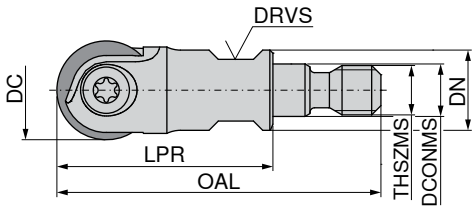
Applicable inserts

	**ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4**

	**XOHX-FM1**

CoreLine – Screw-in copy milling cutter – K 2000







Designation	DC mm	LPR mm	DN mm	OAL mm	DCONMS mm	THSZMS	DRVS mm	Tightening torque Nm	TO 56 120 ...
K2000G.8.25.M6	8	25	10	39.5	6.5	M6	8	1	**081** [1]
K2000G.10.25.M6	10	25	10	39.5	6.5	M6	8	3	**101** [1]
K2000G.12.25.M6	12	25	10	39.5	6.5	M6	8	4	**121** [1]
K2000G.12.26.M8	12	26	13	43.5	8.5	M8	10	4	**122**
K2000G.16.26.M8	16	26	13	43.5	8.5	M8	10	5	**161**
K2000G.20.30.M10	20	30	18	49.5	10.5	M10	15	5	**201**
K2000G.25.40.M12	25	40	21	62.0	12.5	M12	17	8	**251**
K2000G.32.45.M16	32	45	30	69.0	17.0	M16	26	8	**321**

1) Without through coolant supply

Applicable inserts

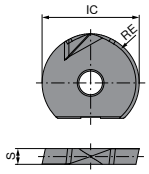
	**ROHX-FM3, ROHX-FM4, ROHX-FM6, ROHX-MR5, ROGX-MR4**

	**XOHX-FM1**

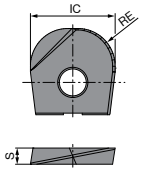
Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 56 950 ...	 Torque screwdriver AS 80 950 ...
6	**031**	**108**	**303**	**041**	**191**
8	**033**	**110**	**303**	**042**	**191**
10	**036**	**113**	**303**	**043**	**193**
12	**037**	**114**	**303**	**044**	**193**
16	**037**	**114**	**303**	**045**	**193**
20	**037**	**114**	**303**	**046**	**193**
25		**131**	**303**	**047**	
32		**131**	**303**	**048**	

ROHX / XOHX / ROGX

Designation	IC mm	S mm
ROHX0616R..	6	1.6
ROHX0820R..	8	2.0
ROHX1025R..	10	2.5
XOHX10254..	10	2.5
XOHX12255..	12	2.5
RO.X1225R..	12	2.5
RO.X1630R..	16	3.0
XOHX16307..	16	3.0
XOHX20309..	20	3.0
RO.X2030R..	20	3.0
RO.X2540R..	25	4.0
RO.X3250R..	32	5.0



RO.X



XOHX

CoreLine – Carbide radius milling indexable insert

ROHX / XOHX / ROGX

	-MR5 CTPP211	-FM1 CTPP216	-FM3 CTPP216	-FM4 CTPP216	-FM4 CTPK226	-MR4 CTPK231	-FM6 CTCN211
							
	ROHX	XOHX	ROHX	ROHX	ROHX	ROGX	ROHX
	IM	IM	IM	IM	IM	IM	IM
ISO / RE mm	56 149 ...	56 169 ...	56 147 ...	56 141 ...	56 141 ...	56 143 ...	56 145 ...
0616 R3 / 3.0			30200	90200			602 [1]
0820 R4 / 4.0	71300		31300	71300	11300		613 [1]
1025 R5 / 5.0	72400		32400	72400	12400		624 [1]
102540 / 4.0		92400					
1225 R6 / 6.0			33500	73500	13500	53500	635 [1]
122550 / 5.0		93500					
1630 R8 / 8.0			34600	74600	14600	54600	646 [1]
163070 / 7.0		94700					
2030 R10 / 10.0			35700	75700	15700	55700	
203090 / 9.0		95900					
2540 R12,5 / 12.5			36800	76800	16800	56800	
3250 R16 / 16.0			37900	77900	17900	57900	
P	●	●	●	●	●	●	
M	○	○	○	○	●	●	
K	○	●	●	●	●	●	
N	○	○	○	○		○	○
S	○	○	○	○		○	
H	○	●	●	●	○	○	
O	○	○	○	○			●

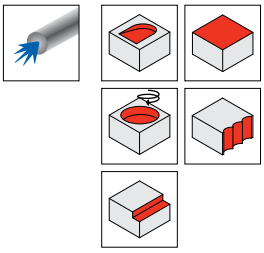
1) Specifically for machining graphite!

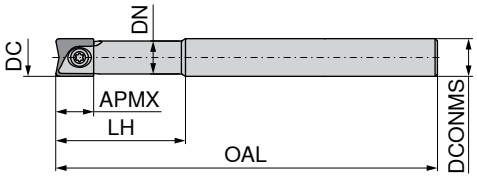
Milling guide

→ Cutting data standard values
→ Depth of cut
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Shank copy milling cutter – K 2006

▲ With carbide shank







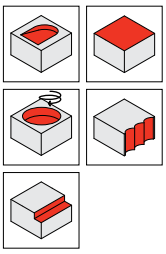
Designation	DC mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	Tightening torque Nm	TO 56 110 ...	TO 56 111 ...
K2005C.8.27.82	8	9.5	7.0	27	82	8	1	**081** [1]	
K2005C.8.27.102	8	9.5	7.0	27	102	8	1	**082** [1]	
K2005C.8.42.152	8	9.5	7.0	42	152	8	1	**083** [1]	
K2005C.10.37.82	10	11.5	8.8	37	82	10	3	**101** [1]	
K2005C.10.37.122	10	11.5	8.8	37	122	10	3	**102** [1]	
K2005C.10.52.152	10	11.5	8.8	52	152	10	3	**103** [1]	
K2005C/K2006C.12.37.82	12	14.0	10.5	37	82	12	4	**121** [1]	**121**
K2005C/K2006C.12.37.122	12	14.0	10.5	37	122	12	4	**122** [1]	**122**
K2005C/K2006C.12.52.162	12	14.0	10.5	52	162	12	4	**123** [1]	**123**
K2006C.16.42.102	16	16.0	14.0	42	102	16	5		**161**
K2006C.16.42.142	16	16.0	14.0	42	142	16	5		**162**
K2006C.16.57.177	16	16.0	14.0	57	177	16	5		**163**
K2006C.20.52.102	20	18.0	18.0	52	102	20	5		**201**
K2006C.20.52.142	20	18.0	18.0	52	142	20	5		**202**
K2006C.20.77.192	20	18.0	18.0	77	192	20	5		**203**
K2006C.25.62.162	25	23.5	22.4	62	162	25	8		**252**
K2006C.25.92.212	25	23.5	22.4	92	212	25	8		**253**

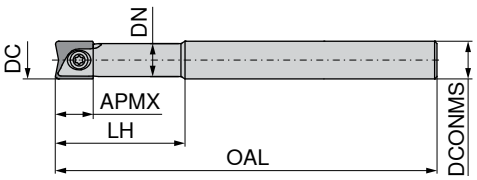
1) Without through coolant supply

Applicable inserts

	**XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6**
	XOGX-MF4

CoreLine – Shank copy milling cutter – K 2007





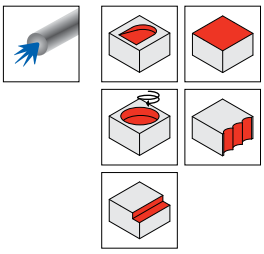


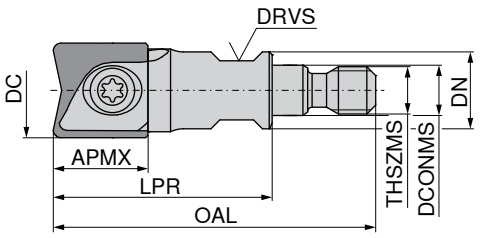
Designation	DC mm	APMX mm	DN mm	LH mm	OAL mm	DCONMS $_{h6}$ mm	Tightening torque Nm	TO 56 112 ...
K2007C.12.34.132	12	14.0	10.5	34	132	12	4	**122**
K2007C.12.34.92	12	14.0	10.5	34	92	12	4	**121**
K2007C.12.48.152	12	14.0	10.5	48	152	12	4	**123**
K2007C.16.38.102	16	16.0	14.0	38	102	16	5	**161**
K2007C.16.38.142	16	16.0	14.0	38	142	16	5	**162**
K2007C.16.55.162	16	16.0	14.0	55	162	16	5	**163**
K2007C.20.47.162	20	18.0	18.0	47	162	20	5	**202**
K2007C.20.63.177	20	18.0	18.0	63	177	20	5	**203**
K2007C.25.47.162	25	23.5	22.4	47	162	25	8	**252**
K2007C.25.72.192	25	23.5	22.4	72	192	25	8	**253**
K2007C.32.58.177	32	28.0	28.6	58	177	32	8	**322**
K2007C.32.82.212	32	28.0	28.6	82	212	32	8	**323**

Applicable inserts

	**XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6**
	XOGX-MF4

CoreLine – Screw-in copy milling cutter – K 2005







Designation	DC mm	APMX mm	DN mm	LPR mm	OAL mm	DCONMS mm	THSZMS	DRVS mm	Tightening torque Nm	TO 56 130 ...
K2005G.8.25.M6	8	9.5	10	25	39.5	6.5	M6	8	1	**081** [1]
K2005G.10.25.M6	10	11.5	10	25	39.5	6.5	M6	8	3	**101** [1]
K2005G.12.25.M6	12	14.0	10	25	39.5	6.5	M6	8	4	**121** [1]
K2005G.12.28.M8	12	14.0	13	28	45.5	8.5	M8	8	4	**122**
K2005G.16.28.M8	16	16.0	13	28	45.5	8.5	M8	10	5	**161**
K2005G.20.32.M10	20	18.0	18	32	51.5	10.5	M10	15	5	**201**
K2005G.25.42.M12	25	23.5	21	42	64.0	12.5	M12	17	8	**251**
K2005G.32.47.M16	32	28.0	30	47	71.0	17.0	M16	26	8	**321**

1) Without through coolant supply

Applicable inserts

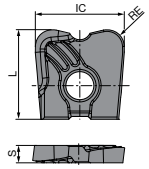


XOHX-FM2 / -FM5 / -MR2 / -MR3 / -MR6
XOGX-MF4

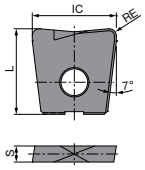
Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 56 950 ...	 Torque screwdriver AS 80 950 ...
8	**033**	**110**	**303**	**042**	**191**
10	**036**	**113**	**303**	**043**	**193**
12	**037**	**114**	**303**	**044**	**193**
16	**037**	**114**	**303**	**045**	**193**
20	**037**	**114**	**303**	**046**	**193**
25		**131**	**303**	**047**	
32		**131**	**303**	**048**	

XOHX / XOGX

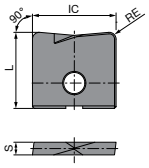
Designation	IC mm	S mm	L mm
XO.X10251..	10	2.5	11.5
XO.X12251..	12	2.5	14.0
XO.X16301..	16	3.0	16.0
XO.X16303..	16	3.0	16.0
XO.X20301..	20	3.0	18.0
XO.X20304..	20	3.0	18.0
XOGX12252..	12	2.5	14.0
XOHX06160..	6	1.6	8.0
XOHX08200..	8	2.0	9.5
XOHX08201..	8	2.0	9.5
XOHX10250..	10	2.5	11.5
XOHX12252..	12	3.0	14.0
XOHX20302..	20	3.0	18.0
XOHX25401..	25	4.0	23.5
XOHX25402..	25	4.0	23.5
XOHX25405..	25	4.0	23.5
XOHX32502..	32	5.0	28.0



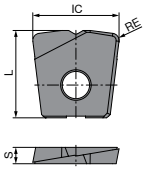
XOGX



XOHX



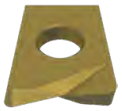
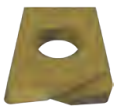
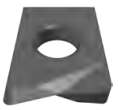
XOHX



XOHX

CoreLine – Carbide torus milling indexable insert

XOHX / XOGX

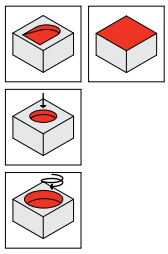
	-MR2 CTPP211	-MR6 CTPP211	-FM2 CTPP216	-FM5 CTPP216	-MF4 CTPP216	-MR3 CTPK231	-MR2 CTCN211
							
	XOHX	XOHX	XOHX	XOHX	XOGX	XOHX	XOHX
	IM	IM	IM	IM	IM	IM	IM
ISO / RE mm	56 167 ...	56 163 ...	56 165 ...	56 159 ...	56 161 ...	56 171 ...	56 168 ...
061605 0.5	71000						610 [1]
082006 0.6		71000	71000	71000			
082010 1.0	71200		71200				612 [1]
102508 0.8		72100	72100	72100		32100	
102510 1.0	72200		72200		92200		622 [1]
122510 1.0	73200	73200	73200	73200	93200	53200	632 [1]
122520 2.0	73500		73500		93500		
163010 1.0	74200		74200		94200		642 [1]
163013 1.3		74300	74300	74300			
163015 1.5						54400	
163030 3.0	74700		74500		94700		
203010 1.0	75200		75200		95200		
203016 1.6		75400	75400	75400			
203020 2.0						55500	
203040 4.0	75800		75800		95800		
254010 1.0	76200		76200				
254020 2.0		76500	76500	76500			
254050 5.0	76900		76900				
325025 2.5		77600		77600			
P	●	●	●	●	●	●	
M	○	○	○	○	○	●	
K	○	○	●	●	●	●	
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	
H	○	○	●	●	●	○	
O	○	○	○	○	○		●

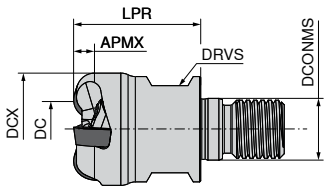
1) Specifically for machining graphite!

Milling guide

→ Cutting data standard values
→ Technical information
→ Grade description and overview
→ Depth of cut
→ Chip breaker descriptions and overview

CoreLine – Screw-in cutter – 261-12

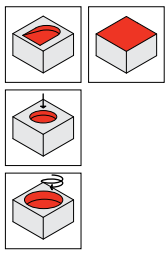


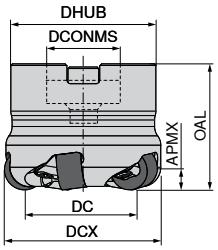




Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS mm	LPR mm	DRVS mm	RPMX 1/min.	Indexable insert	TO 50 793 ...
G261.32.R.03-1204	20	32	3	6	17	35	24	18100	RP.. 1204	**03203**

CoreLine – Face mills – 261-12





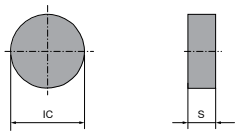


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS mm	RPMX 1/min.	Indexable insert	TO 50 792 ...
A261.40.R.04-1204	40	40	4	6	40	36	16	16200	RP.. 1204	**04004**
A261.50.R.05-1204	50	50	5	6	40	46	22	14500	RP.. 1204	**05005**
A262.63.R.06-1204	63	63	6	6	40	50	22	12900	RP.. 1204	**06306**

Spare parts DC	 Screwdriver AS 80 950 ...	 Power screw AS 70 950 ...	 Clamping wedge AS 70 950 ...	 Torque screwdriver AS 80 021 ...	 Differential screw AS 70 950 ...
20	**120**		**71300**	**032**	**71400**
40	**120**	**151**	**71300**	**032**	**71400**
50 - 63	**120**		**71300**	**032**	**71400**

RPGN

Designation	IC mm	S mm
RNGN 1204..	12.7	4.76
RPGN 1204..	12.7	4.76



CoreLine – CERAMIC milling indexable insert

RPGN

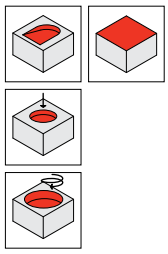
CTIS710

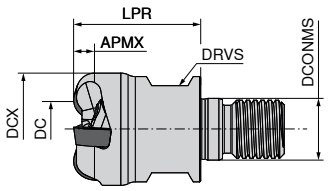


CERAMIC
RPGN

ISO	IC 51 143 ...
120400	00200
120400	00400
P	
M	
K	
N	
S	●
H	
O	

CoreLine – Screw-in cutter – 262-12

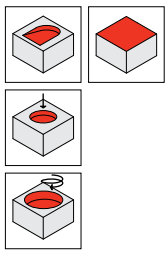


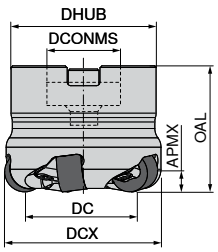




Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS mm	LPR mm	DRVS mm	RPMX 1/min.	Indexable insert	TO 50 791 ...
G262.32.R.03-1204	20	32	3	6	17	35	24	17600	RN.. 1204	**03203**

CoreLine – Face mills – 262-12







Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS mm	RPMX 1/min.	Indexable insert	TO 50 789 ...	TO 50 790 ...
A262.40.R.04-1204	40	40	4	6	40	36	16	15800	RN.. 1204	**04004**	
A262.50.R.04-1204	50	50	5	6	40	46	22	14100	RN.. 1204	**05005**	
A262.50.R.05-1207	50	50	5	6	40	46	22	12500	RN.. 1207		**05005**
A262.63.R.06-1207	63	63	6	6	40	50	22	11100	RN.. 1207		**06306**


Screwdriver


Power screw


Clamping wedge

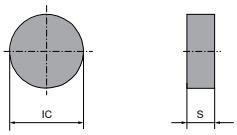

Torque screwdriver


Differential screw

Spare parts DC	AS 80 950 ...	AS 70 950 ...	AS 70 950 ...	AS 80 021 ...	AS 70 950 ...
20	**120**		**71300**	**032**	**71400**
40	**120**	**151**	**71300**	**032**	**71400**
50	**120**		**71300**	**032**	**71400**
50	**120**	**151**	**71300**	**032**	**71400**
63	**120**		**71300**	**032**	**71400**

RNGN

Designation	IC mm	S mm
RNGN 1204..	12.7	4.76
RNGN 1207..	12.7	7.94



CoreLine – CERAMIC milling indexable insert

RNGN

		CTKS710	CTIS710
			
		CERAMIC RNGN	**CERAMIC** RNGN
		IC	IC
ISO		**51 142 ...**	**51 142 ...**
120400			00200
120400			00400
120700			02200
120700			02600
120700		12400	
120700		12600	
P			
M			
K			
N			
S		●	●
H			
O			

Application tips – Slot-SX

▲ The following components are required to work with the tool:



Assembly key



Grooving insert



Side and face milling cutters



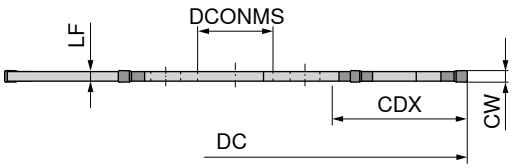
Multipurpose milling cutter adapter

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°





Designation	DC mm	CW mm	CDX mm	DCONMS H6 mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 383 ...
ASLOT.80.R.6.13.DC-SX2	80	2	23	13	1.65	6	SX E2 ..	AD.SLOT.13...	**08002**
ASLOT.80.R.6.13.DC-SX3	80	3	23	13	2.50	6	SX E3 ..	AD.SLOT.13...	**08003**
ASLOT.80.R.4.13.DC-SX4	80	4	23	13	3.50	4	SX E4 ..	AD.SLOT.13...	**08004**
ASLOT.80.R.4.13.DC-SX5	80	5	23	13	4.50	4	SX E5 ..	AD.SLOT.13...	**08005**



Clamping screw

Insert mounting key SX

Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 383 08002	**00100**	**836**
50 383 08003	**00100**	**836**
50 383 08004	**00100**	**837**
50 383 08005	**00100**	**837**

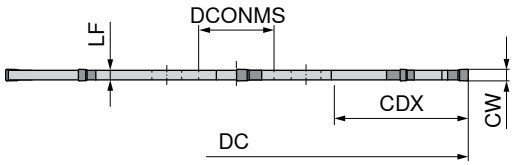
→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 384 ...
ASLOT.100.R.8.22.DC-SX2	100	2	29	22	1.65	8	SX E2 ..	AD.SLOT.22...	**10002**
ASLOT.100.R.8.22.DC-SX3	100	3	29	22	2.50	8	SX E3 ..	AD.SLOT.22...	**10003**
ASLOT.100.R.6.22.DC-SX4	100	4	29	22	3.50	6	SX E4 ..	AD.SLOT.22...	**10004**
ASLOT.100.R.6.22.DC-SX5	100	5	29	22	4.50	6	SX E5 ..	AD.SLOT.22...	**10005**
ASLOT.100.R.4.22.DC-SX6	100	6	29	22	5.40	4	SX E6 ..	AD.SLOT.22...	**10006**


Clamping screw

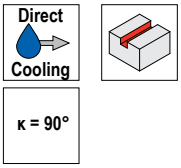
Insert mounting key SX

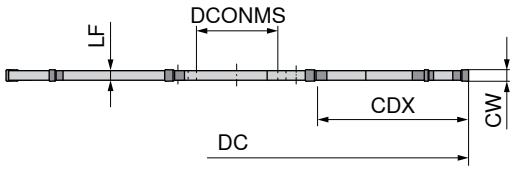
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 384 10002	**00100**	**836**
50 384 10003	**00100**	**836**
50 384 10004	**00100**	**837**
50 384 10005	**00100**	**837**
50 384 10006	**00100**	**837**


→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 385 ...
ASLOT.125.R.10.22.DC-SX2	125	2	42	22	1.65	10	SX E2 ..	AD.SLOT.22...	**12502**
ASLOT.125.R.10.22.DC-SX3	125	3	42	22	2.50	10	SX E3 ..	AD.SLOT.22...	**12503**

Spare parts for article number	 Clamping screw AS 50 950 ...	Insert mounting key SX AS 70 950 ...
50 385 12502	**00100**	**836**
50 385 12503	**00100**	**836**

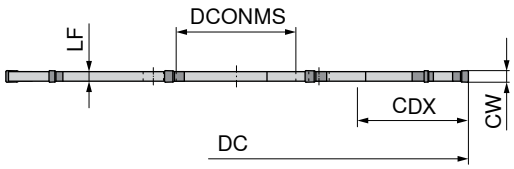
→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws

Direct Cooling

κ = 90°





Designation	DC mm	CW mm	CDX mm	DCONMS H6 mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 386 ...
ASLOT.125.R.10.32.DC-SX2	125	2	30	32	1.65	10	SX E2 ..	AD.SLOT.32...	**12502**
ASLOT.125.R.10.32.DC-SX3	125	3	30	32	2.50	10	SX E3 ..	AD.SLOT.32...	**12503**
ASLOT.125.R.8.32.DC-SX4	125	4	30	32	3.50	8	SX E4 ..	AD.SLOT.32...	**12504**
ASLOT.125.R.8.32.DC-SX5	125	5	30	32	4.50	8	SX E5 ..	AD.SLOT.32...	**12505**
ASLOT.125.R.8.32.DC-SX6	125	6	30	32	5.40	8	SX E6 ..	AD.SLOT.32...	**12506**


Clamping screw

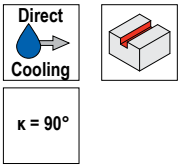
Insert mounting key SX

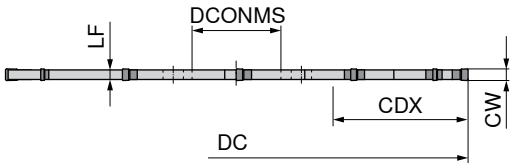
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 386 12502	**00200**	**836**
50 386 12503	**00200**	**836**
50 386 12504	**00200**	**837**
50 386 12505	**00200**	**837**
50 386 12506	**00200**	**837**

→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS H6 mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 387 ...
ASLOT.160.R.12.32.DC-SX2	160	2	48	32	1.65	12	SX E2 ..	AD.SLOT.32...	**16002**
ASLOT.160.R.12.32.DC-SX3	160	3	48	32	2.50	12	SX E3 ..	AD.SLOT.32...	**16003**


Clamping screw

Insert mounting key SX

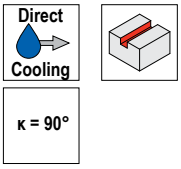
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 387 16002	**00200**	**836**
50 387 16003	**00200**	**836**

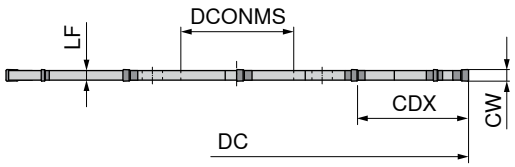


→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 388 ...
ASLOT.160.R.12.40.DC-SX2	160	2	39	40	1.65	12	SX E2 ..	AD.SLOT.40...SK	**16002**
ASLOT.160.R.12.40.DC-SX3	160	3	39	40	2.50	12	SX E3 ..	AD.SLOT.40...SK	**16003**
ASLOT.160.R.10.40.DC-SX4	160	4	39	40	3.50	10	SX E4 ..	AD.SLOT.40...SK	**16004**
ASLOT.160.R.10.40.DC-SX5	160	5	39	40	4.50	10	SX E5 ..	AD.SLOT.40...SK	**16005**
ASLOT.160.R.10.40.DC-SX6	160	6	39	40	5.40	10	SX E6 ..	AD.SLOT.40...SK	**16006**


Clamping screw

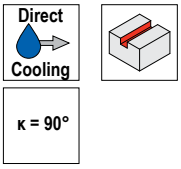
Insert mounting key SX

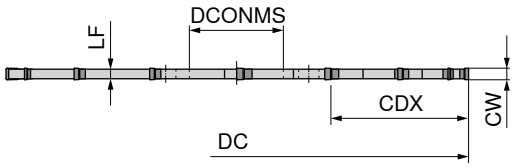
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 388 16002	**00300**	**836**
50 388 16003	**00300**	**836**
50 388 16004	**00300**	**837**
50 388 16005	**00300**	**837**
50 388 16006	**00300**	**837**

→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS H6 mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 389 ...
ASLOT.200.R.16.40.DC-SX2	200	2	59	40	1.65	16	SX E2 ..	AD.SLOT.40...SK	**20002**
ASLOT.200.R.16.40.DC-SX3	200	3	59	40	2.50	16	SX E3 ..	AD.SLOT.40...SK	**20003**
ASLOT.200.R.14.40.DC-SX4	200	4	59	40	3.50	14	SX E4 ..	AD.SLOT.40...SK	**20004**
ASLOT.200.R.14.40.DC-SX5	200	5	59	40	4.50	14	SX E5 ..	AD.SLOT.40...SK	**20005**
ASLOT.200.R.14.40.DC-SX6	200	6	59	40	5.40	14	SX E6 ..	AD.SLOT.40...SK	**20006**


Clamping screw

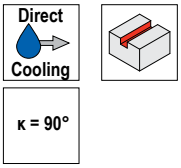
Insert mounting key SX

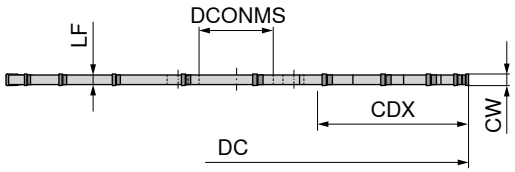
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 389 20002	**00300**	**836**
50 389 20003	**00300**	**836**
50 389 20004	**00300**	**837**
50 389 20005	**00300**	**837**
50 389 20006	**00300**	**837**

→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 380 ...
ASLOT.250.R.20.40.DC-SX3	250	3	84	40	2.5	20	SX E3 ..	AD.SLOT.40...ZK	**25003**
ASLOT.250.R.18.40.DC-SX4	250	4	84	40	3.5	18	SX E4 ..	AD.SLOT.40...ZK	**25004**
ASLOT.250.R.18.40.DC-SX5	250	5	84	40	4.5	18	SX E5 ..	AD.SLOT.40...ZK	**25005**
ASLOT.250.R.18.40.DC-SX6	250	6	84	40	5.4	18	SX E6 ..	AD.SLOT.40...ZK	**25006** [1]

1) Not in stock


Clamping screw

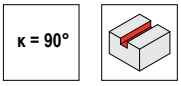
Insert mounting key SX

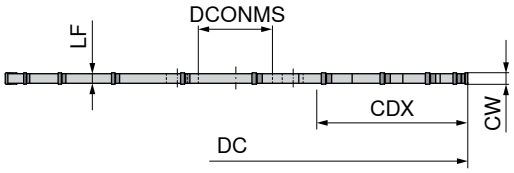
Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 380 25003	**00400**	**836**
50 380 25004	**00400**	**837**
50 380 25005	**00400**	**837**
50 380 25006	**00400**	**837**

→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 390 ...
ASLOT.250.R.20.40-SX3	250	3	84	40	2.5	20	SX E3 ..	AD.SLOT.40...ZK	**25003**
ASLOT.250.R.18.40-SX4	250	4	84	40	3.5	18	SX E4 ..	AD.SLOT.40...ZK	**25004**
ASLOT.250.R.18.40-SX5	250	5	84	40	4.5	18	SX E5 ..	AD.SLOT.40...ZK	**25005**
ASLOT.250.R.18.40-SX6	250	6	84	40	5.4	18	SX E6 ..	AD.SLOT.40...ZK	**25006** [1]

1) Not in stock


Clamping screw

Insert mounting key SX

Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 390 25003	**00400**	**836**
50 390 25004	**00400**	**837**
50 390 25005	**00400**	**837**
50 390 25006	**00400**	**837**

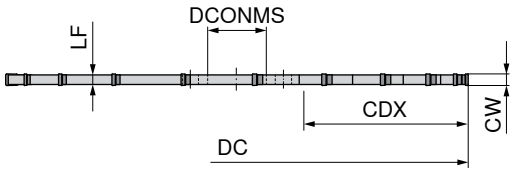
→ Suitable multipurpose milling cutter adapters

CoreLine – Side and face milling cutter – Slot-SX

Scope of supply:
Side and face milling cutter **without** assembly key, **without** clamping screws

κ = 90°







Designation	DC mm	CW mm	CDX mm	DCONMS $_{H6}$ mm	LF mm	ZEFP	Indexable insert	Adapter	TO 50 391 ...
ASLOT.315.R.22.40-SX4	315	4	115	40	3.5	22	SX E4 ..	AD.SLOT.40...ZK	**31504**
ASLOT.315.R.22.40-SX5	315	5	115	40	4.5	22	SX E5 ..	AD.SLOT.40...ZK	**31505**
ASLOT.315.R.22.40-SX6	315	6	115	40	5.4	22	SX E6 ..	AD.SLOT.40...ZK	**31506** [1)]

1) Not in stock


Clamping screw

Insert mounting key SX

Spare parts for article number	AS 50 950 ...	AS 70 950 ...
50 391 31504	**00400**	**837**
50 391 31505	**00400**	**837**
50 391 31506	**00400**	**837**

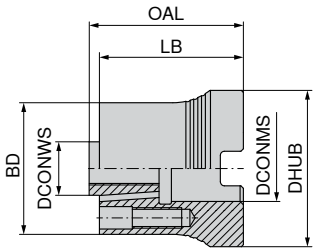


→ Suitable multipurpose milling cutter adapters

CoreLine – Multipurpose milling cutter adapter – Slot-SX

Scope of supply:
Multipurpose milling cutter adapter including screws





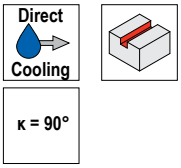


Designation	DCONMS mm	DCONWS h6 mm	DHUB mm	LB mm	OAL mm	BD mm	TO 50 395 ...
AD.SLOT.13.32.A16	16	13	38	35	37.5	32	**01300**
AD.SLOT.22.40.A22	22	22	48	35	37.5	40	**02200**
AD.SLOT.22.40.A22.40	22	22	40	35	37.5	40	**02300**
AD.SLOT.32.63.A27	27	32	58	45	47.5	63	**03200**
AD.SLOT.40.80.A32.SK	32	40	78	55	57.5	80	**04000**
AD.SLOT.40.80.A32.ZK	32	40	78	55	57.5	80	**04100**

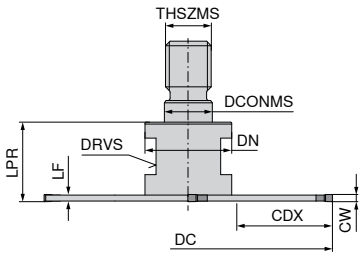
Spare parts for article number	 Clamping screw AS 50 950 ...	 Clamping screw AS 50 950 ...	 Clamping screw AS 50 950 ...	 Power screw AS 70 950 ...
50 395 01300	**00100**			**151**
50 395 02200	**00100**			
50 395 03200	**00200**			
50 395 04000			**00300**	
50 395 04100		**00400**		

CoreLine – Screw-in multipurpose milling cutter – Slot-SX

Scope of supply:
Screw-in multipurpose milling cutter **without** assembly key



κ = 90°





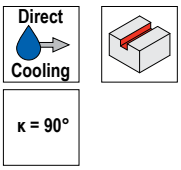
Designation	DC mm	CW mm	CDX mm	DCONMS mm	THSZMS	LF mm	DN mm	LPR mm	DRVS mm	ZEFP	Indexable insert	TO 50 392 ...
GSLOT.63.R.4.M10.DC-SX2	63	2	21	10.5	M10	1.65	19	18	15	4	SX E2 ..	**06302**
GSLOT.63.R.4.M10.DC-SX3	63	3	21	10.5	M10	2.50	19	18	15	4	SX E3 ..	**06303**



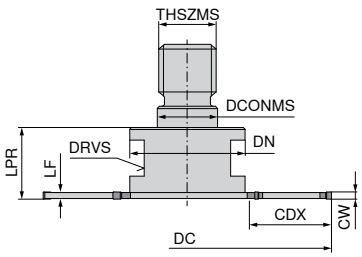
Spare parts for article number	AS 70 950 ...
50 392 06302	**836**
50 392 06303	**836**

CoreLine – Screw-in multipurpose milling cutter – Slot-SX

Scope of supply:
Screw-in multipurpose milling cutter **without** assembly key



κ = 90°





Designation	DC mm	CW mm	CDX mm	DCONMS mm	THSZMS	LF mm	DN mm	LPR mm	DRVS mm	ZEFP	Indexable insert	TO 50 393 ...
GSLOT.80.R.6.M16.DC-SX2	80	2	23	17	M16	1.65	32	20	24	6	SX E2 ..	**08002**
GSLOT.80.R.6.M16.DC-SX3	80	3	23	17	M16	2.50	32	20	24	6	SX E3 ..	**08003**
GSLOT.80.R.4.M16.DC-SX4	80	4	23	17	M16	3.50	32	20	24	4	SX E4 ..	**08004**



Spare parts for article number	AS 70 950 ...
50 393 08002	**836**
50 393 08003	**836**
50 393 08004	**837**

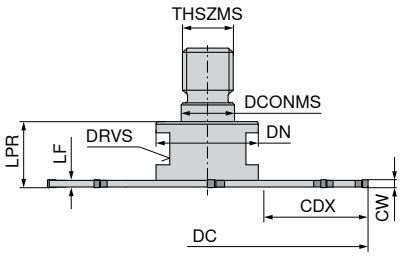
CoreLine – Screw-in multipurpose milling cutter – Slot-SX

Scope of supply:
Screw-in multipurpose milling cutter **without** assembly key











Designation	DC mm	CW mm	CDX mm	DCONMS mm	THSZMS	LF mm	DN mm	LPR mm	DRVS mm	ZEFP	Indexable insert	TO 50 394 ...
GSLOT.100.R.8.M16.DC-SX2	100	2	33	17	M16	1.65	32	20	24	8	SX E2 ..	**10002**
GSLOT.100.R.8.M16.DC-SX3	100	3	33	17	M16	2.50	32	20	24	8	SX E3 ..	**10003**
GSLOT.100.R.6.M16.DC-SX4	100	4	33	17	M16	3.50	32	20	24	6	SX E4 ..	**10004**

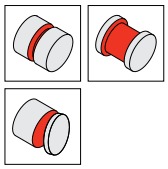

Insert mounting key SX

Spare parts for article number	AS 70 950 ...
50 394 10002	**836**
50 394 10003	**836**
50 394 10004	**837**

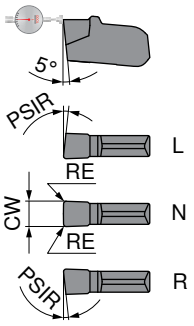


Suitable adapters for screw-in cutters can be found in the chapter Adapters and accessories

CoreLine – Carbide grooving insert – SX



± .0008 inch / 0.02 mm



-F2
CTP1340

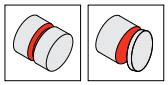
DRAGONSKIN



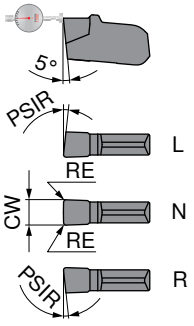
F

Designation	IH	CW mm	RE mm	PDPT mm	For tool holder	IG 70 346 ...
SX E2.00 N 0.20	N	2	0.2	1.5	-SX2	**622**
SX E3.00 N 0.30	N	3	0.3	2.0	-SX3	**623**
SX E4.00 N 0.40	N	4	0.4	2.5	-SX4	**624**
P						●
M						●
K						○
N						○
S						●
H						
O						

CoreLine – Carbide grooving insert – SX



± .0039 inch / 0.10 mm



-M1
CTCP335

DRAGONSKIN



M

-M1
CTP1340

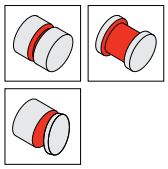
DRAGONSKIN



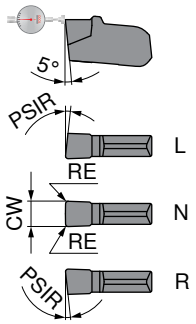
M

Designation	IH	CW mm	RE mm	For tool holder	IG 70 342 ...	IG 70 342 ...
SX E2.00 N 0.20	N	2	0.2	-SX2	**52200**	**622**
SX E3.00 N 0.20	N	3	0.2	-SX3	**523**	**623**
SX E4.00 N 0.30	N	4	0.3	-SX4	**524**	**624**
SX E5.00 N 0.30	N	5	0.3	-SX5	**52500**	**625**
SX E6.00 N 0.40	N	6	0.4	-SX6	**52600**	**626**
P					●	●
M					○	●
K					●	○
N						○
S						●
H						
O						

CoreLine – Carbide grooving insert – SX



± .0008 inch / 0.02 mm



-27P
H216T

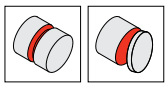


M

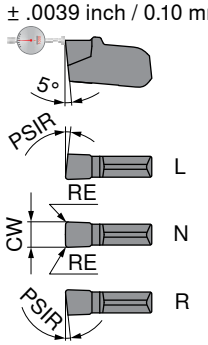
Designation	IH	CW mm	RE mm	PDPT mm	For tool holder	IG 70 349 ...
SX E2.00 N 0.20	N	2	0.2	2.0	-SX2	**122**
SX E3.00 N 0.30	N	3	0.3	2.5	-SX3	**123**
SX E4.00 N 0.40	N	4	0.4	3.0	-SX4	**124**

P	
M	
K	○
N	●
S	
H	
O	○

CoreLine – Carbide grooving insert – SX



± .0039 inch / 0.10 mm



-M7
CTP1340

DRAGONSKIN

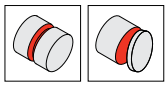


M

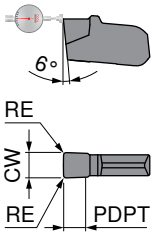
Designation	IH	CW mm	RE mm	PDPT mm	For tool holder	IG 70 347 ...
SX E2.00 N 0.20	N	2	0.20	1.5	-SX2	**62200**
SX E3.00 N 0.20	N	3	0.20	2.0	-SX3	**62300**
SX E4.00 N 0.25	N	4	0.25	2.5	-SX4	**62400**
SX E5.00 N 0.30	N	5	0.30	2.7	-SX5	**62500**
SX E6.00 N 0.35	N	6	0.35	3.0	-SX6	**62600**

P	●
M	●
K	○
N	○
S	●
H	
O	

CoreLine – Carbide grooving insert – SX



± .0008 inch / 0.02 mm



-M8
CTP1340

DRAGONSKIN



F

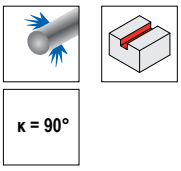
Designation	CW mm	RE mm	PDPT mm	For tool holder	IG 70 348 ...
SX E2.00 N 0.20	2	0.20	1.5	-SX2	**62200**
SX E3.00 N 0.20	3	0.20	2.0	-SX3	**62300**
SX E4.00 N 0.25	4	0.25	2.5	-SX4	**62400**
SX E5.00 N 0.30	5	0.30	2.7	-SX5	**62500**
SX E6.00 N 0.35	6	0.35	3.0	-SX6	**62600**

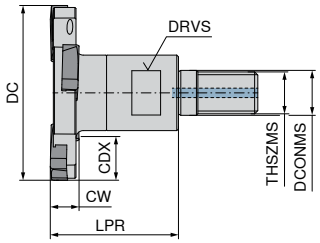
P	●
M	●
K	○
N	○
S	●
H	
O	

Milling guide

→ Cutting data standard values
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Screw-in multipurpose milling cutter – Slot-SNHX





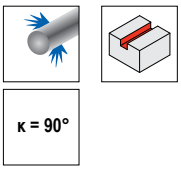


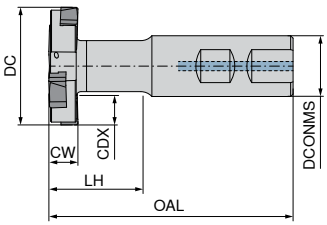
Designation	DC mm	CW mm	CDX mm	LPR mm	DCONMS mm	THSZMS	DRVS mm	ZNF	Indexable insert	TO 50 373 ...
GSLOT.50.R.04-SN13-06-DC-M12	50	6	13	35	12.5	M12	17	2	SNHX 1303..	**05006**
GSLOT.63.R.06-SN13-06-DC-M12	63	6	18	35	12.5	M12	17	3	SNHX 1303..	**06306**
GSLOT.80.R.08-SN13-06-DC-M16	80	6	21	35	17.0	M16	24	4	SNHX 1303..	**08006**
GSLOT.50.R.04-SN13-08-DC-M12	50	8	13	35	12.5	M12	17	2	SNHX 1304..	**05008**
GSLOT.63.R.06-SN13-08-DC-M12	63	8	18	35	12.5	M12	17	3	SNHX 1304..	**06308**
GSLOT.80.R.08-SN13-08-DC-M16	80	8	21	35	17.0	M16	24	4	SNHX 1304..	**08008**


Clamping screw

Spare parts	AS 50 950 ...
50 373 05006 / 50 373 08006	**00500**
50 373 05008 / 50 373 08008	**00600**

CoreLine – Cylindrical shank saw – Slot-SNHX





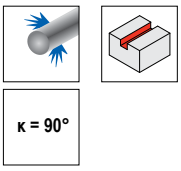


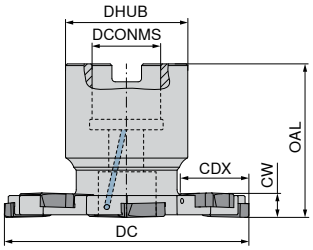
Designation	DC mm	CW mm	CDX mm	OAL mm	LH mm	DCONMS mm	ZNF	Indexable insert	TO 50 372 ...
CSLOT.50.R.04-SN13-06-DC-B20-42	50	6	13	95	42.00	20	2	SNHX 1303..	**05006**
CSLOT.63.R.06-SN13-06-DC-B25-41	63	6	18	100	37.21	25	3	SNHX 1303..	**06306**
CSLOT.80.R.08-SN13-06-DC-B32-48	80	6	22	110	47.00	32	4	SNHX 1303..	**08006**
CSLOT.100.R.10-SN13-06-DC-B40-52	100	6	29	125	50.60	40	5	SNHX 1303..	**10006**
CSLOT.50.R.04-SN13-08-DC-B20-42	50	8	13	95	42.00	20	2	SNHX 1304..	**05008**
CSLOT.63.R.06-SN13-08-DC-B25-41	63	8	18	100	38.00	25	3	SNHX 1304..	**06308**
CSLOT.80.R.08-SN13-08-DC-B32-48	80	8	22	110	47.50	32	4	SNHX 1304..	**08008**
CSLOT.100.R.10-SN13-08-DC-B40-52	100	8	29	125	51.00	40	5	SNHX 1304..	**10008**
CSLOT.50.R.04-SN13-10-DC-B20-42	50	10	13	95	42.00	20	2	SNHX 1305..	**05010**
CSLOT.63.R.06-SN13-10-DC-B25-41	63	10	18	100	37.00	25	3	SNHX 1305..	**06310**
CSLOT.80.R.08-SN13-10-DC-B32-48	80	10	22	110	47.50	32	4	SNHX 1305..	**08010**
CSLOT.100.R.10-SN13-10-DC-B40-52	100	10	29	125	51.00	40	5	SNHX 1305..	**10010**
CSLOT.50.R.04-SN13-12-DC-B20-42	50	12	13	95	42.00	20	2	SNHX 1307..	**05012**
CSLOT.63.R.06-SN13-12-DC-B25-41	63	12	18	100	37.00	25	3	SNHX 1307..	**06312**
CSLOT.80.R.08-SN13-12-DC-B32-48	80	12	22	110	47.50	32	4	SNHX 1307..	**08012**
CSLOT.100.R.10-SN13-12-DC-B40-52	100	12	29	125	51.00	40	5	SNHX 1307..	**10012**


Clamping screw

Spare parts	AS 50 950 ...
50 372 05006 / 50 372 10006	**00500**
50 372 05008 / 50 372 10008	**00600**
50 372 05010 / 50 372 10010	**00700**
50 372 05012 / 50 372 10012	**00800**

CoreLine – Side and face milling cutter – Slot-SNHX







Designation	DC mm	CW mm	CDX mm	OAL mm	DCONMS mm	DHUB mm	ZNF	Indexable insert	TO 50 374 ...
ASLOT.80.R.08-SN13-06-DC-A22	80	6	22.0	50	22	40	4	SNHX 1303..	**08006**
ASLOT.100.R.10-SN13-06-DC-A27	100	6	25.0	50	27	48	5	SNHX 1303..	**10006**
ASLOT.125.R.12-SN13-06-DC-A32	125	6	31.5	50	32	58	6	SNHX 1303..	**12506**
ASLOT.160.R.16-SN13-06-DC-A40	160	6	41.5	50	40	70	8	SNHX 1303..	**16006**
ASLOT.200.R.18-SN13-06-DC-A40	200	6	52.0	50	40	88	9	SNHX 1303..	**20006**
ASLOT.80.R.08-SN13-08-DC-A22	80	8	22.0	50	22	40	4	SNHX 1304..	**08008**
ASLOT.100.R.10-SN13-08-DC-A27	100	8	25.0	50	27	48	5	SNHX 1304..	**10008**
ASLOT.125.R.12-SN13-08-DC-A32	125	8	31.5	50	32	58	6	SNHX 1304..	**12508**
ASLOT.160.R.16-SN13-08-DC-A40	160	8	41.5	50	40	70	8	SNHX 1304..	**16008**
ASLOT.200.R.18-SN13-08-DC-A40	200	8	52.0	50	40	88	9	SNHX 1304..	**20008**
ASLOT.80.R.08-SN13-10-DC-A22	80	10	22.0	50	22	40	4	SNHX 1305..	**08010**
ASLOT.100.R.10-SN13-10-DC-A27	100	10	25.0	50	27	48	5	SNHX 1305..	**10010**
ASLOT.125.R.12-SN13-10-DC-A32	125	10	31.5	50	32	58	6	SNHX 1305..	**12510**
ASLOT.160.R.16-SN13-10-DC-A40	160	10	41.5	50	40	70	8	SNHX 1305..	**16010**
ASLOT.200.R.18-SN13-10-DC-A40	200	10	52.0	50	40	88	9	SNHX 1305..	**20010**
ASLOT.80.R.08-SN13-12-DC-A22	80	12	22.0	50	22	40	4	SNHX 1307..	**08012**
ASLOT.100.R.10-SN13-12-DC-A27	100	12	25.0	50	27	48	5	SNHX 1307..	**10012**
ASLOT.125.R.12-SN13-12-DC-A32	125	12	31.5	50	32	58	6	SNHX 1307..	**12512**
ASLOT.160.R.16-SN13-12-DC-A40	160	12	41.5	50	40	70	8	SNHX 1307..	**16012**
ASLOT.200.R.18-SN13-12-DC-A40	200	12	52.0	50	40	88	9	SNHX 1307..	**20012**
ASLOT.80.R.08-SN13-14-DC-A22	80	14	22.0	50	22	40	4	SNHX 1309..	**08014**
ASLOT.100.R.10-SN13-14-DC-A27	100	14	25.0	50	27	48	5	SNHX 1309..	**10014**
ASLOT.125.R.12-SN13-14-DC-A32	125	14	31.5	50	32	58	6	SNHX 1309..	**12514**
ASLOT.160.R.16-SN13-14-DC-A40	160	14	41.5	50	40	70	8	SNHX 1309..	**16014**
ASLOT.200.R.18-SN13-14-DC-A40	200	14	52.0	50	40	88	9	SNHX 1309..	**20014**
ASLOT.80.R.08-SN13-16-DC-A22	80	16	22.0	50	22	40	4	SNHX 1309..	**08016**
ASLOT.100.R.10-SN13-16-DC-A27	100	16	25.0	50	27	48	5	SNHX 1309..	**10016**
ASLOT.125.R.12-SN13-16-DC-A32	125	16	31.5	50	32	58	6	SNHX 1309..	**12516**
ASLOT.160.R.16-SN13-16-DC-A40	160	16	41.5	50	40	70	8	SNHX 1309..	**16016**
ASLOT.200.R.18-SN13-16-DC-A40	200	16	52.0	50	40	88	9	SNHX 1309..	**20016**

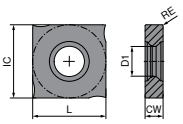




Spare parts	AS 50 950 ...	AS 50 950 ...
50 374 08006	**00500**	**01000**
50 374 08008	**00600**	**01000**
50 374 08010	**00700**	**01000**
50 374 08012	**00800**	**01000**
50 374 08014 / 50 374 08016	**00900**	**01000**
50 374 10006	**00500**	**01100**
50 374 10008	**00600**	**01100**
50 374 10010	**00700**	**01100**
50 374 10012	**00800**	**01100**
50 374 10014 / 50 374 10016	**00900**	**01100**
50 374 12506	**00500**	**01200**
50 374 12508	**00600**	**01200**
50 374 12510	**00700**	**01200**
50 374 12512	**00800**	**01200**
50 374 12514 / 50 374 12516	**00900**	**01200**
50 374 16006 / 50 374 20006	**00500**	**01300**
50 374 16008 / 50 374 20008	**00600**	**01300**
50 374 16010 / 50 374 20010	**00700**	**01300**
50 374 16012 / 50 374 20012	**00800**	**01300**
50 374 16014 / 50 374 20016	**00900**	**01300**

SNHX

Designation	IC mm	D1 mm	L mm	CW mm
SNHX 1303..	13	5.3	13	3.2
SNHX 1304..	13	5.3	13	4.5
SNHX 1305..	13	5.3	13	5.4
SNHX 1307..	13	5.3	13	7.0
SNHX 1309..	13	5.3	13	9.0



CoreLine – Carbide milling indexable insert

SNHX

		CTPP235	CTPP235	CTPP235	CTPP235	CTPP235
						
		SNHX	SNHX	SNHX	SNHX	SNHX
		IM	IM	IM	IM	IM
ISO	RE mm	**51 263 ...**	**51 264 ...**	**51 265 ...**	**51 266 ...**	**51 267 ...**
130308EL	0.8	**10800**				
130308ER	0.8	**11800**				
130408EL	0.8		**10800**			
130408ER	0.8		**11800**			
130508EL	0.8			**10800**		
130508ER	0.8			**11800**		
130708EL	0.8				**10800**	
130708ER	0.8				**11800**	
130908EL	0.8					**10800**
130908ER	0.8					**11800**
P		●	●	●	●	●
M		○	○	○	○	○
K		○	○	○	○	○
N						
S						
H						
O						

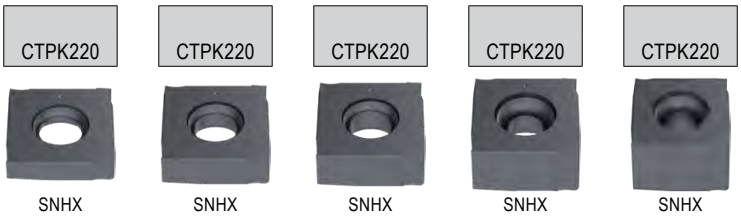
CoreLine – Carbide milling indexable insert

SNHX

		CTPM240	CTPM240	CTPM240	CTPM240	CTPM240
						
		SNHX	SNHX	SNHX	SNHX	SNHX
		IM	IM	IM	IM	IM
ISO	RE mm	**51 263 ...**	**51 264 ...**	**51 265 ...**	**51 266 ...**	**51 267 ...**
130308EL	0.8	**40800**				
130308ER	0.8	**41800**				
130408EL	0.8		**40800**			
130408ER	0.8		**41800**			
130508EL	0.8			**40800**		
130508ER	0.8			**41800**		
130708EL	0.8				**40800**	
130708ER	0.8				**41800**	
130908EL	0.8					**40800**
130908ER	0.8					**41800**
P		○	○	○	○	○
M		●	●	●	●	●
K						
N						
S						
H						
O						

CoreLine – Carbide milling indexable insert

SNHX



ISO	RE mm	IM 51 263 ...	IM 51 264 ...	IM 51 265 ...	IM 51 266 ...	IM 51 267 ...
130308EL	0.8	60800				
130308ER	0.8	61800				
130408EL	0.8		60800			
130408ER	0.8		61800			
130508EL	0.8			60800		
130508ER	0.8			61800		
130708EL	0.8				60800	
130708ER	0.8				61800	
130908EL	0.8					60800
130908ER	0.8					61800

P						
M						
K	●	●	●	●	●	
N						
S						
H						
O						

Milling guide

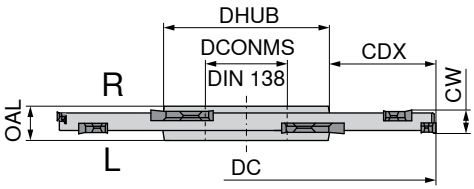
→ Cutting data standard values
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – Side and face milling cutter – TX

▲ Note: side and face milling cutters TX are cross-pitched and equipped with indexable inserts for both right-hand and left-hand version
▲ ZEFP = Number of indexable inserts

Scope of supply:
Side and face milling cutter, 2 spare clamping screws, and 1 Torx key







Designation	DC mm	CW mm	ZNF	CDX mm	DCONMS mm	DHUB mm	OAL mm	ZEFP	Indexable insert	Tightening torque Nm	TO 50 730 ...
TX.STF.80X27.03.Z4	80	3	4	18.0	27	40	8	8	TX. 161702	0,7	**083**
TX.STF.160X40.03.Z8	160	3	8	50.0	40	54	10	16	TX. 161702	0,7	**163** [1)]
TX.STF.80X27.04.Z4	80	4	4	18.0	27	40	8	8	TX. 162302	1,3	**084**
TX.STF.80X27.06.Z4	80	6	4	21.0	27	36	10	8	TX. 223202	2	**086**
TX.STF.80X22.06.Z4	80	6	4	22.0	22	33	10	8	TX. 223202	2	**080**
TX.STF.100X32.06.Z5	100	6	5	25.5	32	47	10	10	TX. 223202	2	**106**
TX.STF.160X40.06.Z8	160	6	8	50.0	40	58	10	16	TX. 223202	2	**166** [1)]
TX.STF.80X27.08.Z4	80	8	4	21.0	27	36	12	8	TX. 224302	2,8	**088**
TX.STF.100X32.08.Z5	100	8	5	25.5	32	47	12	10	TX. 224302	2,8	**108**
TX.STF.125X40.08.Z6	125	8	6	32.5	40	58	12	12	TX. 224302	2,8	**138**
TX.STF.80X27.10.Z4	80	10	4	21.0	27	36	12	8	TX. 225402	3	**090**
TX.STF.100X32.10.Z5	100	10	5	25.5	32	47	12	10	TX. 225402	3	**110**
TX.STF.125X40.10.Z6	125	10	6	32.5	40	58	14	12	TX. 225402	3	**140**
TX.STF.160X40.10.Z8	160	10	8	50.0	40	58	14	16	TX. 225402	3	**170** [1)]

1) Without through coolant supply

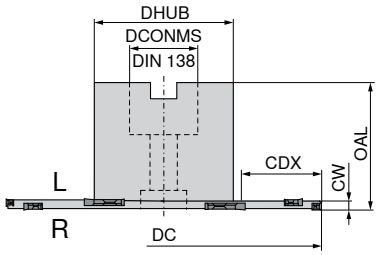
Spare parts CW	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
3	**032**	**109**	**303**	**858**	**191**
4	**033**	**110**	**303**	**218**	**191**
6	**036**	**113**	**303**	**101**	**192**
8	**037**	**114**	**303**	**135**	**192**
10	**037**	**114**	**303**	**146**	**192**

CoreLine – Shell/side and face milling cutters – TX

▲ Note: side and face milling cutters TX are cross-pitched and equipped with indexable inserts for both right-hand and left-hand version
▲ ZEFP = Number of indexable inserts

Scope of supply:
Side and face milling cutter, 2 spare clamping screws, and 1 Torx key







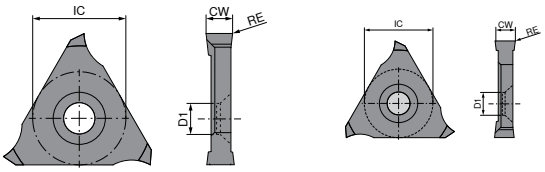
Designation	DC mm	CW mm	ZNF	CDX mm	DCONMS mm	DHUB mm	OAL mm	ZEFP	Tightening torque Nm	Indexable insert	TO 50 734 ...
TX.ASF.100.R.03.Z5	100	3	5	25.0	27	48	50	10	0,7	TX. 161702	**300**
TX.ASF.125.R.03.Z6	125	3	6	37.5	27	48	50	12	0,7	TX. 161702	**225**
TX.ASF.160.R.03.Z8	160	3	8	44.0	40	70	50	16	0,7	TX. 161702	**260** [1]
TX.ASF.100.R.04.Z5	100	4	5	25.0	27	48	50	10	3,2	TX. 162302	**100**
TX.ASF.125.R.04.Z6	125	4	6	37.5	27	48	50	12	3,2	TX. 162302	**025**
TX.ASF.160.R.04.Z8	160	4	8	55.0	27	48	50	16	3,2	TX. 162302	**060** [1]
TX.ASF.200.R.04.Z10	200	4	10	64.0	40	70	50	20	3,2	TX. 162302	**200** [1]

1) Without through coolant supply

Spare parts CW	DCONMS	 Washer AS 70 950 ...	TORX® interchangeable blade AS 80 950 ...	 Clamping screw AS 70 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
3	27	**221**	**032**	**219**	**109**	**303**	**858**	**191**
3	40	**222**	**032**	**220**	**109**	**303**	**858**	**191**
4	27	**221**	**033**	**219**	**110**	**303**	**218**	**192**
4	40	**222**	**033**	**220**	**110**	**303**	**218**	**192**

TX-L / TX-R

Designation	IC mm	D1 mm	CW mm
TX . 1617..	10	3.95	1.7
TX . 1623..	10	3.95	2.3
TX . 2232..	13	5.50	3.2
TX . 2243..	13	5.50	4.3
TX . 2254..	13	5.50	5.4



CoreLine – Carbide milling indexable insert

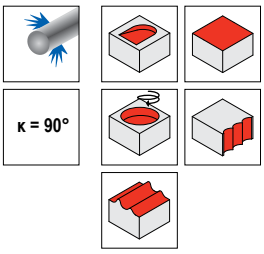
TX_L / TX_R

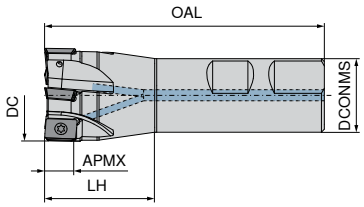
		CWX500	CWX500
			
		TX-L	TX-R
		IM	IM
ISO	RE mm	50 382 ...	50 381 ...
TX 161702	0.15	217	217
TX 162302	0.15	223	223
TX 223202	0.15	232	232
TX 224302	0.15	243	243
TX 225402	0.15	254	254
P		●	●
M		●	●
K		●	●
N		●	●
S		○	○
H			
O		○	○

Milling guide

→ Cutting data standard values
→ Technical information
→ Chip breaker descriptions and overview
→ Grade description and overview

CoreLine – End mills – 210-10

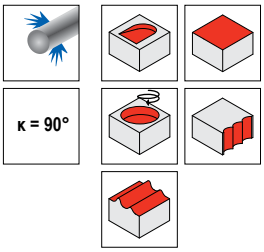


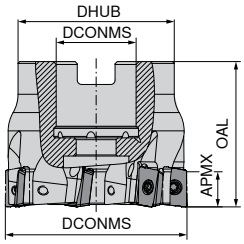




Designation	DC mm	ZNF	APMX mm	DCONMS mm	OAL mm	LH mm	Indexable insert	Right CX 51 700 ...
C210.20.R.02-10.N	20	2	9	20	90	40	AP.. 1003..	**02002**
C210.25.R.03-10.N	25	3	9	25	100	44	AP.. 1003..	**02503**
C210.32.R.04-10.N	32	4	9	25	95	38	AP.. 1003..	**03204**

CoreLine – Face mills – 210-10





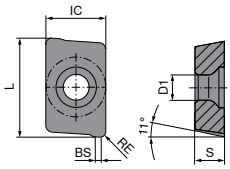


Designation	DC mm	ZNF	APMX mm	DCONMS H6 mm	DHUB mm	OAL mm	Indexable insert	Right CX 51 701 ...
A210.40.R.05-10.N	40	5	9	22	38	40	AP.. 1003..	**04005**
A210.50.R.07-10.N	50	7	9	22	43	40	AP.. 1003..	**05007**
A210.63.R.08-10.N	63	8	9	22	48	40	AP.. 1003..	**06308**
A210.80.R.10-10.N	80	10	9	27	58	50	AP.. 1003..	**08010**

Spare parts DC	TORX® interchangeable blade	Screwdriver	Molykote	Clamping screw	Torque screwdriver
	AS	AS	AS	AS	AS
	80 950 ...	80 950 ...	70 950 ...	70 950 ...	80 950 ...
20 - 80	**033**	**110**	**303**	**13800**	**191**

APKT

Designation	IC	D1	L	BS	S
	mm	mm	mm	mm	mm
APKT 1003PDSR	6.65	2.8	10.8	1.1	3.5



CoreLine – Carbide milling indexable insert

APKT

-29M
CT-P30



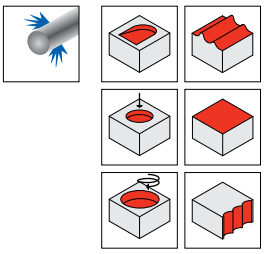
M
APKT

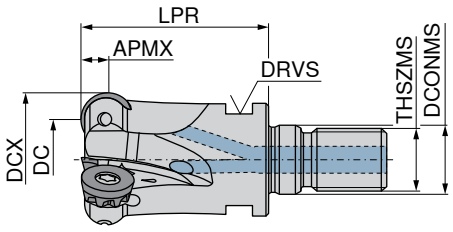
CX
51 293 ...
22006

ISO	RE
	mm
1003PDSR	0.5

P	●
M	○
K	○
N	
S	
H	
O	

CoreLine – Screw-in cutter – 251-10

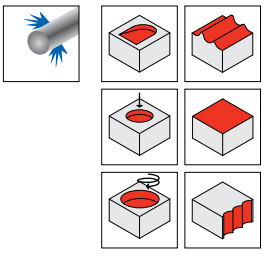


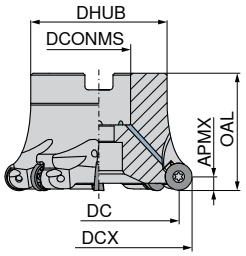




Designation	DC mm	DCX mm	ZNF	APMX mm	DCONMS mm	LPR mm	THSZMS	DRVS mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	Right CX 51 703 ...
G251.25.R.02-10.N	15	25	2	5	12.5	35	M12	17	25000	2	RP.X 10T3..	**01502**
G251.32.R.03-10.N	22	32	3	5	17.0	35	M16	24	21000	2	RP.X 10T3..	**02203**

CoreLine – Face mills – 251-10





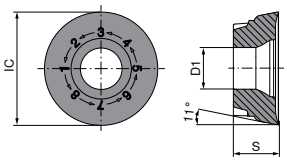


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	RPMX 1/min.	Tightening torque Nm	Indexable insert	Right CX 51 704 ...
A251.40.R.03-10.N	30	40	3	5	40	38	16	14000	2	RP.X 10T3..	**03003**
A251.50.R.04-10.N	40	50	4	5	40	43	22	12000	2	RP.X 10T3..	**04004**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
15 - 40	**035**	**112**	**303**	**840**	**193**

RPNX

Designation	IC mm	D1 mm	S mm
RPNX 10T3..	10	3.4	3.97
RPNX 1204..	12	4.4	4.76



RP.X 10T3.. / RP.X 1204.. / RP.X 1605.. / RPNX 2006..

CoreLine – Carbide milling indexable insert

RPNX

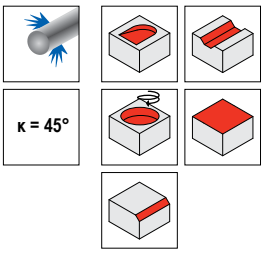
-M50
CT-P30

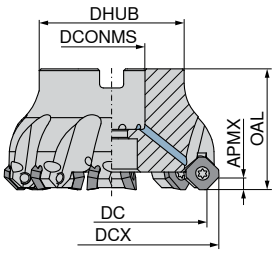


RPNX

ISO	CX 51 295 ...
10T3M8SN	22006
1204M8SN	22506
P	●
M	○
K	○
N	
S	
H	
O	

CoreLine – Face mills – 270-09





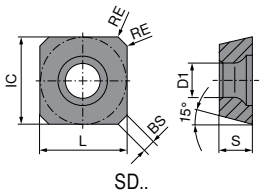


Designation	DC mm	DCX mm	ZNF	APMX mm	OAL mm	DHUB mm	DCONMS $_{H6}$ mm	Tightening torque Nm	Indexable insert	Right CX 51 702 ...
A270.40.R.03-09.N	40	48.4	3	4	40	38	16	1,2	SD.. 0903..	**04003**
A270.50.R.05-09.N	50	58.4	5	4	40	43	22	1,2	SD.. 0903..	**05005**
A270.63.R.06-09.N	63	71.4	6	4	40	48	22	1,2	SD.. 0903..	**06306**
A270.80.R.07-09.N	80	88.4	7	4	50	58	27	1,2	SD.. 0903..	**08007**
A270.100.R.08-09.N	100	108.4	8	4	50	78	32	1,2	SD.. 0903..	**10008**

Spare parts DC	TORX® interchangeable blade AS 80 950 ...	 Screwdriver AS 80 950 ...	 Molykote AS 70 950 ...	 Clamping screw AS 70 950 ...	 Torque screwdriver AS 80 950 ...
40 - 100	**033**	**110**	**303**	**115**	**191**

SDNT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
SDNT 0903..	9.52	3.4	9.52	1.68	3.18



SD..

CoreLine – Carbide milling indexable insert

SDNT

-29
CT-P30



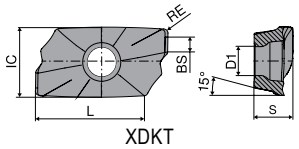
M
SDNT

CX

ISO	RE mm	51 294 ...
0903AESN	1	22006
P		●
M		○
K		○
N		
S		
H		
O		

XDKT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
XDKT 11T304..	6.8	2.8	10.6	1.8	3.8
XDKT 11T308..	6.8	2.8	10.6	1.4	3.8
XDKT 11T312..	6.8	2.8	10.6	1.4	3.8



XDKT

CoreLine – Carbide milling indexable insert

XDKT

-M50
CT-P30



M
XDKT

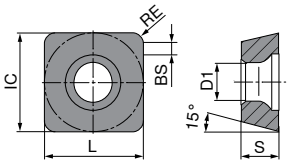
CX

ISO	RE mm	51 297 ...
11T304SR	0.4	**20406**
11T308SR	0.8	**20806**
11T312SR	1.2	**21206**

P	●
M	○
K	○
N	
S	
H	
O	

SDNT

Designation	IC mm	D1 mm	L mm	BS mm	S mm
SDNT 09T3..	9.52	4.4	9.52	2.5	3.97



CoreLine – Carbide milling indexable insert

SDNT

-29
CT-P30



M
SDNT

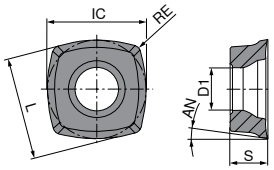
CX
51 294 ...
20806

ISO	RE mm
09T308SR	0.8

P	●
M	○
K	○
N	
S	
H	
O	

XDLX

Designation	IC	D1	L	BS	S	AN
	mm	mm	mm	mm	mm	°
XDLX 09T3..	9.52	4.4	9	1.9	3.97	15



CoreLine – Carbide milling indexable insert

XDLX

-M50
CT-P30



XDLX

CX

51 296 ...

20806

ISO	RE
	mm
09T308SR	0.8

P	●
M	○
K	○
N	
S	
H	
O	

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values

Index	CTEP210 CERMET		TCM10 CERMET		CTCP220 DRAGONSKIN		CTPP225		CTCP230		CTPP231		CTPP235 DRAGONSKIN		CTPP236	
	Cutting material **hard** (v_c↑) → **tough** (v_c↓)															
	v_c (m/min)															
P.1.1	344		292		339	170	263	157	286	150	200	100	246	137	300	180
P.1.2	302		257		308	154	234	143	242	133	170	90	208	121	270	160
P.1.3	263		224		280	140	207	129	202	118	140	80	172	106	225	130
P.1.4	250		214		270	135	198	125	189	112	170	90	160	101	270	160
P.1.5	230		197		256	128	185	118	169	105	160	90	143	94	240	140
P.2.1	308		262		313	157	238	145	249	136	170	90	214	123	270	160
P.2.2	246		211		268	134	196	124	185	111	130	70	157	100	200	120
P.2.3	230		197		256	128	185	118	169	105	170	90	143	94	270	160
P.2.4	181		157		220	110	151	102	118	85	120	60	98	76	180	110
P.3.1					140	70	130	65	140	87	170	90	121	97	270	160
P.3.2					95	50	100	50	90	55	140	80	108	83	180	140
P.3.3					50	30	70	35	40	22	120	70	96	69	150	120
P.4.1					140	70	130	65	140	87	140	80	121	97	180	140
P.4.2					118	60	115	58	115	71	130	70	114	90	170	130
M.1.1											170	90	121	97	270	160
M.2.1													108	83		
M.3.1													117	93		
K.1.1									310	190	150	110	160	110	360	90
K.1.2	300		240						160	100	150	110	150	110	360	90
K.2.1	350		280						200	120	150	110	150	110	230	170
K.2.2	300		240						130	80	150	110	150	110	160	110
K.3.1	300		240						190	115					210	160
K.3.2									160	100					210	160
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
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H.2.1																
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O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values

Index	CTPM225		CTCM235		CTPM240		CTPM241		CTPM245		CTCM245		CTN3105		CTL3215	
													CERAMIC		CBN	
	DRAGONSKIN															
	Cutting material **hard** (v_c↑) → **tough** (v_c↓)															
	v_c (m/min)															
P.1.1	272	191	251	184	226	141	200	100	244	139	279	134				
P.1.2	231	163	210	152	188	126	170	90	207	124	242	119				
P.1.3	193	137	172	123	152	112	140	70	173	109	208	104				
P.1.4	180	129	160	113	140	107	170	90	161	104	196	99				
P.1.5	161	116	141	99	123	100	150	80	144	97	179	92				
P.2.1	237	167	217	157	194	128	170	90	212	126	247	121				
P.2.2	177	127	157	111	137	106	120	60	158	103	193	98				
P.2.3	161	116	141	99	123	100	170	90	144	97	179	92				
P.2.4	114	84	94	62	78	83	110	60	101	78	136	73				
P.3.1	148	121	136	115	126	105	210	100	155	107	175	122				
P.3.2	121	101	128	110	112	95	180	100	143	93	163	108				
P.3.3	95	81	120	105	98	85	160	90	131	79	151	94				
P.4.1	148	121	136	115	126	105	140	90	155	107	175	122				
P.4.2	134	111	132	113	119	100	130	80	149	100	169	115				
M.1.1	**148**	**121**	**136**	**115**	**126**	**105**	**210**	**100**	**155**	**107**	**175**	**122**				
M.2.1	**121**	**101**	**128**	**110**	**112**	**95**	**180**	**90**	**143**	**93**	**163**	**108**				
M.3.1	**140**	**115**	**134**	**114**	**121**	**102**	**210**	**100**	**152**	**103**	**172**	**118**				
K.1.1													**800**		**800**	
K.1.2													**600**		**600**	
K.2.1																
K.2.2															**450**	
K.3.1																
K.3.2																
N.1.1																
N.1.2																
N.2.1																
N.2.2																
N.2.3																
N.3.1																
N.3.2																
N.3.3																
N.4.1																
S.1.1								60				80				
S.1.2								60				70				
S.2.1								60				35				
S.2.2								60				25				
S.2.3								60				30				
S.3.1								60				80				
S.3.2								60				50				
S.3.3								60				40				
H.1.1																
H.1.2															150	
H.1.3																
H.1.4																
H.2.1															280	
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values

Index	CTCK215		CTPK220		CTPK221		CTPX715		H216T		CTWN215		CTC5240		CTCS245		CTP6215		CTPX245		CT-P30	
	DRAGONSKIN		DRAGONSKIN				DRAGONSKIN						DRAGONSKIN						DRAGONSKIN			
	Cutting material **hard** (v_c↑) → **tough** (v_c↓)																					
	v_c (m/min)																					
P.1.1					190	120	240	130													197	110
P.1.2					180	100	200	120													166	97
P.1.3					150	80	170	100													138	85
P.1.4					180	100	160	100													128	81
P.1.5					170	90	140	90													114	75
P.2.1					180	100	210	120													171	98
P.2.2					140	80	150	100													126	80
P.2.3					180	100	140	90													114	75
P.2.4					130	80	100	70													78	61
P.3.1					210	120	120	90													97	78
P.3.2					160	90	100	80													86	66
P.3.3					130	80	90	70													77	55
P.4.1					210	120	120	90											260	220	97	78
P.4.2					190	100	110	90											220	180	91	72
M.1.1							120	100											260	200	97	78
M.2.1							110	90											220	180	86	66
M.3.1							120	100											180	160	94	74
K.1.1	360	210	320	190	270	200	320	190	130	130	130	130					280	250			128	88
K.1.2	220	130	170	100	270	200	170	100	110	110	110	110					190	160			120	88
K.2.1	230	140	210	130	250	180	210	130	130	130	130	130					180	150			120	88
K.2.2	160	100	140	90	180	120	140	90	120	120	120	120					180	150			120	88
K.3.1	250	150	200	120	220	170	200	120	130	130	130	130					250	220				
K.3.2	210	130	170	100	220	170	170	100	110	120	110	110					190	160				
N.1.1								1500		1500		1500										
N.1.2								1000		1000		1000										
N.2.1								1100		1100		1100										
N.2.2								1000		1000		1000										
N.2.3								280		280		280										
N.3.1								350		350		350										
N.3.2								350		350		350										
N.3.3								320		320		320										
N.4.1								320		320		320										
S.1.1								60						80		64				100		
S.1.2								50						70		56				90		
S.2.1								30						35		28				55		
S.2.2								20						25		20				50		
S.2.3								20						30		24				60		
S.3.1								60						80		64				80		
S.3.2								40						50		40				60		
S.3.3								30						40		32				50		
H.1.1																	50					
H.1.2																	40					
H.1.3																						
H.1.4																						
H.2.1																						
H.3.1																						
O.1.1							160	160	160	160	160	160										
O.1.2																						
O.2.1							240	240	240	240	240	240										
O.2.2																						
O.3.1																						

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

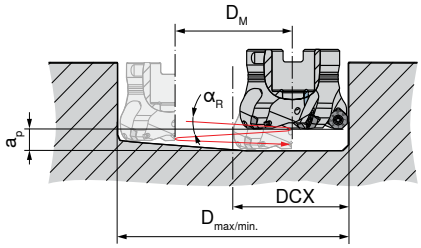
System 274-04/-09

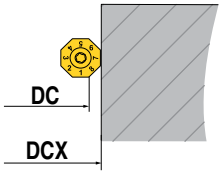
Machining strategy

Helical plunging



$D_{max.}$ in mm = Largest diameter for flat bottom surface
$D_{min.}$ in mm = smallest bore diameter for flat bottom surface
D_M = D_{max} – DCX or D_{min} – DCX





OF..04

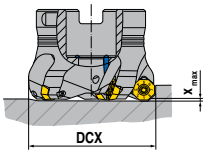
DC mm	DCX mm	D_{max} mm	D_{min} mm	$\alpha_{R\,max}$ °
20	**25,5**	45	39	2,3
25	**30,6**	55	49	1,9
32	**37,6**	69	63	1,4
40	**45,7**	85	79	1,2
50	**55,7**	105	99	0,9
63	**68,7**	131	125	0,7
80	**85,7**	165	159	0,6
100	**105,7**	205	199	0,5
125	**130,7**	255	249	0,4

SF..09

DC mm	DCX mm	D_{max} mm	D_{min} mm	$\alpha_{R\,max}$ °
18,8	**27,4**	45,00	42,0	1,9
23,8	**32,5**	55,00	52,0	1,5
30,7	**39,5**	69,00	66,0	1,1
38,7	**47,6**	85,00	82,0	0,9
48,6	**57,6**	105,00	102,0	0,7
61,7	**70,6**	131,00	128,0	0,5
78,7	**87,5**	165,00	162,0	0,4
98,7	**107,5**	205,00	202,0	0,3
123,7	**132,5**	255,00	252,0	0,3

Axial ramping





OF..04

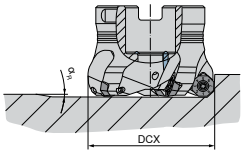
DC mm	DCX mm	x_{max} mm
20	**25,6**	2,5
25	**30,7**	2,5
32	**37,7**	2,5
40	**45,7**	2,5
50	**55,7**	2,5
63	**68,7**	2,5
80	**85,7**	2,5
100	**105,7**	2,5
125	**130,7**	2,5

SF..09

DC mm	DCX mm	x_{max} mm
18,8	**27,4**	3,7
23,8	**32,5**	3,5
30,7	**39,5**	3,2
38,7	**47,6**	3,1
48,6	**57,6**	3,1
61,7	**70,6**	3,0
78,7	**87,5**	2,9
98,7	**107,5**	2,7
123,7	**132,5**	2,7

Angled ramping





OF..04

DC mm	DCX mm	$\alpha_{R\,max}$ °
20	**25,6**	14,2
25	**30,7**	9,5
32	**37,7**	6,5
40	**45,7**	4,7
50	**55,7**	3,5
63	**68,7**	2,7
80	**85,7**	2,0
100	**105,7**	1,6
125	**130,7**	1,2

SF..09

DC mm	DCX mm	$\alpha_{R\,max}$ °
18,8	**27,4**	20,4
23,8	**32,5**	13,0
30,7	**39,5**	8,0
38,7	**47,6**	5,8
48,6	**57,6**	4,3
61,7	**70,6**	3,2
78,7	**87,5**	2,3
98,7	**107,5**	1,7
123,7	**132,5**	1,3

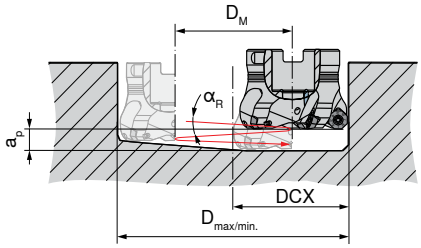
System 274-04/-09

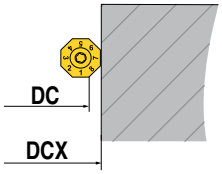
Machining strategy

Helical plunge milling



$D_{max.}$ in inch = Largest diameter for flat bottom surface
$D_{min.}$ in inch = smallest bore diameter for flat bottom surface
D_M = D_{max} – DCX or D_{min} – DCX





OF..04

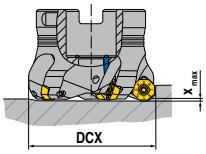
DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °	$\alpha_{R\,max}$ °
1.01	1.77	1.54	2.3	2,3
1.21	2.17	1.93	1.9	1,9
1.48	2.72	2.48	1.4	1,4
1.80	3.35	3.11	1.2	1,2
2.19	4.13	3.90	0.9	0,9
2.70	5.16	4.92	0.7	0,7
3.37	6.50	6.26	0.6	0,6
4.16	8.07	7.83	0.5	0,5
5.15	10.04	9.80	0.4	0,4

SF..09

DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °	$\alpha_{R\,max}$ °
1.08	1.77	1.65	1.9	1,9
1.28	2.17	2.05	1.5	1,5
1.54	2.72	2.60	1.1	1,1
1.87	3.35	3.23	0.9	0,9
2.27	4.13	4.02	0.7	0,7
2.78	5.16	5.04	0.5	0,5
3.44	6.50	6.38	0.4	0,4
4.23	8.07	7.95	0.3	0,3
5.22	10.04	9.92	0.3	0,3

Axial plunging





OF..04

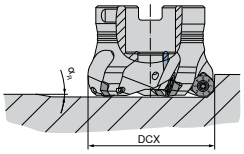
DCX inch	x_{max} inch
1.01	0.10
1.21	0.10
1.48	0.10
1.80	0.10
2.19	0.10
2.70	0.10
3.37	0.10
4.16	0.10
5.15	0.10

SF..09

DCX inch	x_{max} inch
1.08	0.15
1.28	0.14
1.54	0.13
1.87	0.12
2.27	0.12
2.78	0.12
3.44	0.11
4.23	0.11
5.22	0.11

Angled ramping





OF..04

DCX inch	$\alpha_{R\,max}$ °
1.01	14.2
1.21	9.5
1.48	6.5
1.80	4.7
2.19	3.5
2.70	2.7
3.37	2.0
4.16	1.6
5.15	1.2

SF..09

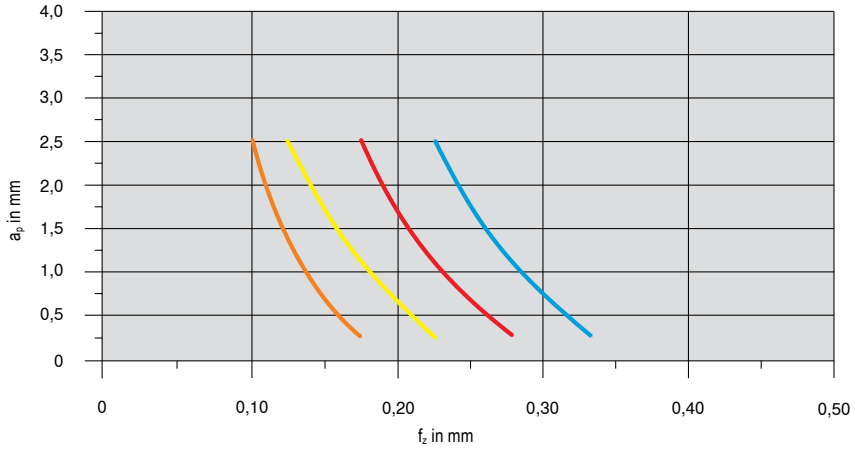
DCX inch	$\alpha_{R\,max}$ °
1.08	20.4
1.28	13.0
1.54	8.0
1.87	5.8
2.27	4.3
2.78	3.2
3.44	2.3
4.23	1.7
5.22	1.3

System 274-04

Starting parameters



OF.. 04



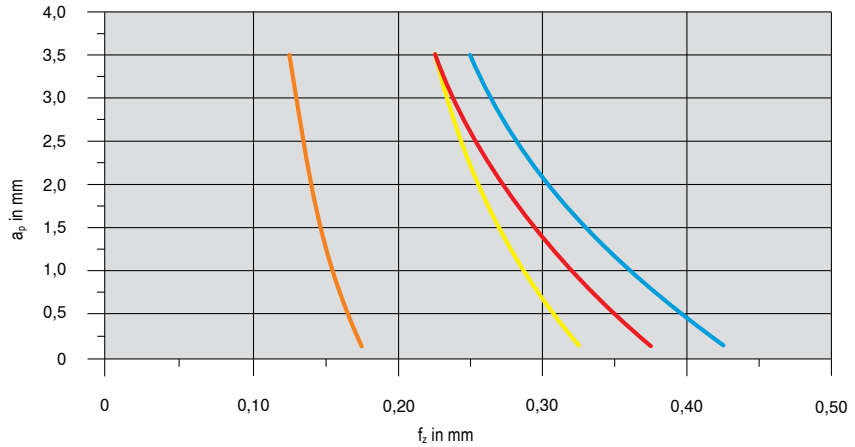
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**OFHT040305SN-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**OFHT040305SN-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**OFHT040305SN-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OFHT040305SN-F50**	**CTC5240**	35	Emulsion

System 274-09

Starting parameters



SF.. 09



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SFKT0903AFSR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SFHT0903AFSR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SFKT0903AFSR-R50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SFHT0903AFSR-F50**	**CTC5240**	35	Emulsion

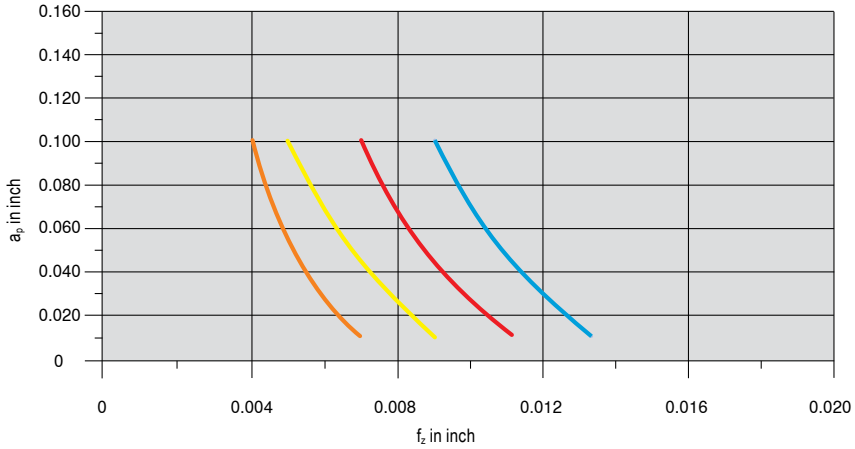
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 274-04

Starting parameters



OF.. 04



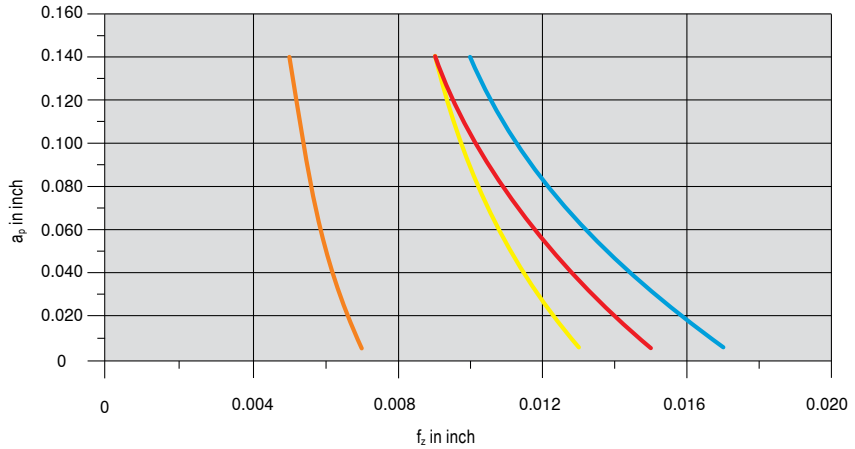
Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**OFHT040305SN-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**OFHT040305SN-F50**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**OFHT040305SN-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OFHT040305SN-F50**	**CTC5240**	115	Emulsion

System 274-09

Starting parameters



SF.. 09



Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SFKT0903AFSR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**SFHT0903AFSR-F50**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**SFKT0903AFSR-R50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SFHT0903AFSR-F50**	**CTC5240**	115	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

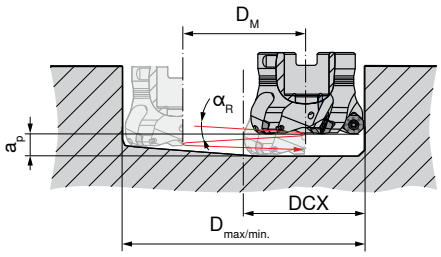
System 274-05/-12

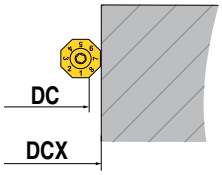
Machining strategy

Helical plunging



$D_{max.}$ in mm = Largest diameter for flat bottom surface
$D_{min.}$ in mm = smallest bore diameter for flat bottom surface
D_M = D_{max} – DCX or D_{min} – DCX





OF..05

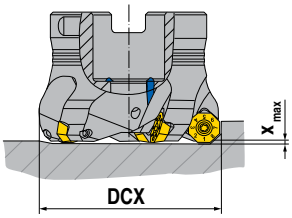
DC mm	DCX mm	D_{max} mm	D_{min} mm	$\alpha_{R\,max}$ °
40	**48**	87	85	1,6
50	**58**	107	99	1,1
63	**71**	133	125	0,9
80	**88**	167	159	0,7
100	**107,9**	207	199	0,5
125	**132,9**	257	249	0,4
160	**167,9**	327	325	0,35

SF..12

DC mm	DCX mm	D_{max} mm	D_{min} mm	$\alpha_{R\,max}$ °
47,0	**61,0**	107	105	0,5
59,9	**74,0**	133	131	0,4
76,9	**90,9**	167	165	0,3
96,9	**110,9**	207	205	0,25
121,9	**135,9**	257	255	0,2

Axial ramping





OF..05

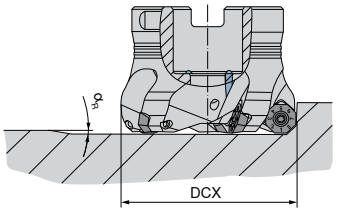
DC mm	DCX mm	X_{max} mm
40	**48**	2,5
50	**58**	2,2
63	**71**	1,9
80	**88**	1,8
100	**107,9**	1,1
125	**132,9**	1,4
160	**167,9**	1,1

SF..12

DC mm	DCX mm	X_{max} mm
47,0	**61,0**	3,4
59,9	**74,0**	3,2
76,9	**90,9**	3,0
96,9	**110,9**	2,5
121,9	**135,9**	2,6

Angled ramping





OF..05

DC mm	DCX mm	$\alpha_{R\,max}$ °
40	**48**	6,5
50	**58**	3,2
63	**71**	2,0
80	**88**	1,5
100	**107,9**	0,7
125	**132,9**	0,7
160	**167,9**	0,4

SF..12

DC mm	DCX mm	$\alpha_{R\,max}$ °
47,0	**61,0**	4,9
59,9	**74,0**	3,4
76,9	**90,9**	2,4
96,9	**110,9**	1,6
121,9	**135,9**	1,3

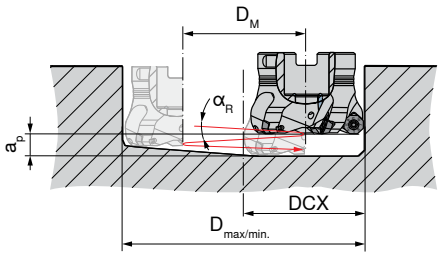
System 274-05/-12

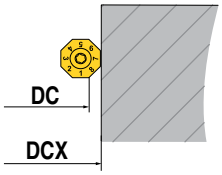
Machining strategy

Helical plunge milling



$D_{max.}$ in inch = Largest diameter for flat bottom surface
$D_{min.}$ in inch = smallest bore diameter for flat bottom surface
D_M = D_{max} – DCX or D_{min} – DCX





OF..05

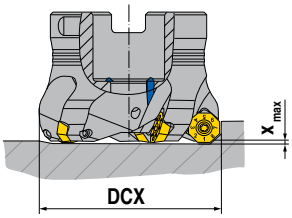
DC inch	DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.97	**2.28**	4.21	3.90	1.1
2.48	**2.80**	5.24	4.92	0.9
3.15	**3.46**	6.57	6.26	0.7
3.94	**4.25**	8.15	7.83	0.5
4.92	**5.23**	10.12	9.80	0.4
125.00	**132.90**	257	249.00	0,4
160.00	**167.90**	327	325.00	0,35

SF..12

DC inch	DCX inch	D_{max} inch	D_{min} inch	$\alpha_{R\,max}$ °
1.85	**2.40**	4.21	4.13	0.5
2.36	**2.91**	5.24	5.16	0.4
3.03	**3.58**	6.57	6.50	0.3
3.81	**4.37**	8.15	8.07	0.25
4.80	**5.35**	10.12	10.04	0.2

Axial plunging





OF..05

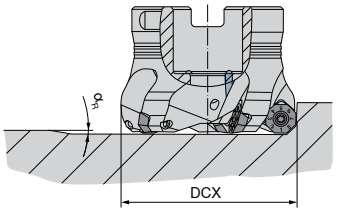
DC inch	DCX inch	X_{max} inch
1.57	**1.89**	0.10
1.97	**2.28**	0.09
2.48	**2.80**	0.07
3.15	**3.46**	0.07
3.94	**4.25**	0.04
4.92	**5.23**	**0.06**
6.30	**6.61**	**0.04**

SF..12

DC inch	DCX inch	X_{max} inch
1.85	**2.40**	0.13
2.36	**2.91**	0.13
3.03	**3.58**	0.12
3.81	**4.37**	0.10
4.80	**5.35**	0.10

Angled ramping





OF..05

DC inch	DCX inch	$\alpha_{R\,max}$ °
1.97	**2.28**	3.2
2.48	**2.80**	2.0
3.15	**3.46**	1.5
3.94	**4.25**	0.7
4.92	**5.23**	0.7
4.92	**5.23**	**0.03**
6.30	**6.61**	**0.02**

SF..12

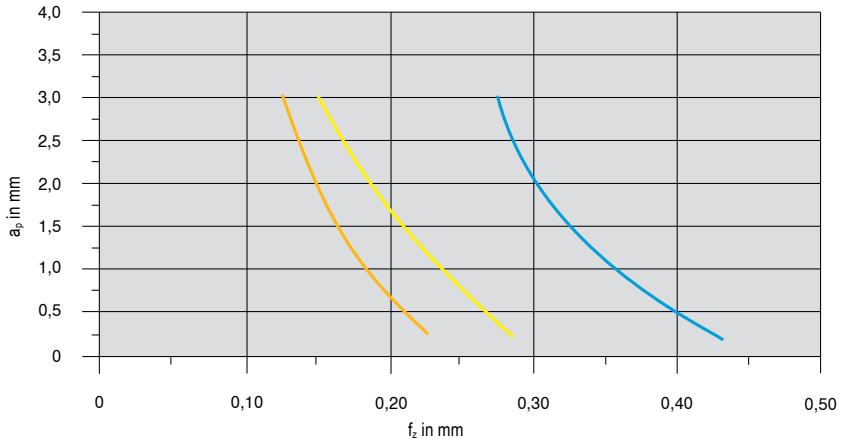
DC inch	DCX inch	$\alpha_{R\,max}$ °
1.85	**2.40**	4.9
2.36	**2.91**	3.4
3.03	**3.58**	2.4
3.81	**4.37**	1.6
4.80	**5.35**	1.3

System 274-05

Starting parameters



OF.. 05



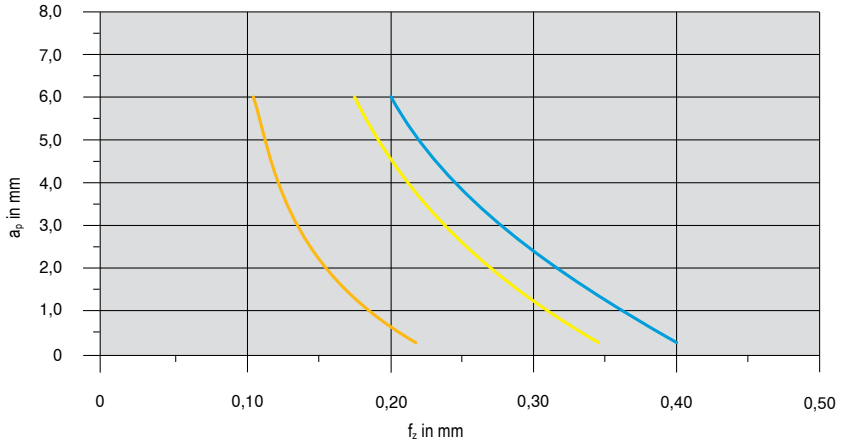
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**OFHT050410SN-M50**	**CTCP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**OFHT050410SN-F50**	**CTPM240**	180	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OFHT050410SN-F50**	**CTC5240**	35	Emulsion

System 274-12

Starting parameters



SF.. 12



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SFKT1204AFSR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SFKT1204AFSR-M50**	**CTPM240**	180	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SFHT1204AFER-F40**	**CTC5240**	35	Emulsion

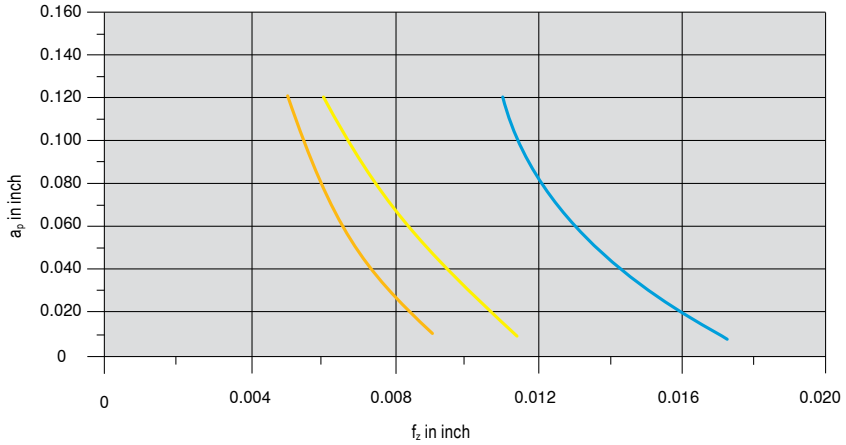
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 274-05

Starting parameters



OF.. 05



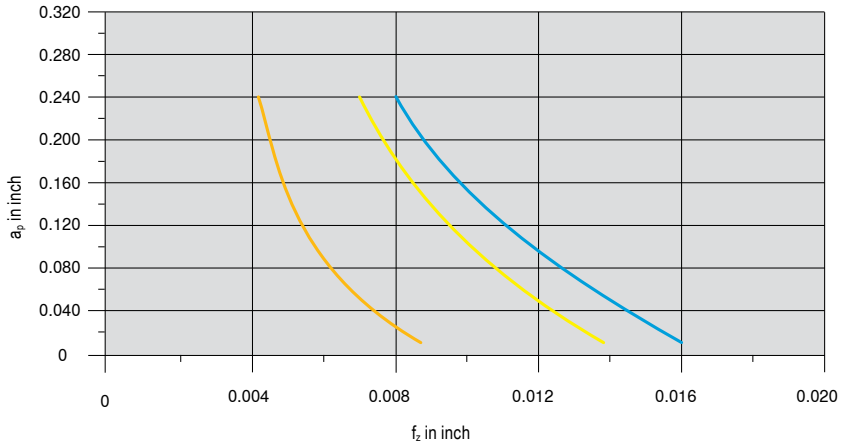
Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**OFHT050410SN-M50**	**CTCP230**	660	Dry
Stainless steel	**M.2.1**	316Ti	**OFHT050410SN-F50**	**CTPM240**	320	Emulsion
Heat-resistant	**S.2.2**	Inconel 718	**OFHT050410SN-F50**	**CTC5240**	115	Emulsion

System 274-12

Starting parameters



SF.. 12

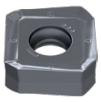


Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SFKT1204AFSR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**SFKT1204AFSR-M50**	**CTPM240**	320	Emulsion
Heat-resistant	**S.2.2**	Inconel 718	**SFHT1204AFER-F40**	**CTC5240**	115	Emulsion

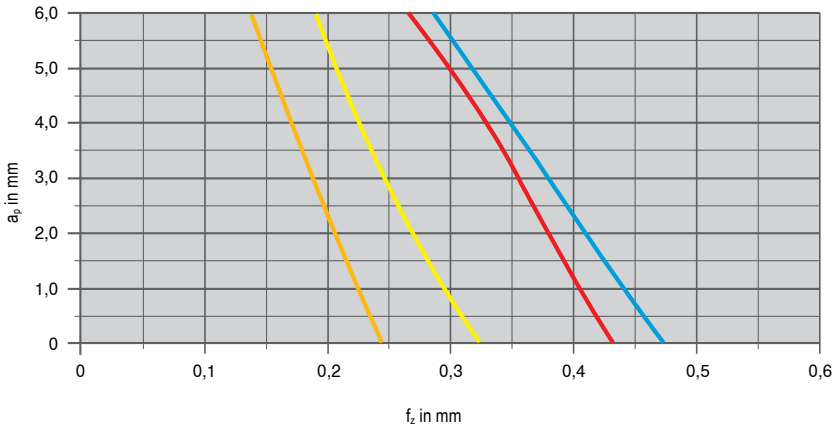
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

System 271-12

Starting parameters



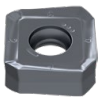
SOHU 12



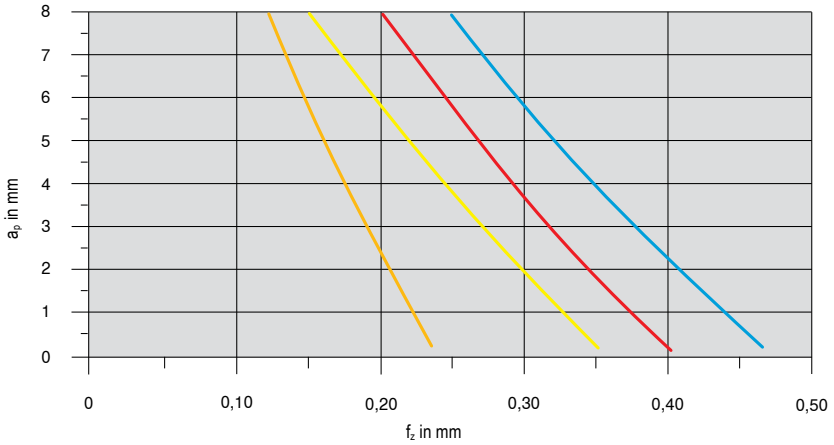
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SOHU 1204ABSR-M50**	**CTPP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SOHU 1204ABSR-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SOHU 1204ABSR-R50**	**CTCK215**	300	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SOHU 1204ABSR-F50**	**CTC5240**	30	Emulsion

System 271-17

Starting parameters



SAKU 17

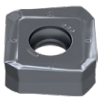


Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SAKU 1706ABSR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SAKU 1706ABSR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SAKU 1706ABSR-R50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SAKU 1706ABSR-F50**	**CTC5240**	35	Emulsion

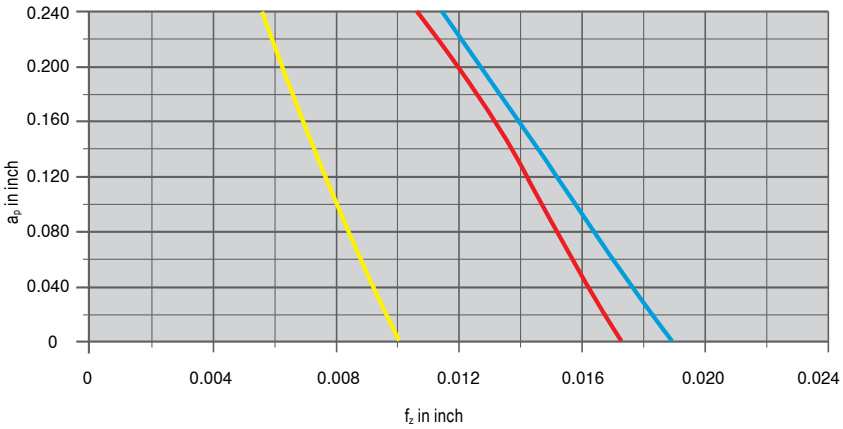
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 271-12

Starting parameters



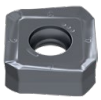
SOHU 12



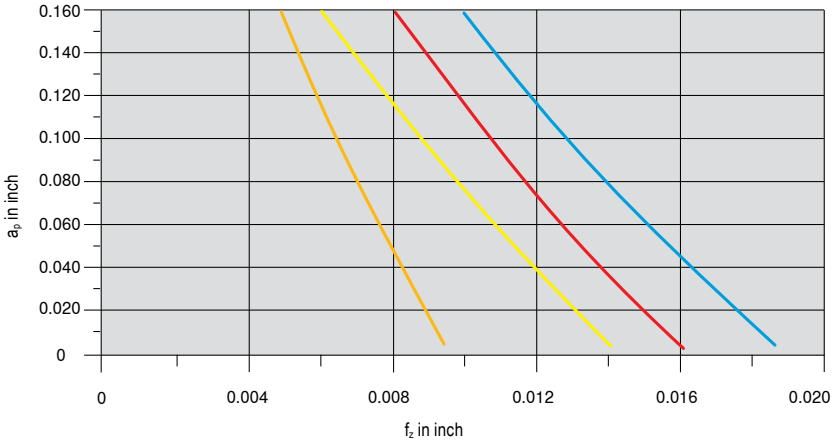
Werkstoff			Wendeplatte		v_c in ft/min	Kühlung
Stahl	**P.4.1**	P20	**SOHU 1204ABSR-M50**	**CTPP230**	660	Trocken
Rostfrei	**M.2.1**	316Ti	**SOHU 1204ABSR**	**CTPM240**	320	Emulsion
Eisenguss	**K.1.1**	GG25 Cast Iron	**SOHU 1204ABSR-R50**	**CTCK215**	990	Trocken
Hochwarmfest	**S.2.2**	Inconel 718	**SOHU 1204ABSR-F50**	**CTC5240**	115	Emulsion

System 271-17

Starting parameters



SAKU 17



Werkstoff			Wendeplatte		v_c in ft/min	Kühlung
Stahl	**P.4.1**	P20	**SAKU 1706ABSR-M50**	**CTPP235**	660	Trocken
Rostfrei	**M.2.1**	316Ti	**SAKU 1706ABSR-F50**	**CTPM240**	320	Emulsion
Eisenguss	**K.1.1**	GG25 Cast Iron	**SAKU 1706ABSR-R50**	**CTCK215**	990	Trocken
Hochwarmfest	**S.2.2**	Inconel 718	**SAKU 1706ABSR-F50**	**CTC5240**	115	Emulsion

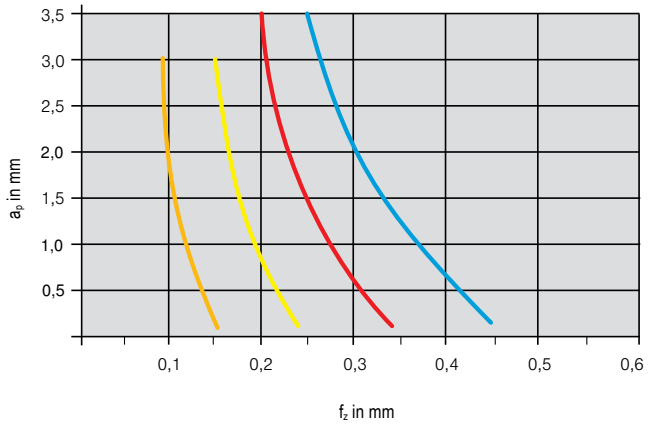
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

System 273

Starting parameters



OAKU



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.4.1**	40CrMnMoS 8-6	**OAKU 060508SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**OAKU 060508SR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**OAKU 060508SR-R50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**OAKU 060508ER-F40**	**CTC5240**	35	Emulsion

→ Detailed information on the cutting speed for individual cutting materials can be found here.

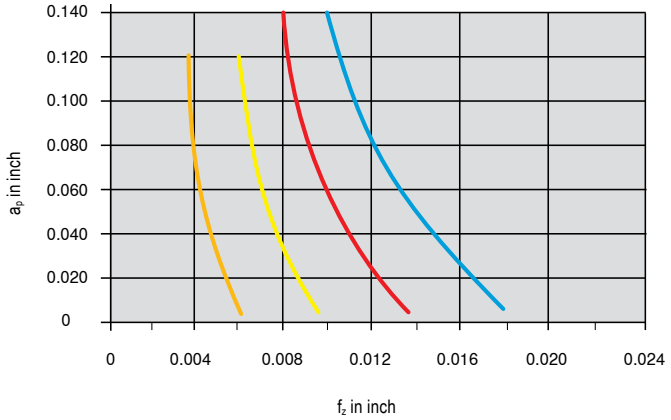
From v_c > 400 m/min, the tool must be balanced!

System 273

Starting parameters



OAKU



Werkstoff			Wendeplatte		v_c in ft/min	Kühlung
Stahl	**P.4.1**	P20	**OAKU 060508SR-M50**	**CTPP235**	660	Trocken
Rostfrei	**M.2.1**	316Ti	**OAKU 060508SR-F50**	**CTPM240**	320	Emulsion
Eisenguss	**K.1.1**	GG25 Cast Iron	**OAKU 060508SR-R50**	**CTCK215**	990	Trocken
Hochwarmfest	**S.2.2**	Inconel 718	**OAKU 060508ER-F40**	**CTC5240**	115	Emulsion

→ Detailed information on the cutting speed for individual cutting materials can be found here.

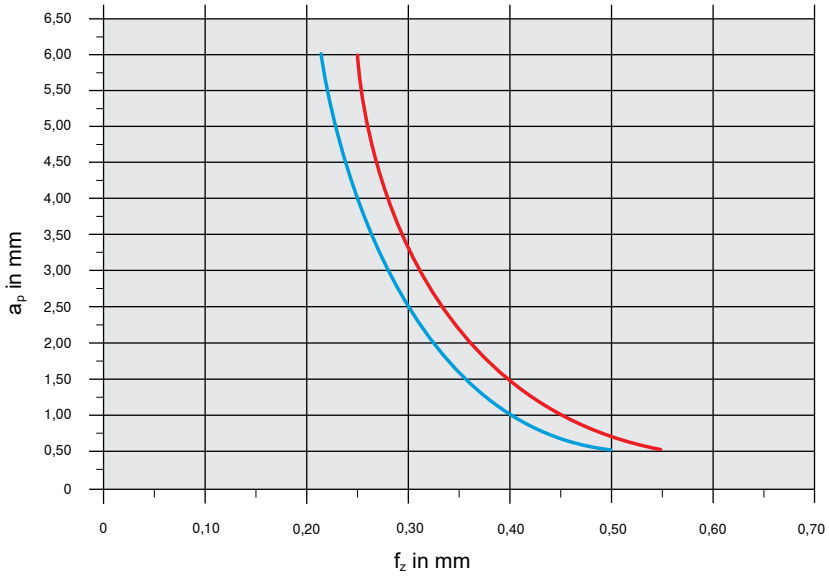
From v_c > 1300 SFM, the tool must be balanced!

System 273-08

Starting parameters



ONKU



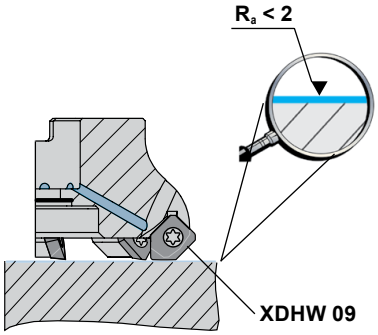
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**ONKU 080608SR-M50**	**CTPP235**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**ONKU 080608SR-R50**	**CTCK215**	250	Dry

→ Detailed information on the cutting speed for individual cutting materials can be found here.

From v_c > 400 m/min, the tool must be balanced!

System 270

Machining strategy



Finish milling with wiper inserts

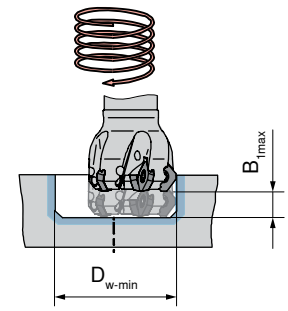
A wiper insert is fitted for each milling head; two from Ø 125 mm.


+


Steel	SDNT 0903AESN-29 CTPP235	+	XDHW 0903AESN CTPP235
	SDNT 0903AESN-29 CTCP230	+	XDHW 0903AESN CTCP230
	SDHT 0903AESN-33 CTCP230	+	XDHW 0903AESN CTCP230
	SDHW 0903AESN TCM10	+	XDHW 0903AESN TCM10
Cast iron	SDNT 0903AESN-31 CTCK215	+	XDHW 0903AEEN CTCK215
Non-ferrous metals	SDHT 0903AEFN-ALP -27P H216T	+	XDHW 0903AEFN -27P H216T

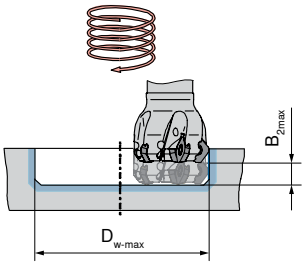
Helical plunging (without pilot hole)





C 270-09

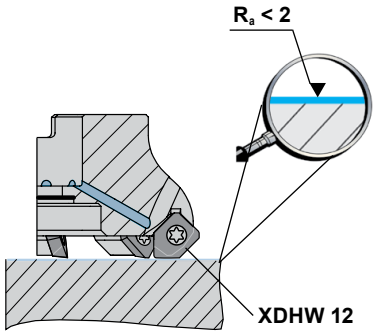
DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
6	14,4	1,5	19,0	1,5
12	28,5	1,5	31,0	1,5
16	36,5	1,5	39,0	1,5
20	44,5	1,5	47,0	1,5
25	54,5	1,5	57,0	1,5
32	68,5	1,5	71,0	1,5



A 270-09

DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
32	68,5	1,5	71,0	1,5
40	84,5	1,5	87,0	1,5
50	104,5	1,5	107,0	1,5
63	130,5	1,5	133,0	1,5
80	164,5	1,5	167,0	1,5
100	204,5	1,5	207,0	1,5
125	254,5	1,5	257,0	1,5
160	324,5	1,5	327,0	1,5

System 270-12



Finish milling with wiper inserts

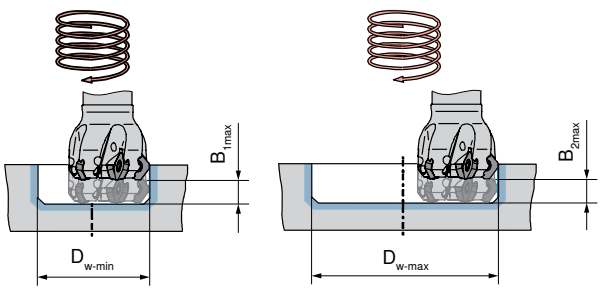
A wiper insert is fitted for each milling head; two from Ø 125 mm.


+


Steel	SDMT 1204AESN-29R CTPP235	+	XDHW 1204AESN CTPP235
	SDMT 1204AESN-29R CTCP230	+	XDHW 1204AESN CTCP230
	SDHW 1204AESN-R TCM10	+	XDHW 1204AESN TCM10
Cast iron	SDMT 1204AEEN-31 CTCK215	+	XDHW 1204AEEN CTCK215
	SDHW 1204AESN-R CTCK215	+	XDHW 1204AEEN CTCK215
Non-ferrous metals	SDHT 1204AEFN-ALP -27P H216T	+	XDHW 1204AEFN -27P H216T

Helical plunging (without pilot hole)



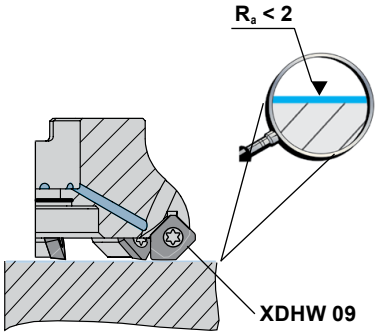


DC mm	D_{w-min} mm	$B_{1\,max}$ mm	D_{w-max} mm	$B_{2\,max}$ mm
32	74,5	1,5	78,0	1,5
40	90,5	1,5	94,0	1,5
50	110,5	1,5	114,0	1,5
63	136,5	1,5	140,0	1,5
80	170,5	1,5	174,0	1,5
100	210,5	1,5	214,0	1,5
125	260,5	1,5	264,0	1,5
160	330,5	1,5	334,0	1,5

From v_c > 400 m/min, the tool must be balanced!

System 270

Machining strategy



Finish milling with wiper inserts

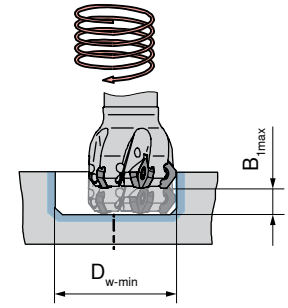
Two wiper inserts are mounted in each 5.000" head


+


Steel	SDNT 0903AESN-29 CTPP235	+	XDHW 0903AESN CTPP235
	SDNT 0903AESN-29 CTCP230	+	XDHW 0903AESN CTCP230
	SDHT 0903AESN-33 CTCP230	+	XDHW 0903AESN CTCP230
	SDHW 0903AESN TCM10	+	XDHW 0903AESN TCM10
Cast iron	SDNT 0903AESN-31 CTCK215	+	XDHW 0903AEEN CTCK215
Non-ferrous metals	SDHT 0903AEFN-ALP -27P H216T	+	XDHW 0903AEFN -27P H216T

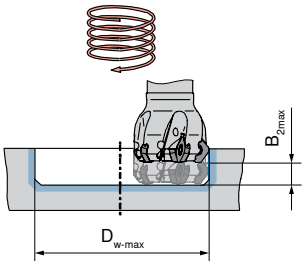
Helical plunge milling (without start hole)





C 270-09

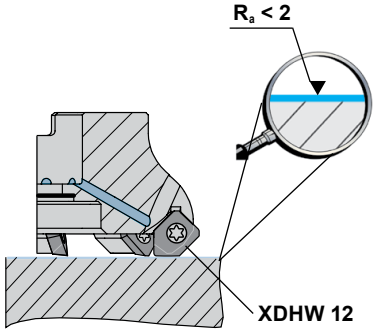
DC inch	D_{w-min} inch	$B_{1\,max}$ inch	D_{w-max} inch	$B_{2\,max}$ inch
0.25	0.57	0.06	0.75	0.06
0.50	1.12	0.06	1.22	0.06
0.63	1.44	0.06	1.54	0.06
0.75	1.75	0.06	1.85	0.06
1.00	2.15	0.06	2.24	0.06
1.25	2.70	0.06	2.80	0.06



A 270-09

DC inch	D_{w-min} inch	$B_{1\,max}$ inch	D_{w-max} inch	$B_{2\,max}$ inch
1.25	2.70	0.06	2.80	0.06
1.50	3.33	0.06	3.43	0.06
2.00	4.11	0.06	4.21	0.06
2.50	5.14	0.06	5.24	0.06
3.00	6.48	0.06	6.57	0.06
4.00	8.05	0.06	8.15	0.06
5.00	10.02	0.06	10.12	0.06
6.00	12.78	0.06	12.87	0.06

System 270-12



Finish milling with wiper inserts

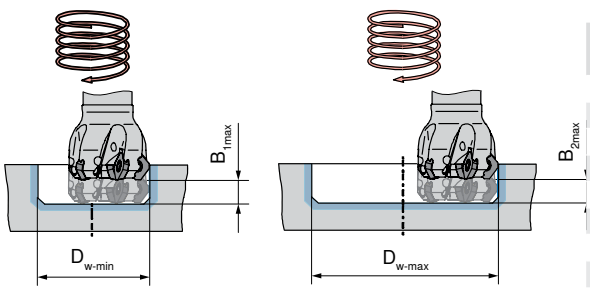
Two wiper inserts are mounted in each 5.000" head


+


Steel	SDMT 1204AESN-29R CTPP235	+	XDHW 1204AESN CTPP235
	SDMT 1204AESN-29R CTCP230	+	XDHW 1204AESN CTCP230
	SDHW 1204AESN-R TCM10	+	XDHW 1204AESN TCM10
Cast iron	SDMT 1204AEEN-31 CTCK215	+	XDHW 1204AEEN CTCK215
	SDHW 1204AESN-R CTCK215	+	XDHW 1204AEEN CTCK215
Non-ferrous metals	SDHT 1204AEFN-ALP -27P H216T	+	XDHW 1204AEFN -27P H216T

Helical plunge milling (without start hole)





DC inch	D_{w-min} inch	$B_{1\,max}$ inch	D_{w-max} inch	$B_{2\,max}$ inch
1.25	2.93	0.06	3.07	0.06
1.50	3.56	0.06	3.70	0.06
2.00	4.35	0.06	4.49	0.06
2.50	5.37	0.06	5.51	0.06
3.00	6.71	0.06	6.85	0.06
4.00	8.29	0.06	8.43	0.06
5.00	10.26	0.06	10.39	0.06
6.00	13.01	0.06	13.15	0.06

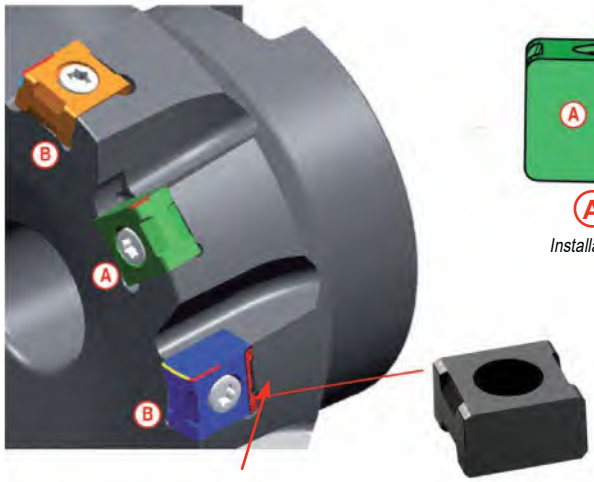
From v_c > 1300 SFM, the tool must be balanced!

System HEC 11

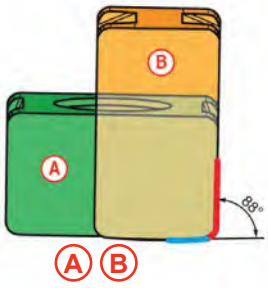
Four cutting edges per installation position



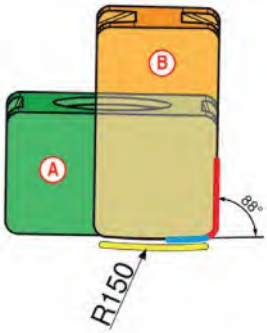
Correct assembly of standard and wiper geometry indexable inserts



Marking for the correct assembly



Installation position



Standard face cutting edge insert B

Main cutting edge insert A B

Wiper insert B

Tool adjustment in axial direction

- Install the wedge into the cutter body and lightly clamp the clamping screw so as not to clamp.
- Install the inserts as shown and tighten to 1,0 Nm torque.
- Using pre-setting equipment, mark the highest cutting edge.
- With small adjustments of the setting screw set all cutting edges to the same height by 0.0002“ or better.
- Clamp insert with 3,2 Nm torque.



Average chip thickness [h_m] – the approach

Face milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m mm
for steel	...–800	0,2
for steel	800–1000	0,18
for steel	1000–1200	0,16
for steel	1200–...	0,14
for stainless steel	... –750	0,21
for stainless steel	750–900	0,19
for stainless steel	900–1150	0,17
for stainless steel	1150– ...	0,15

2 Select the corrected feed rate value from the table based on the appropriate average chip thickness [h_m] and width of cut [a_e].

h_m mm	Corrected feed rate value f_z for h_m			
0,20	0,40 **	0,40 **	0,33	0,28
0,18	0,40 **	0,40 **	0,29	0,25
0,16	0,40 **	0,36	0,26	0,23
0,14	0,36	0,31	0,23	0,20
0,21	0,40 **	0,40 **	0,34	0,30
0,19	0,40 **	0,40 **	0,31	0,27
0,17	0,40 **	0,38	0,28	0,24
0,15	0,39	0,34	0,24	0,21
a_e =	**0,3 x DC**	**0,4 x DC**	**0,75 x DC**	**1 x DC**

** f_z > 0.4 mm: Risk of contact with the flank

Average chip thickness [h_m] – the approach

Face milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m inch
for steel	...–800	0.008
for steel	800–1000	0.007
for steel	1000–1200	0.006
for steel	1200–...	0.006
for stainless steel	... –750	0.008
for stainless steel	750–900	0.007
for stainless steel	900–1150	0.007
for stainless steel	1150– ...	0.006

2 Select the corrected feed rate value from the table based on the appropriate average chip thickness [h_m] and width of cut [a_e].

h_m inch	Corrected feed rate value f_z for h_m			
0.008	0.016 **	0.016 **	0.013	0.011
0.007	0.016 **	0.016 **	0.011	0.010
0.006	0.016 **	0.014	0.010	0.009
0.006	0.014	0.012	0.009	0.008
0.008	0.016 **	0.016 **	0.013	0.012
0.007	0.016 **	0.016 **	0.012	0.011
0.007	0.016 **	0.015	0.011	0.009
0.006	0.015	0.013	0.009	0.008
a_e =	**0.012 x DC**	**0.016 x DC**	**0.030 x DC**	**0.040 x DC**

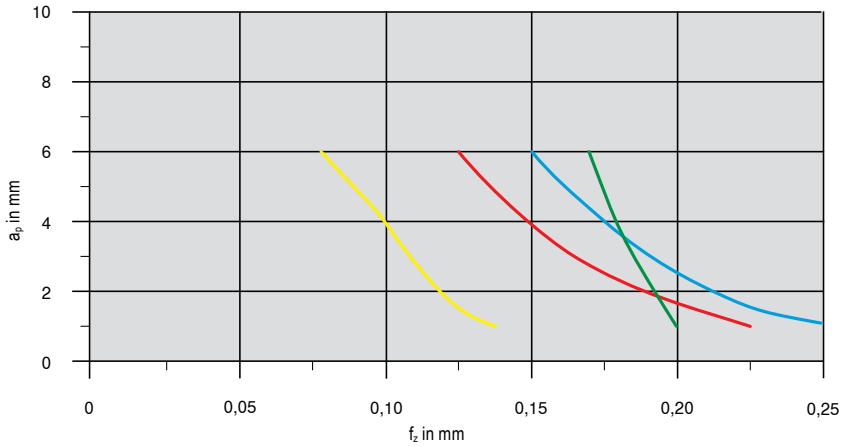
** f_z > 0,016": Danger of an open space contact

System 491-09

Starting parameters



SNHU 09



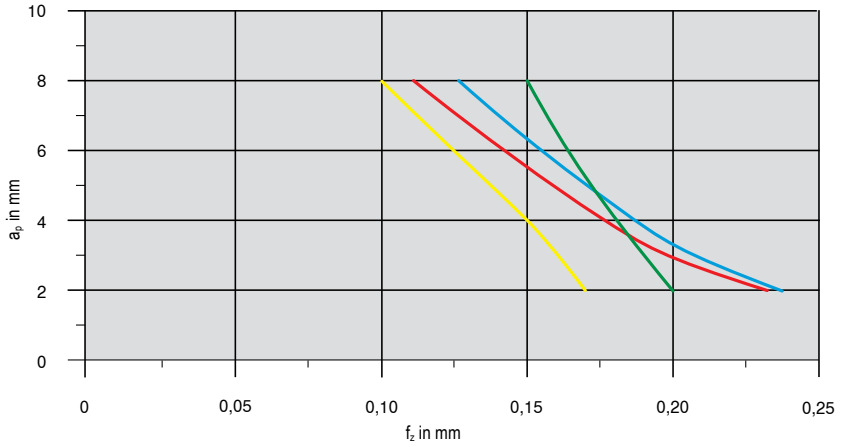
Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	SNHU09T308SR-M50	CTPP235	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	SNHU09T308SR-F50	CTPM240	180	Emulsion
Cast iron	K.1.1	EN-GJL-250 (GG25)	SNHU09T308SR-R50	CTCK215	250	Dry
Non-ferrous metals	N.1.2	AlMgSi1	SNHU09T308FR-F10	CTWN215	500	Emulsion

System 491-12

Starting parameters



SNHU 12



Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	SNHU120408SR-M50	CTPP235	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	SNHU120408SR-F50	CTPM240	180	Emulsion
Cast iron	K.1.1	EN-GJL-250 (GG25)	SNHU120408SR-R50	CTCK215	250	Dry
Non-ferrous metals	N.1.2	AlMgSi1	SNHU120408FR-F10	CTC5240	500	Emulsion

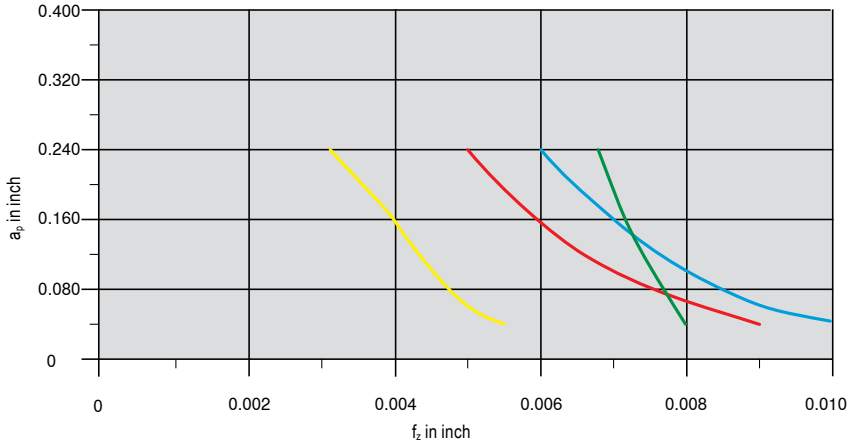
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 491-09

Starting parameters



SNHU 09



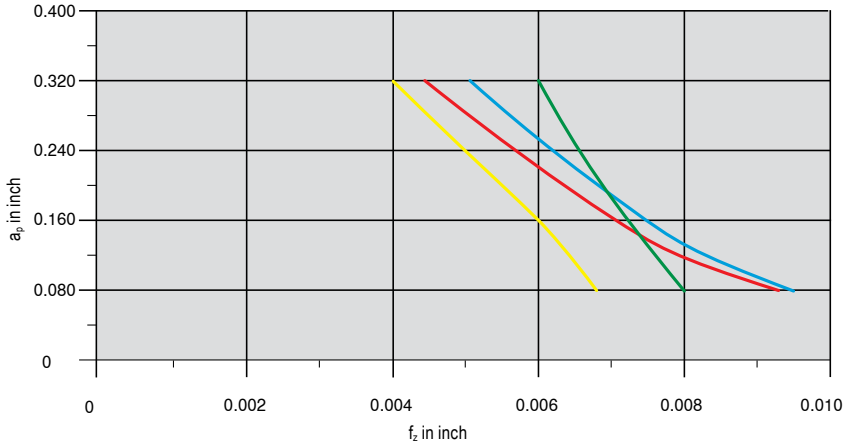
Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	SNHU09T308SR-M50	CTPP235	660	Dry
Stainless steel	M.2.1	316Ti	SNHU09T308SR-F50	CTPM240	320	Emulsion
Cast iron	K.1.1	GG25 Cast Iron	SNHU09T308SR-R50	CTCK215	825	Dry
Non-ferrous metals	N.1.2	Aluminum	SNHU09T308FR-F10	CTWN215	1650	Emulsion

System 491-12

Starting parameters



SNHU 12



Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	SNHU120408SR-M50	CTPP235	660	Dry
Stainless steel	M.2.1	316Ti	SNHU120408SR-F50	CTPM240	320	Emulsion
Cast iron	K.1.1	GG25 Cast Iron	SNHU120408SR-R50	CTCK215	825	Dry
Non-ferrous metals	N.1.2	Aluminum	SNHU120408FR-F10	CTC5240	1650	Emulsion

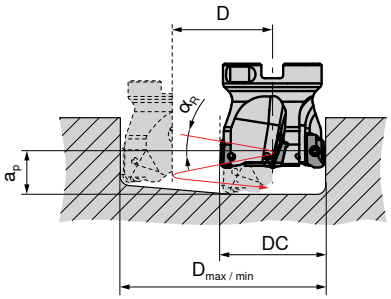
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

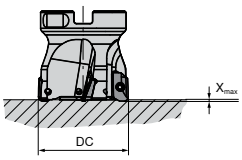
System 211-07

Machining strategy

Helical plunging







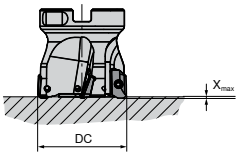
a_p in mm = D * π * tan α_R

DC mm	D_{max} / RE 0,4 mm	D_{min} mm	$\alpha_{R\,max}$ °
10	19	13	5,5
12	23	17	6,0
16	31	25	3,0
20	39	33	2,0
25	49	43	1,5
32	63	57	1,2
40	79	73	0,8
50	99	93	0,7

DC mm	D mm	$\alpha_{R\,max\,360°}$ °
10	13	5,5
12	17	6,0
16	25	3,0
20	33	2,0
25	43	1,5
32	57	1,2
40	73	0,8
50	93	0,7

Axial ramping

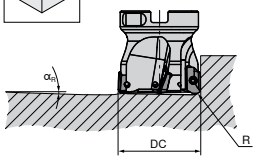




DC mm	X_{max} mm
10	0,8
12	0,8
16	0,8
20	0,8
25	0,8
32	0,8
40	0,8
50	0,8

Angled ramping





DC mm	α °
10	11,0
12	7,9
16	4,3
20	3,0
25	2,5
32	1,6
40	1,2
50	1,0

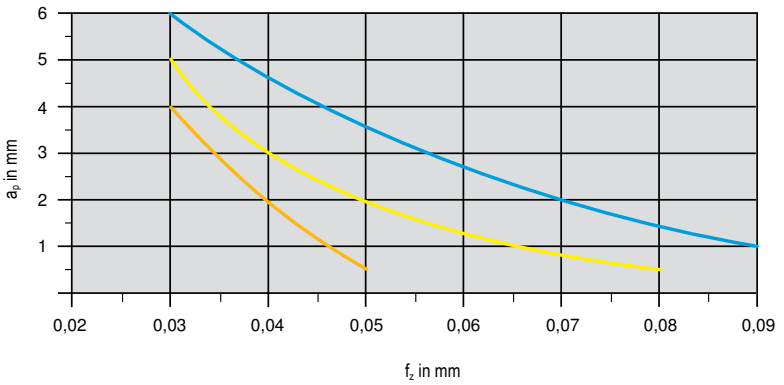
$D_{max.}$ in mm = Largest diameter for flat bottom surface
$D_{min.}$ in mm = smallest bore diameter for flat bottom surface

$D = D_{max} - DC / D_{min} - DC$

Starting parameters



XDKT 07



Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT070308SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT070308SR-F50	CTPM240	180	Dry
Heat-resistant	S.2.2	Inconel 718	XDKT070308ER-F50	CTC5240	35	Emulsion

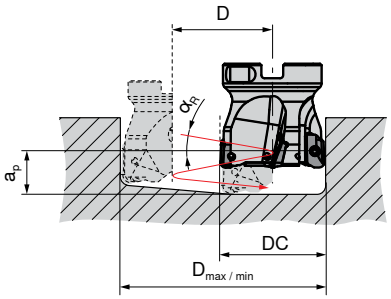
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

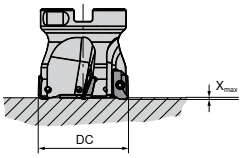
System 211-07

Machining strategy

Helical plunging







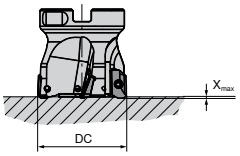
a_p in inch = D * π * tan α_R

DC inch	D_{max} / RE 0.4 inch	D_{min} inch	$\alpha_{R\,max}$ °
0.39	0.75	0.51	5.5
0.47	0.91	0.67	6.0
0.63	1.22	0.98	3.0
0.79	1.54	1.30	2.0
0.98	1.93	1.69	1.5
1.26	2.48	2.24	1.2
1.57	3.11	2.87	0.8
1.97	3.90	3.66	0.7

DC inch	D inch	$\alpha_{R\,max\,360°}$ °
0.39	0.51	5.5
0.47	0.67	6.0
0.63	0.98	3.0
0.79	1.30	2.0
0.98	1.69	1.5
1.26	2.24	1.2
1.57	2.87	0.8
1.97	3.66	0.7

Axial ramping

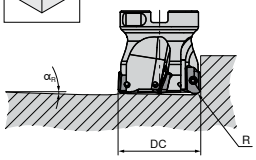




DC inch	X_{max} inch
0.39	0.03
0.47	0.03
0.63	0.03
0.79	0.03
0.98	0.03
1.26	0.03
1.57	0.03
1.97	0.03

Angled ramping





DC inch	α °
0.39	0.43
0.47	0.31
0.63	0.17
0.79	0.12
0.98	0.10
1.26	0.06
1.57	0.05
1.97	0.04

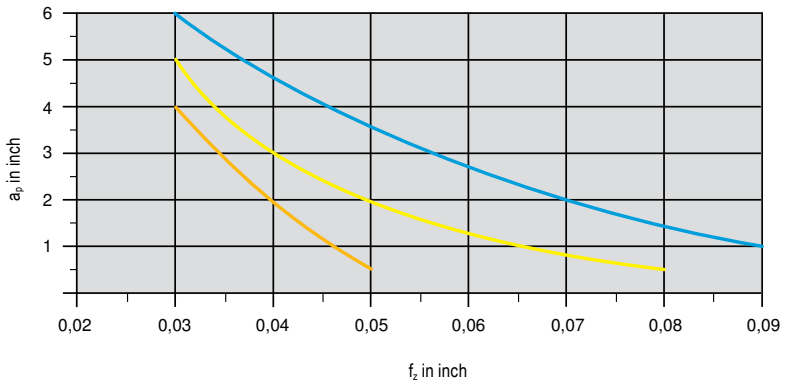
$D_{max.}$ in inch = Largest diameter for flat bottom surface
$D_{min.}$ in inch = smallest bore diameter for flat bottom surface

D = D_{max} - DC / D_{min} - DC

Starting parameters



XDKT 07

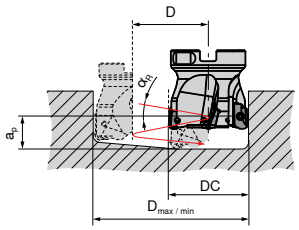


Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDKT070308SR-M50**	**CTCP230**	200	Dry
Stainless steel	**M.2.1**	316Ti	**XDKT070308SR-F50**	**CTPM240**	180	Emulsion
Heat-resistant	**S.2.2**	Inconel 718	**XDKT070308ER-F50**	**CTC5240**	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

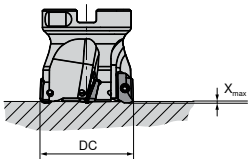
System 211-11

Machining strategy



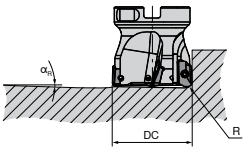
① Helical plunging





② Axial ramping





③ Angled ramping



DC mm		① Helical plunging RE = 0,8 mm	② Axial ramping X_{max}	③ Angled ramping α_R
12	α_R	16 °	1,3 mm	18 °
	$D_{max.}$	21 mm		
	$D_{min.}$	14 mm		
16	α_R	9,5 °	1,5 mm	10,8 °
	$D_{max.}$	29 mm		
	$D_{min.}$	21 mm		
20	α_R	7 °	2,0 mm	9,8 °
	$D_{max.}$	37 mm		
	$D_{min.}$	30 mm		
25	α_R	4,5 °	2,0 mm	7,5 °
	$D_{max.}$	47 mm		
	$D_{min.}$	40 mm		
32	α_R	3,2 °	1,0 mm	4,8 °
	$D_{max.}$	61 mm		
	$D_{min.}$	53 mm		
40	α_R	2,2 °	1,6 mm	2,9 °
	$D_{max.}$	77 mm		
	$D_{min.}$	72 mm		
50	α_R	1,7 °	1,6 mm	2,2 °
	$D_{max.}$	98 mm		
	$D_{min.}$	93 mm		
63	α_R	1,5 °	1,6 mm	1,8 °
	$D_{max.}$	123 mm		
	$D_{min.}$	116 mm		
80	α_R	1,0 °	1,6 mm	1,4 °
	$D_{max.}$	157 mm		
	$D_{min.}$	153 mm		
100	α_R	0,8 °	1,6 mm	1,1 °
	$D_{max.}$	197 mm		
	$D_{min.}$	193 mm		
125	α_R	0,6 °	1,6 mm	0,8 °
	$D_{max.}$	247 mm		
	$D_{min.}$	243 mm		

DC mm	Maximum speed related to overhang length n_{max} in min^{-1}				
	l_a = 1–2 x Ø mm	l_a = 2,5 x Ø mm	l_a = 3 x Ø mm	l_a = 4 x Ø mm	l_a = 5 x Ø mm
12	55000	51500	47000	42000	37000
16	42000	38500	34100	28900	24200
20	36900	33000	28500	23900	19500
25	33200	29000	24400	19900	15400
32	30200	26000	20900	16600	11900
40	27700	23000	18000	13500	9000
50	25400	20400	15400	10800	6100
63	23300	18300	12900	8300	3700
80	21300	16100	10600	5800	
100	19600	14100	8400		
125	17900	12800	7600		

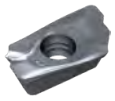
$D_{max.}$ in mm = Largest diameter for flat bottom surface

$D_{min.}$ in mm = Smallest diameter for flat bottom surface

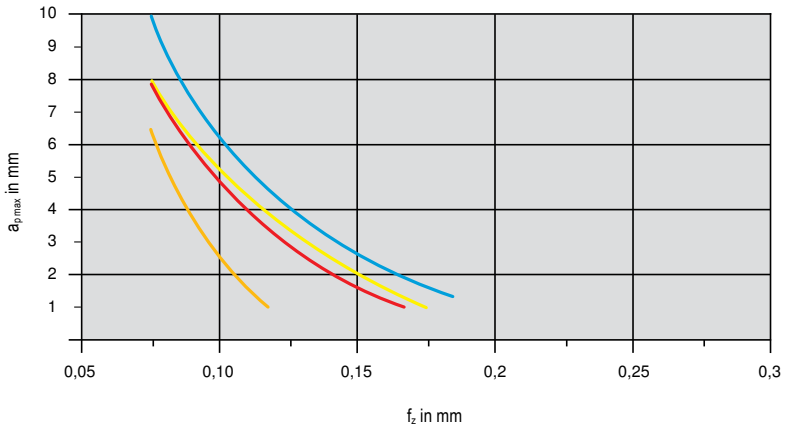
a_p in mm = D x π x tan (α_R) = Pitch

l_a in mm = Overhang length

Starting parameters



XDKT 11

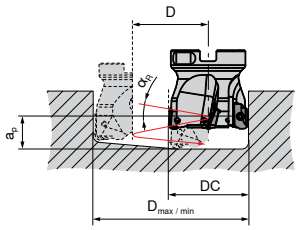


Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT11T308SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT11T308SR-F50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XDKT11T308SR-R50	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	XDKT11T308ER-F50	CTC5240	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

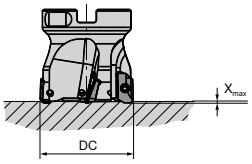
System 211-11

Machining strategy



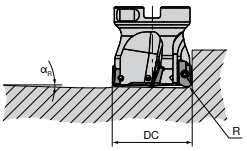
1 Helical plunging





2 Axial ramping





3 Angled ramping



DC inch		1 Helical plunging RE = 0.032"	2 Axial ramping X_{max}	3 Angled ramping α_R
0.50	α_R	16 °	0.056“	18 °
	$D_{max.}$	0.83“		
	$D_{min.}$	0.55“		
0.63	α_R	9.5 °	0.060“	10.8 °
	$D_{max.}$	1.14“		
	$D_{min.}$	0.83“		
0.75	α_R	7 °	0.080“	9.8 °
	$D_{max.}$	1.45“		
	$D_{min.}$	1.18“		
1.00	α_R	4.5 °	0.080“	7.5 °
	$D_{max.}$	1.85“		
	$D_{min.}$	1.57“		
1.25	α_R	3.2 °	0.040“	4.8 °
	$D_{max.}$	2.40“		
	$D_{min.}$	2.08“		
1.50	α_R	2.2 °	0.064“	2.9 °
	$D_{max.}$	3.03“		
	$D_{min.}$	2.83“		
2.00	α_R	1.7 °	0.064“	2.2 °
	$D_{max.}$	3.85“		
	$D_{min.}$	3.66“		
2.50	α_R	1.5 °	0.064“	1.8 °
	$D_{max.}$	4.84“		
	$D_{min.}$	4.57“		
3.00	α_R	1.0 °	0.064“	1.4 °
	$D_{max.}$	6.18“		
	$D_{min.}$	6.03“		
4.00	α_R	0.8 °	0.064“	1.1 °
	$D_{max.}$	4.21“		
	$D_{min.}$	3.97“		

$D_{max.}$ in inch = Largest diameter for flat bottom surface

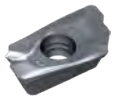
$D_{min.}$ in inch = Smallest diameter for flat bottom surface

a_p in inch = $D \times \pi \times \tan(\alpha_R)$ = Pitch

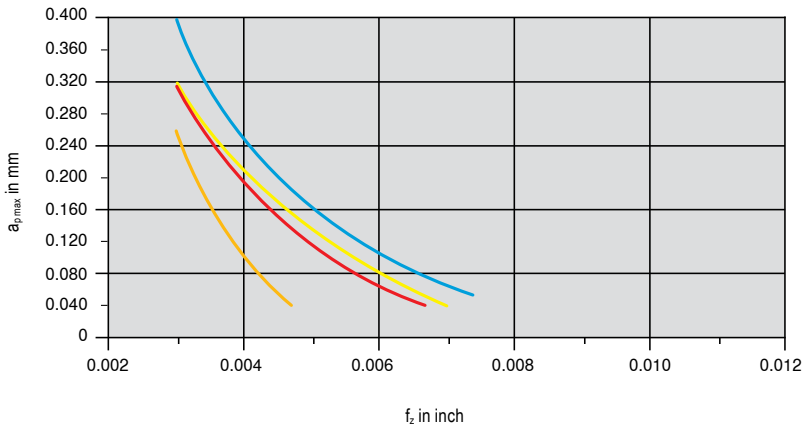
l_a in mm = Overhang length

DC inch	Maximum speed related to overhang length n_{max} in min^{-1}				
	l_a = 1–2 x Ø inch	l_a = 2.5 x Ø inch	l_a = 3 x Ø inch	l_a = 4 x Ø inch	l_a = 5 x Ø inch
0.50	2165.35	2027.56	1850.39	1653.54	1456.69
0.63	1653.54	1515.75	1342.52	1137.80	952.76
0.75	1452.76	1299.21	1122.05	940.94	767.72
1.00	1307.09	1141.73	960.63	783.46	606.30
1.25	1188.98	1023.62	822.83	653.54	468.50
1.50	1090.55	905.51	708.66	531.50	354.33
2.00	1000.00	803.15	606.30	425.20	240.16
2.50	917.32	720.47	507.87	326.77	145.67
3.00	838.58	633.86	417.32	228.35	
4.00	771.65	555.12	330.71		

Starting parameters



XDKT 11

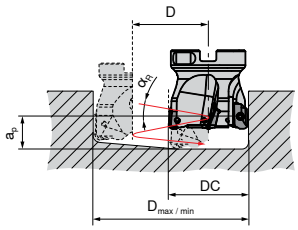


Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT11T308SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT11T308SR-F50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XDKT11T308SR-R50	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	XDKT11T308ER-F50	CTC5240	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

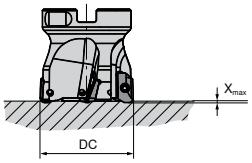
211-15 system

Machining strategy



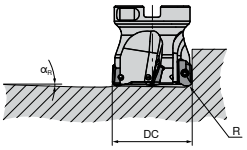
① Helical plunging





② Axial ramping





③ Angled ramping



DC mm		① Helical plunging RE = 0,8 mm	② Axial ramping X_{max}	③ Angled ramping α_R
25	α_R	7,5 °		
	$D_{max.}$	48 mm	2,7 mm	9,5 °
	$D_{min.}$	37 mm		
32	α_R	5 °		
	$D_{max.}$	62 mm	2,5 mm	6,8 °
	$D_{min.}$	47 mm		
40	α_R	3,2 °		
	$D_{max.}$	78 mm	2,5 mm	5,1 °
	$D_{min.}$	63 mm		
50	α_R	2,5 °		
	$D_{max.}$	98 mm	2,5 mm	2,5 °
	$D_{min.}$	86 mm		
63	α_R	1,5 °		
	$D_{max.}$	124 mm	2,5 mm	2,5 °
	$D_{min.}$	111 mm		
80	α_R	1,3 °		
	$D_{max.}$	158 mm	2,5 mm	2,0 °
	$D_{min.}$	147 mm		
100	α_R	1,1 °		
	$D_{max.}$	198 mm	2,5 mm	1,5 °
	$D_{min.}$	190 mm		
125	α_R	0,9 °		
	$D_{max.}$	248 mm	2,5 mm	0,9 °
	$D_{min.}$	240 mm		
160	α_R	0,6 °		
	$D_{max.}$	318 mm	2,5 mm	0,7 °
	$D_{min.}$	310 mm		

Maximum speed related to overhang length n_{max} in min^{-1}			
DC mm	l_a = 2 x Ø mm	l_a = 3 x Ø mm	l_a = 5 x Ø mm
25	26560	19520	13320
32	24160	16720	9520
40	22160	14400	7200
50	20320	12320	4880
63	18640	10320	2960
80	17040	8480	
100	15680	6720	
125	14320		
160	13200		

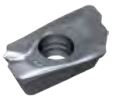
$D_{max.}$ in mm = Largest diameter for flat bottom surface

$D_{min.}$ in mm = Smallest diameter for flat bottom surface

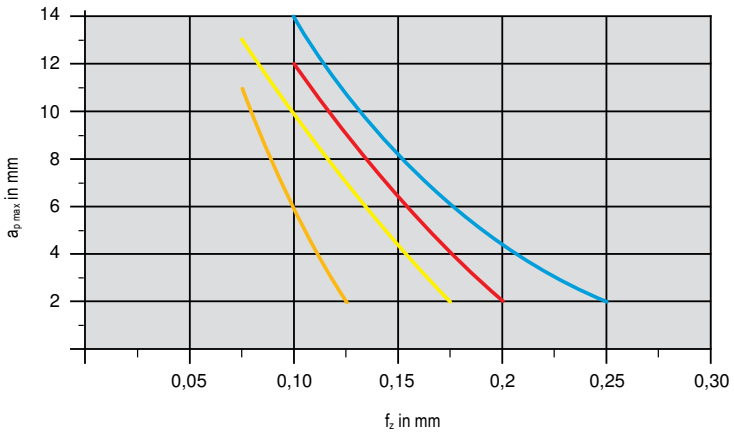
a_p in mm = D x π x tan (α_R) = Pitch

l_a in mm = Overhang length

Starting parameters



XDKT 15

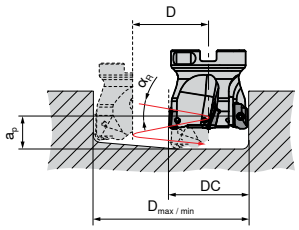


Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XDKT150508SR-M50	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XDKT150508SR-F50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XDKT150508SR-R50	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	XDKT150508ER-F40	CTC5240	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

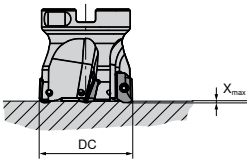
211-15 system

Machining strategy



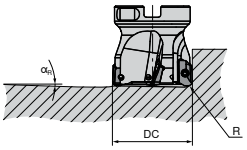
1 Helical plunging





2 Axial ramping





3 Angled ramping



DC inch		1 Helical plunging RE = 0.032“	2 Axial ramping X_{max}	3 Angled ramping α_R
1.00	α_R	7.5 °		
	$D_{max.}$	1.89“	0.108“	9.5 °
	$D_{min.}$	1.45“		
1.25	α_R	5 °		
	$D_{max.}$	2.44“	0.060“	6.8 °
	$D_{min.}$	1.85“		
1.50	α_R	3.2 °		
	$D_{max.}$	3.07“	0.060“	5.1 °
	$D_{min.}$	2.48“		
2.00	α_R	2.5 °		
	$D_{max.}$	3.86“	0.060“	2.5 °
	$D_{min.}$	3.38“		
2.50	α_R	1.5 °		
	$D_{max.}$	4.88“	0.060“	2.5 °
	$D_{min.}$	4.37“		
3.00	α_R	1.3 °		
	$D_{max.}$	6.22“	0.060“	2.0 °
	$D_{min.}$	5.78“		
4.00	α_R	1.1 °		
	$D_{max.}$	7.80“	0.060“	1.5 °
	$D_{min.}$	7.48“		
5.00	α_R	0.9 °		
	$D_{max.}$	9.76“	0.060“	0.9 °
	$D_{min.}$	9.45“		
6.00	α_R	0.6 °		
	$D_{max.}$	12.52“	0.060“	0.7 °
	$D_{min.}$	12.20“		

Maximum speed related to overhang length n_{max} in min^{-1}			
DC inch	l_a = 2 x Ø inch	l_a = 3 x Ø inch	l_a = 5 x Ø inch
1.00	1045.67	768.50	524.41
1.25	951.18	658.27	374.80
1.50	872.44	566.93	283.46
2.00	800.00	485.04	192.13
2.50	733.86	406.30	116.54
3.00	670.87	333.86	
4.00	617.32	264.57	
5.00	563.78		
6.00	519.69		

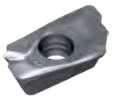
$D_{max.}$ in inch = Largest diameter for flat bottom surface

$D_{min.}$ in inch = Smallest diameter for flat bottom surface

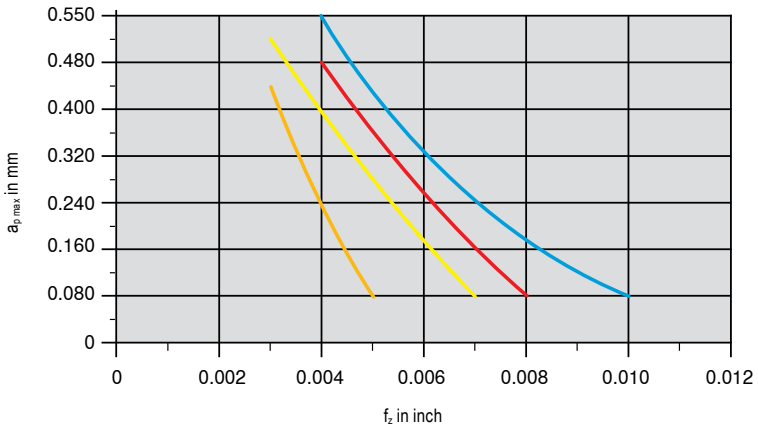
a_p in inch = D x π x tan (α_R) = Pitch

l_a in mm = Overhang length

Starting parameters



XDKT 15



Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	XDKT150508SR-M50	CTCP230	200	Dry
Stainless steel	M.2.1	316Ti	XDKT150508SR-F50	CTPM240	180	Emulsion
Cast iron	K.1.1	GG25 Cast Iron	XDKT150508SR-R50	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	XDKT150508ER-F40	CTC5240	35	Emulsion

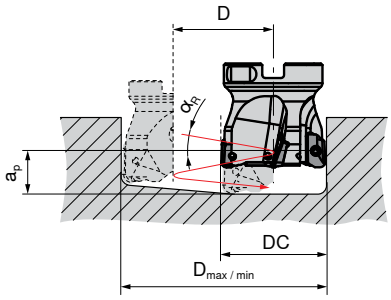
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

System 211-20

Machining strategy

Helical plunging



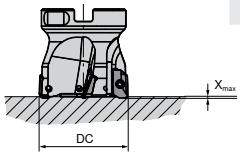


DC mm	D_{max} / RE 0,4 mm	D_{min} mm	$\alpha_{R\,max}$ °
63	124	107	2,2
80	158	143	1,7
100	198	183	1,3

a_p in mm = D * π * tan α_R

Axial ramping

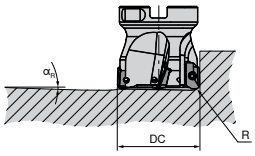




DC mm	X_{max} mm
63	2,0
80	2,0
100	2,0

Angled ramping



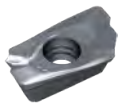


DC mm	α °
63	2,2
80	1,7
100	1,3

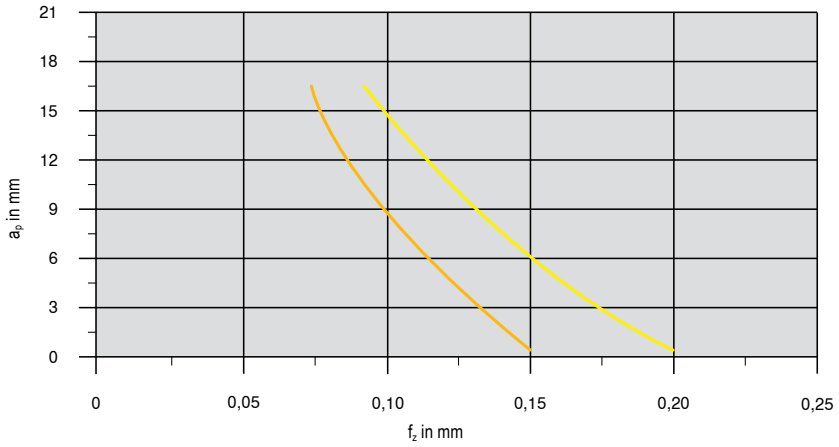
D = D_{max} - DC / D_{min} - DC

$D_{max.}$ in mm = Largest diameter for flat bottom surface
$D_{min.}$ in mm = smallest bore diameter for flat bottom surface

Starting parameters



XDKT 20



Material			Indexable insert		v_c in m/min	Cooling
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XDKT200708ER-F40**	**CTPM240**	180	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDKT200708ER-F40**	**CTC5240**	35	Emulsion

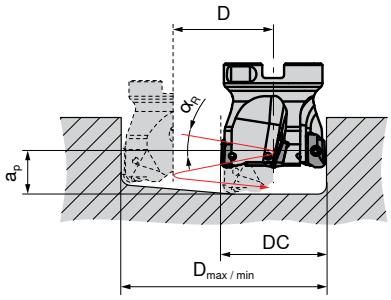
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 211-20

Machining strategy

Helical plunging



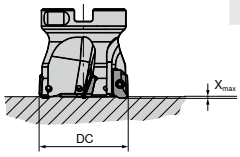


DC inch	D_{max} / RE 0.016 inch	D_{min} inch	$\alpha_{R\,max}$ °
2.50	4.882	4.213	2.2
3.00	6.220	5.630	1.7
4.00	7.795	7.205	1.3

a_p in inch = D * π * tan α_R

Axial ramping

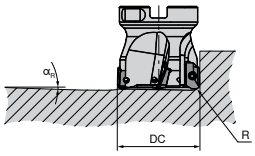




DC inch	X_{max} inch
2.50	0.80
3.00	0.80
4.00	0.80

Angled ramping



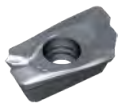


DC inch	α °
2.50	2.2
3.00	1.7
4.00	1.3

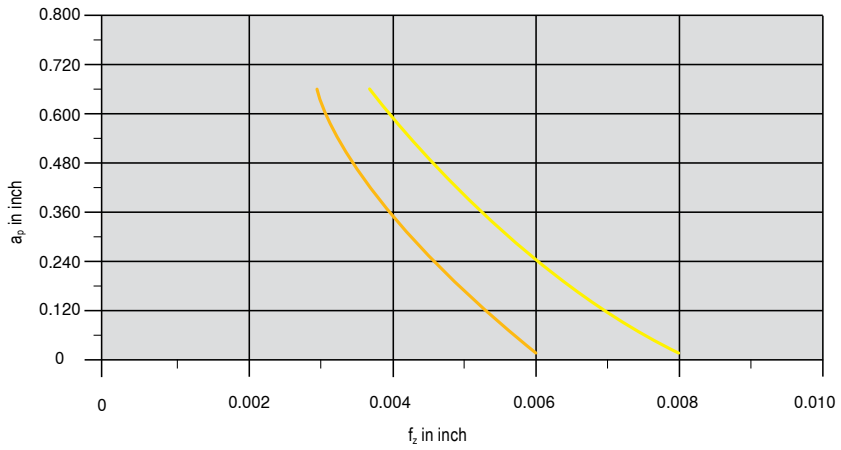
D = D_{max} - DC / D_{min} - DC

$D_{max.}$ in inch = Largest diameter for flat bottom surface
$D_{min.}$ in inch = smallest bore diameter for flat bottom surface

Starting parameters



XDKT 20



Material			Indexable insert		v_c in ft/min	Cooling
Stainless steel	**M.2.1**	316Ti	**XDKT200708ER-F40**	**CTPM240**	320	Emulsion
Heat-resistant	**S.2.2**	Inconel 718	**XDKT200708ER-F40**	**CTC5240**	115	Emulsion

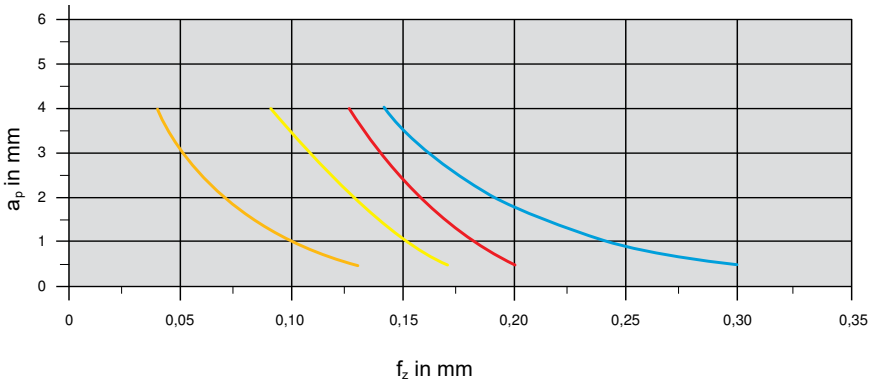
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

System 490-09

Starting parameters



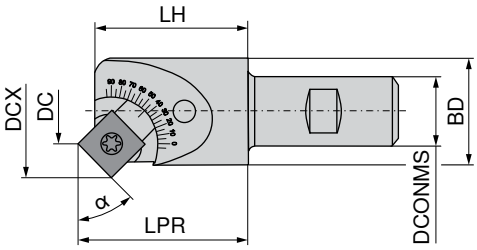
SDNT 09



Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	SDNT09T308SR-29	CTCP230	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	SDNT09T308SR-33	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	SDNT09T308SR-31	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	SDNT09T308ER-M31	CTC5240	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**

490-09 adjustable angle milling cutter – Dimensions



Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
18,6	16	32	**0°**	**9,35/1,60****	**20,14**	**33,07**
			5°	3,81	20,82	33,40
			10°	4,59	21,44	33,69
			15°	**5,42**	**21,98**	**33,95**
			20°	6,30	22,45	34,17
			25°	7,23	22,85	34,35
			30°	**8,18**	**23,16**	**34,49**
			35°	9,15	23,39	34,58
			40°	10,14	23,53	34,64
			45°	**11,13**	**23,59**	**34,65**
			50°	12,12	23,56	34,61
			55°	13,09	23,44	34,54
			60°	**14,04**	**23,24**	**34,42**
			65°	14,96	22,96	34,26
			70°	15,84	22,60	34,06
			75°	**16,68**	**22,16**	**33,83**
			80°	17,46	21,65	33,56
			85°	18,19	21,07	33,25
			90°	**10,07/1,90****	**20,44**	**32,93**

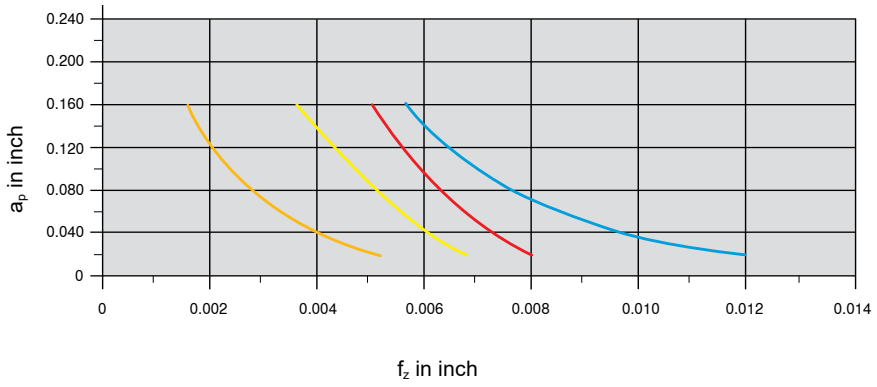
* Tangential cutting point at deepest engagement point
** Smallest diameter in center

System 490-09

Starting parameters



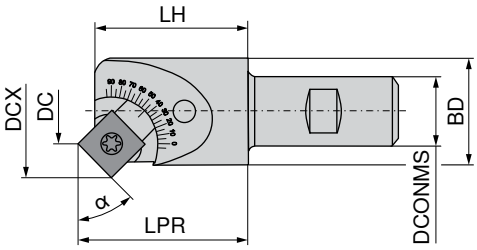
SDNT 09



Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	SDNT09T308SR-29	CTCP230	660	Dry
Stainless steel	M.2.1	316Ti	SDNT09T308SR-33	CTPM240	320	Emulsion
Cast iron	K.1.1	GG25 Cast Iron	SDNT09T308SR-31	CTCK215	825	Dry
Heat-resistant	S.2.2	Inconel 718	SDNT09T308ER-M31	CTC5240	115	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**

490-09 adjustable angle milling cutter – Dimensions



Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
18.6	16	32	**0°**	**9.35/1.60****	**20.14**	**33.07**
			5°	3.81	20.82	33.40
			10°	4.59	21.44	33.69
			15°	**5.42**	**21.98**	**33.95**
			20°	6.30	22.45	34.17
			25°	7.23	22.85	34.35
			30°	**8.18**	**23.16**	**34.49**
			35°	9.15	23.39	34.58
			40°	10.14	23.53	34.64
			45°	**11.13**	**23.59**	**34.65**
			50°	12.12	23.56	34.61
			55°	13.09	23.44	34.54
			60°	**14.04**	**23.24**	**34.42**
			65°	14.96	22.96	34.26
			70°	15.84	22.60	34.06
			75°	**16.68**	**22.16**	**33.83**
			80°	17.46	21.65	33.56
			85°	18.19	21.07	33.25
			90°	**10.07/1.90****	**20.44**	**32.93**

* Tangential cutting point at deepest engagement point

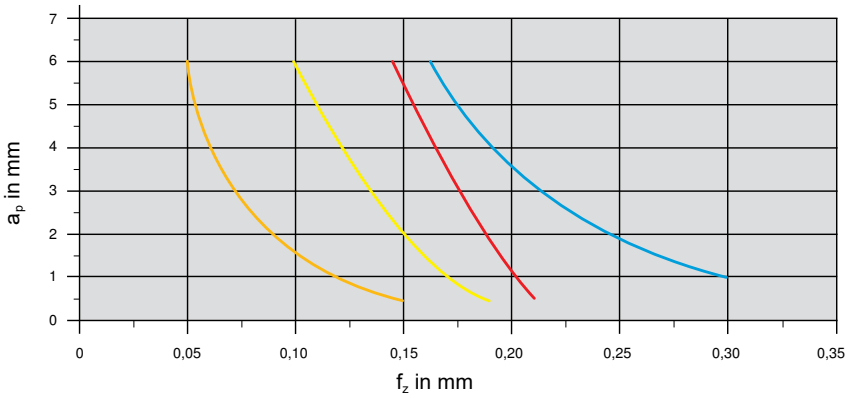
** Smallest diameter in center

System 490-12

Starting parameters



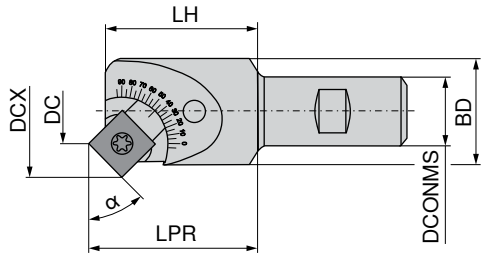
SDMT 12



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**SDMT1205ZZSN-29**	**CTCP230**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**SDMT120512SR-33**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**SDMT1205ZZSN-31**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SDMT120508ER-M31**	**CTC5240**	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**

490-12 adjustable angle milling cutter – Dimensions



Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
25	20	37	**0°**	**25,07/1,12****	**26,64**	**38,36**
			5°	3,72	27,61	38,79
			10°	4,84	28,48	39,21
			15°	**6,03**	**29,25**	**39,58**
			20°	7,27	29,92	39,90
			25°	8,57	30,48	40,16
			30°	**9,91**	**30,92**	**40,37**
			35°	11,28	31,25	40,51
			40°	12,67	31,45	40,60
			45°	**14,08**	**31,54**	**40,62**
			50°	15,48	31,50	40,58
			55°	16,86	31,34	40,48
			60°	**18,23**	**31,06**	**40,33**
			65°	19,56	30,66	40,11
			70°	20,85	30,15	39,83
			75°	**22,08**	**29,52**	**39,51**
			80°	23,26	28,79	39,12
			85°	24,35	27,95	38,69
			90°	**25,37/1,42****	**26,94**	**38,21**

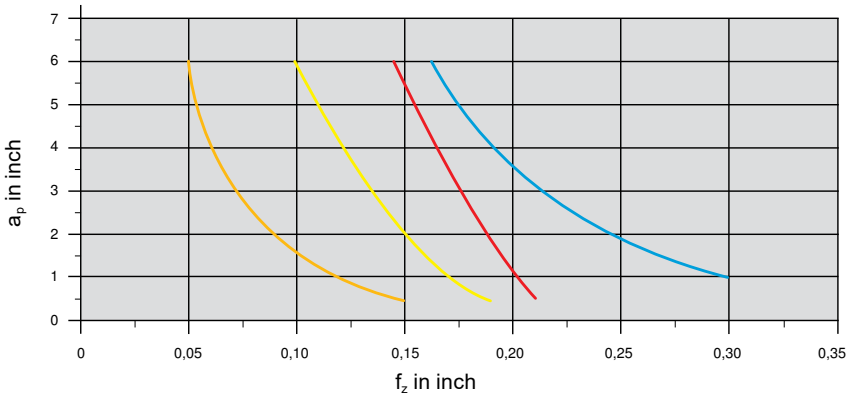
* Tangential cutting point at deepest engagement point
** Smallest diameter in center

System 490-12

Starting parameters



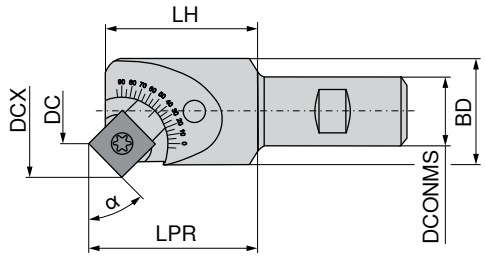
SDMT 12



Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**SDMT1205ZZSN-29**	**CTCP230**	660	Dry
Stainless steel	**M.2.1**	316Ti	**SDMT120512SR-33**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**SDMT1205ZZSN-31**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**SDMT120508ER-M31**	**CTC5240**	115	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**

490-12 adjustable angle milling cutter – Dimensions



Constant dimensions			Angle-dependent dimensions*			
BD	DCONMS	LH	α	DC*	DCX	LPR*
25	20	37	**0°**	**25.07/1.12****	**26.64**	**38.36**
			5°	3.72	27.61	38.79
			10°	4.84	28.48	39.21
			15°	**6.03**	**29.25**	**39.58**
			20°	7.27	29.92	39.90
			25°	8.57	30.48	40.16
			30°	**9.91**	**30.92**	**40.37**
			35°	11.28	31.25	40.51
			40°	12.67	31.45	40.60
			45°	**14.08**	**31.54**	**40.62**
			50°	15.48	31.50	40.58
			55°	16.86	31.34	40.48
			60°	**18.23**	**31.06**	**40.33**
			65°	19.56	30.66	40.11
			70°	20.85	30.15	39.83
			75°	**22.08**	**29.52**	**39.51**
			80°	23.26	28.79	39.12
			85°	24.35	27.95	38.69
			90°	**25.37/1.42****	**26.94**	**38.21**

* Tangential cutting point at deepest engagement point
** Smallest diameter in center

HSC machining

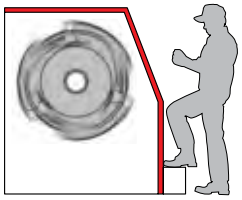
Safety information

Suitability of the tool for HSC machining

HSC tools from CERATIZIT have been specially developed for this machining strategy and guarantee maximum operational reliability.

Observe the safety instructions from the machine manufacturer

Make sure that all safety instructions from the machine manufacturer are followed (e.g., sealed machining units).

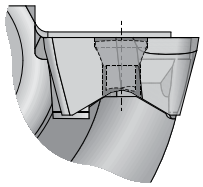


Suitability of the adapters for HSC machining

Select the optimal tool / clamping tool combination suitable for your milling situation. For high-speed milling applications, it is necessary that the tool and adapter are both dynamically balanced (in accordance with ISO 1940).

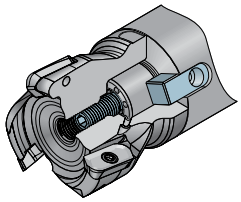
Mounting the indexable insert with centrifugal force protection

Indexable insert clamping: EURO Patent EP 1083017A1
Make sure that the insert seat is cleaned and the threaded hole for the clamping screw is in perfect condition.
Check the axial and radial contact of the indexable insert in the insert seat.
The clamping screws for the positive-locking indexable insert mounting must be tightened to tightening torque M
(XDHT11 = 1.8 Nm; XDH.19 = 6.0 Nm).



Optimal mounting of HSC milling cutters (DC = Ø 40–63) to milling arbors using power screw

The power screw ensures a stable connection between the tool and milling arbor and it is very easy to use.



Power screw

Maximum permitted number of revolutions

Observe the maximum permitted number of revolutions stated on the tool. This only applies to this particular tool and must be adjusted according to the selected adapter, total overhang length, and the respective machining situation.



Optimal application range of the tool (a_e, a_p, f_z, n)

Please following the recommendations regarding cutting parameters to ensure productive milling.

Failure to comply with these safety regulations automatically excludes CERATIZIT Deutschland GmbH from any liability.

System HSC-11

Cutting data standard values

Workpiece material		Treatment / alloy		VDI 3323 group	Hardness HB	H216T (CTWN215) v_c in m/min	H216T (CTWN215) v_c in m/min
N	Aluminum wrought alloys	Non-hardenable		21	60		660–9840
		Hardenable		22	100		660–6560
	Cast aluminum alloy	Non-hardenable	< 12% Si	23	80		660–6560
		Hardenable	< 12% Si	24	90		660–5900
		Non-hardenable	> 12% Si	25	130		660–3280
	Copper and copper alloys (bronze, brass)		Free-cutting steel alloy (1% Pb)	26			660–1970
			Brass, red bronze	27	90	820–3280	820–3280
			Bronze	28	100		490–1310
			Lead-free copper and electrolytic copper	29	100		980–2620
O	Non-metal materials		Duroplastics	29		260–3280	260–3280
			Fiber-reinforced plastics	29		230–1640	230–1640
			Hard rubber	30		260–1000	260–1000

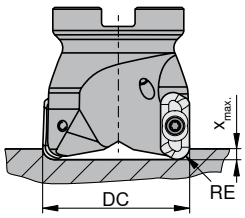
= Solid jet cooling = Minimum quantity lubrication = Dry machining

System HSC-11

Machining strategy

Axial ramping

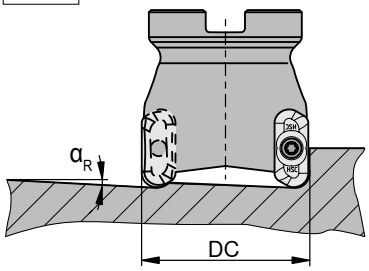




DC mm	11 RE 0,2–4,0 $x_{max.}$ mm
16	1,70
18	2,11
19	2,24
20	2,39
22	2,70
25	2,55
32	2,40
40	2,28
50	2,26
63	2,10
80	1,75
100	1,79

Angled ramping





DC mm	α_R °
16	18,8
18	16,3
19	15,3
20	14,8
22	13,8
25	10,3
32	6,8
40	4,8
50	3,5
63	2,5
80	1,8
100	1,3

Roughing-finishing/milling strategy

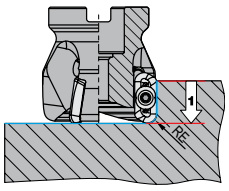
With maximum chip volumes

Indexable insert	RE mm	a_p mm	$a_{p\,max.}$ mm
XDHT 11T302FR-ALP	0,2	10	9,8
XDHT 11T304FR-ALP	0,4	10	9,6
XDHT 11T308FR-ALP	0,8	10	9,2
XDHT 11T312FR-ALP	1,2	10	8,8
XDHT 11T316FR-ALP	1,6	10	8,4
XDHT 11T320FR-ALP	2,0	10	8,0
XDHT 11T325FR-ALP	2,5	10	7,5
XDHT 11T332FR-ALP	3,2	10	6,8
XDHT 11T340FR-ALP	4,0	10	6,0
XDHT 11T350FR-ALP	5,0	10	5,0

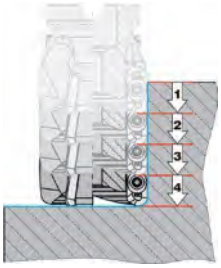
With maximum side wall quality

Indexable insert	RE mm	$a_{p\,max.}$ mm
XDHT 11T302FR-ALP	0,2	7,8
XDHT 11T304FR-ALP	0,4	7,6
XDHT 11T308FR-ALP	0,8	7,2
XDHT 11T312FR-ALP	1,2	6,5
XDHT 11T316FR-ALP	1,6	6,8
XDHT 11T320FR-ALP	2,0	6,4
XDHT 11T325FR-ALP	2,5	5,5
XDHT 11T332FR-ALP	3,2	4,8
XDHT 11T340FR-ALP	4,0	4,0
XDHT 11T350FR-ALP	5,0	3,0

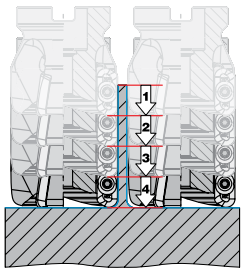
Shoulder milling



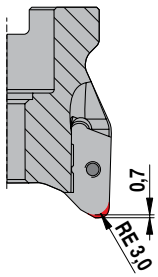
Pocket milling

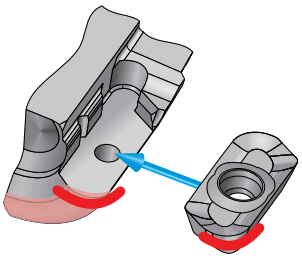


Pocket milling with thin-walled bars



Modification to front profile





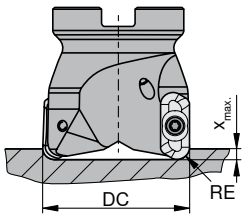
For indexable inserts with a corner radius larger than 3.2 mm, the tool base body has to be modified as per the above sketch.

System HSC-11

Machining strategy

Axial ramping

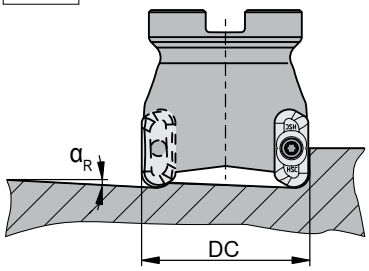




DC inch	11 RE 0.008–0.157 $x_{max.}$ inch
0.63	0.07
0.71	0.08
0.75	0.09
0.79	0.09
0.87	0.11
0.98	0.10
1.26	0.09
1.57	0.09
1.97	0.09
2.48	0.08
3.15	0.07
3.94	0.07

Angled ramping





DC inch	α_R °
0.63	0.74
0.71	0.64
0.75	0.60
0.79	0.58
0.87	0.54
0.98	0.41
1.26	0.27
1.57	0.19
1.97	0.14
2.48	0.10
3.15	0.07
3.94	0.05

Roughing-finishing/milling strategy

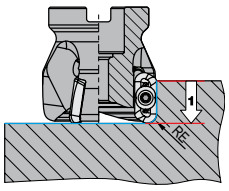
With maximum chip volumes

Indexable insert	RE inch	a_p inch	$a_{p\,max.}$ inch
XDHT 11T302FR-ALP	0.008	0.39	0.39
XDHT 11T304FR-ALP	0.016	0.39	0.38
XDHT 11T308FR-ALP	0.031	0.39	0.36
XDHT 11T312FR-ALP	0.047	0.39	0.35
XDHT 11T316FR-ALP	0.063	0.39	0.33
XDHT 11T320FR-ALP	0.079	0.39	0.31
XDHT 11T325FR-ALP	0.098	0.39	0.30
XDHT 11T332FR-ALP	0.126	0.39	0.27
XDHT 11T340FR-ALP	0.157	0.39	0.24
XDHT 11T350FR-ALP	0.197	0.39	0.20

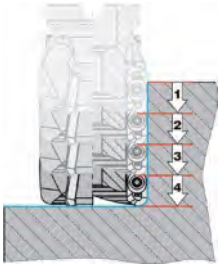
With maximum side wall quality

Indexable insert	RE inch	$a_{p\,max.}$ inch
XDHT 11T302FR-ALP	0.008	0.31
XDHT 11T304FR-ALP	0.016	0.30
XDHT 11T308FR-ALP	0.031	0.28
XDHT 11T312FR-ALP	0.047	0.26
XDHT 11T316FR-ALP	0.063	0.27
XDHT 11T320FR-ALP	0.079	0.25
XDHT 11T325FR-ALP	0.098	0.22
XDHT 11T332FR-ALP	0.126	0.19
XDHT 11T340FR-ALP	0.157	0.16
XDHT 11T350FR-ALP	0.197	0.12

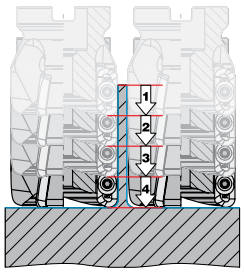
Shoulder milling



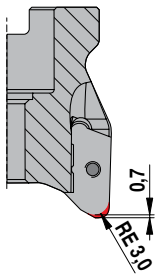
Pocket milling

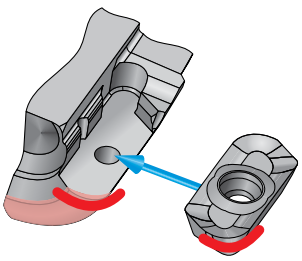


Pocket milling with thin-walled bars



Modification to front profile



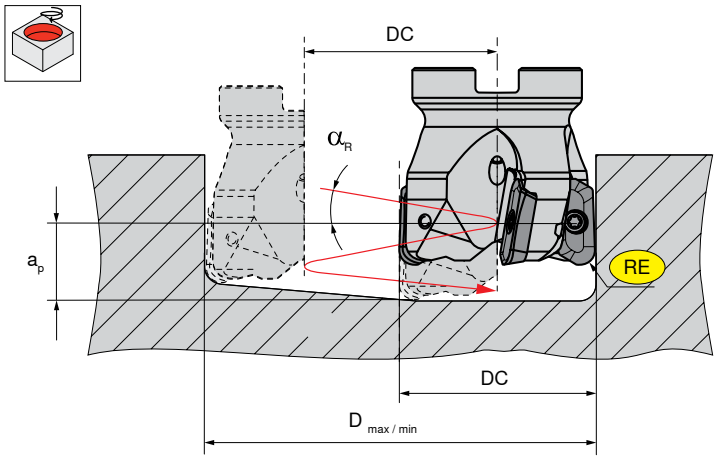


For indexable inserts with a corner radius larger than 0.125", the tool base body has to be modified as per the above sketch.

System HSC-11

Machining strategy

Helical plunging



RE = Indexable insert radius

α_R in mm = Maximum plunging angle (related to center of tool)

a_p in mm = Pitch → D x π x tan (α_R)

D in mm = → D_{max} – DC or D_{min} – DC

For flat bottom hole

$D_{max.}$ in mm = largest drilling diameter

$D_{min.}$ in mm = smallest drilling diameter

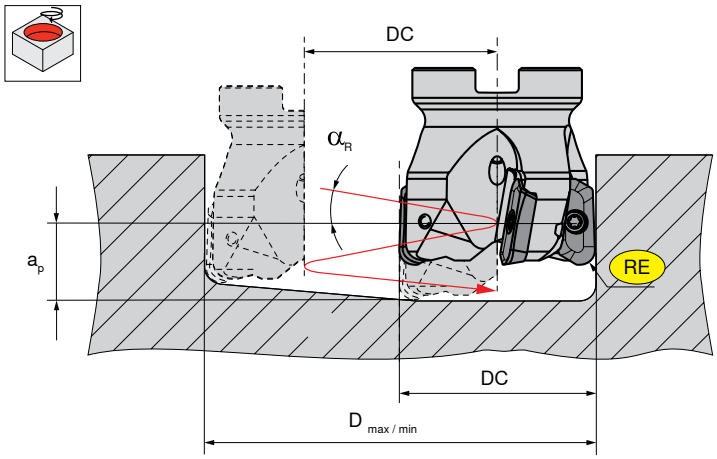
$DN_{max.}$ in mm = maximum hole diameter for non-flat bottom

DC mm		XDHT-11 (HSC-11)								
(DN_{max})		RE = 0,2	RE = 0,4	RE = 0,8	RE = 1,2	RE = 1,6	RE = 2,0	RE = 2,5	RE = 3,2	RE = 4,0
16	α_R	9,7°	10,0°	9,9°	9,4°	8,9°	8,4°	7,9°	7,0°	6,1°
	$D_{max.}$	30	30	29	28	27	27	26	24	23
(31)	$D_{min.}$	18	18	18	18	18	18	18	18	18
18	α_R	9,4°	9,1°	8,7°	8,3°	7,9°	7,5°	6,9°	6,2°	5,3°
	$D_{max.}$	34	34	33	32	31	31	30	28	27
(35)	$D_{min.}$	22	22	22	22	22	22	22	22	22
19	α_R	8,8°	8,6°	8,3°	7,9°	7,5°	7,5°	6,5°	5,9°	5,1°
	$D_{max.}$	36	36	35	34	33	33	32	30	29
(37)	$D_{min.}$	24	24	24	24	24	24	24	24	24
20	α_R	8,4°	8,2°	7,8°	7,4°	7,7°	6,7°	6,2°	5,5°	4,8°
	$D_{max.}$	38	38	37	36	35	35	34	32	31
(39)	$D_{min.}$	26	26	26	26	26	26	26	26	26
22	α_R	7,6°	7,4°	7,8°	6,7°	6,4°	6,5°	5,6°	5,2°	4,3°
	$D_{max.}$	42	42	41	40	39	39	38	36	35
(43)	$D_{min.}$	30	30	30	30	30	30	30	30	30
25	α_R	6,7°	6,5°	6,2°	5,9°	5,6°	5,3°	4,9°	4,4°	3,8°
	$D_{max.}$	48	48	47	46	45	45	44	42	41
(49)	$D_{min.}$	36	36	36	36	36	36	36	36	36
32	α_R	4,7°	4,7°	4,8°	4,6°	4,3°	4,1°	3,8°	3,4°	2,9°
	$D_{max.}$	62	62	61	60	59	59	58	56	55
(63)	$D_{min.}$	50	50	50	50	50	50	50	50	50
40	α_R	3,3°	3,3°	3,4°	3,4°	3,5°	3,3°	3,0°	2,7°	2,3°
	$D_{max.}$	78	78	77	76	75	75	74	72	71
(79)	$D_{min.}$	66	66	66	66	66	66	66	66	66
50	α_R	2,4°	2,5°	2,5°	2,5°	2,6°	2,6°	2,4°	2,2°	1,9°
	$D_{max.}$	98	98	97	96	95	95	94	92	91
(99)	$D_{min.}$	86	86	86	86	86	86	86	86	86
63	α_R	1,7°	1,7°	1,7°	1,8°	1,8°	1,8°	1,8°	1,7°	1,5°
	$D_{max.}$	124	124	123	122	121	121	120	118	117
(125)	$D_{min.}$	112	112	112	112	112	112	112	112	112
80	α_R	1,1°	1,1°	1,1°	1,1°	1,1°	1,1°	1,1°	1,2°	1,2°
	$D_{max.}$	158	158	157	156	155	155	154	152	151
(159)	$D_{min.}$	146	146	146	146	146	146	146	146	146
100	α_R	0,8°	0,8°	0,9°	0,9°	0,9°	0,9°	0,9°	0,9°	0,9°
	D_{max}	198	198	197	196	195	195	194	192	191
(199)	$D_{min.}$	186	186	186	186	186	186	186	186	186

System HSC-11

Machining strategy

Helical plunging



RE = Indexable insert radius
α_R in inch = Maximum plunging angle (related to center of tool)
a_p in inch = pitch → D x π x tan (α_R)
D in inch = → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

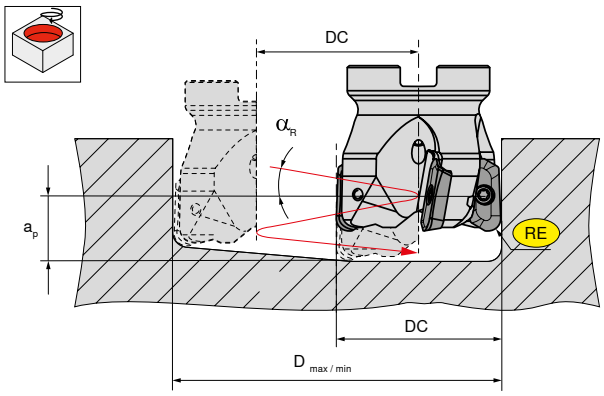
$D_{max.}$ in inch= largest drilling diameter
$D_{min.}$ in inch = smallest drilling diameter
$DN_{max.}$ in inch = maximum hole diameter for non-flat bottom

DC inch		XDHT-11 (HSC-11)								
(DN_{max})		RE = 0.008	RE = 0.016	RE = 0.032	RE = 0.048	RE = 0.064	RE = 0.080	RE = 0.100	RE = 0.125	RE = 0.160
	α_R	9.7°	10.0°	9.9°	9.4°	8.9°	8.4°	7.9°	7.0°	6.1°
	$D_{max.}$	1.18	1.18	1.14	1.1	1.06	1.06	1.02	0.94	0.91
(1.22)	$D_{min.}$	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
.708	α_R	9.4°	9.1°	8.7°	8.3°	7.9°	7.5°	6.9°	6.2°	5.3°
	$D_{max.}$	1.34	1.34	1.3	1.26	1.22	1.22	1.18	1.1	1.06
(1.38)	$D_{min.}$	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
.750	α_R	8.8°	8.6°	8.3°	7.9°	7.5°	7.5°	6.5°	5.9°	5.1°
	$D_{max.}$	1.42	1.42	1.38	1.34	1.3	1.3	1.26	1.18	1.14
(1.45)	$D_{min.}$	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
.787	α_R	8.4°	8.2°	7.8°	7.4°	7.7°	6.7°	6.2°	5.5°	4.8°
	$D_{max.}$	1.5	1.5	1.46	1.42	1.38	1.38	1.34	1.26	1.22
(1.53)	$D_{min.}$	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
.866	α_R	7.6°	1.65	7.4°	1.65	7.8°	1.61	6.7°	1.57	6.4°
	$D_{max.}$	1.65	1.65	1.61	1.57	1.53	1.53	1.49	1.41	1.37
(1.69)	$D_{min.}$	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
1.00	α_R	6.7°	6.5°	6.2°	5.9°	5.6°	5.3°	4.9°	4.4°	3.8°
	$D_{max.}$	1.89	1.89	1.85	1.81	1.77	1.77	1.73	1.65	1.61
(1.93)	$D_{min.}$	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
1.25	α_R	4.7°	2.44	4.7°	2.44	4.8°	2.40	4.6°	2.36	4.3°
	$D_{max.}$	2.44	2.44	2.4	2.36	2.32	2.32	2.28	2.2	2.17
(2.48)	$D_{min.}$	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97
1.50	α_R	3.3°	3.3°	3.4°	3.4°	3.5°	3.3°	3.0°	2.7°	2.3°
	$D_{max.}$	3.07	3.07	3.03	2.99	2.95	2.95	2.91	2.83	2.8
(3.11)	$D_{min.}$	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
2.00	α_R	2.4°	3.86	2.5°	3.86	2.5°	3.82	2.5°	3.78	2.6°
	$D_{max.}$	3.86	3.86	3.82	3.78	3.74	3.74	3.7	3.62	3.58
(3.89)	$D_{min.}$	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38
2.50	α_R	1.7°	1.7°	1.7°	1.8°	1.8°	1.8°	1.8°	1.7°	1.5°
	$D_{max.}$	4.88	4.88	4.84	4.8	4.76	4.76	4.72	4.65	4.61
(4.92)	$D_{min.}$	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41
3.00	α_R	1.1°	1.1°	1.1°	1.1°	1.1°	1.1°	1.1°	1.2°	1.2°
	$D_{max.}$	6.22	6.22	6.18	6.14	6.1	6.1	6.06	5.98	5.94
(6.25)	$D_{min.}$	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75
4.00	α_R	0.8°	0.8°	0.9°	0.9°	0.9°	0.9°	0.9°	0.9°	0.9°
	D_{max}	7.8	7.8	7.76	7.72	7.68	7.68	7.64	7.56	7.52
(7.83)	$D_{min.}$	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32

System HSC-15

Machining strategy

Helical plunging



RE = Indexable insert radius

α_R in mm = Maximum plunging angle (related to center of tool)

a_p in mm = Pitch → D x π x tan (α_R)

D in mm = → D_{max} – DC or D_{min} – DC

For flat bottom hole

$D_{max.}$ in mm = largest drilling diameter

$D_{min.}$ in mm = smallest drilling diameter

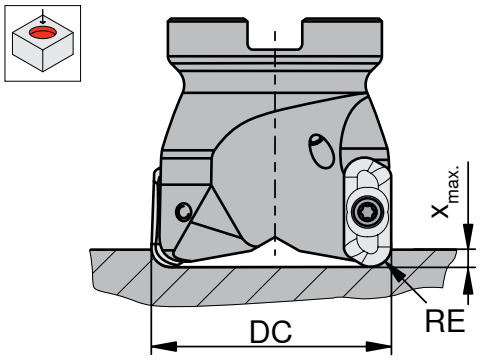
$DN_{max.}$ in mm = maximum hole diameter for non-flat bottom

	DC mm	DN_{max} mm	α_R °	D_{max} mm	α_R °	D_{min} mm
RE = 0,4 mm	**32**	64	6°24‘	63	5°54‘	54
	40	80	4°42‘	79	4°12‘	70
	50	100	3°24‘	99	3°00‘	90
	63	126	2°24‘	125	2°12‘	116
	80	160	1°48‘	159	1°24‘	150
RE = 0,8 mm	**32**	64	6°24‘	62	5°54‘	54
	40	80	4°42‘	78	4°12‘	70
	50	100	3°24‘	98	3°00‘	90
	63	126	2°24‘	124	2°12‘	116
	80	160	1°48‘	158	1°24‘	150
RE = 1,2 mm	**32**	64	6°24‘	62	5°54‘	54
	40	80	4°42‘	78	4°12‘	70
	50	100	3°24‘	98	3°00‘	90
	63	126	2°24‘	124	2°12‘	116
	80	160	1°48‘	158	1°24‘	150
RE = 1,6 mm	**32**	64	6°24‘	61	5°54‘	54
	40	80	4°42‘	77	4°12‘	70
	50	100	3°24‘	97	3°00‘	90
	63	126	2°24‘	123	2°12‘	116
	80	160	1°48‘	157	1°24‘	150
RE = 2,0 mm	**32**	64	6°24‘	60	5°54‘	54
	40	80	4°42‘	76	4°12‘	70
	50	100	3°24‘	96	3°00‘	90
	63	126	2°24‘	122	2°12‘	116
	80	160	1°48‘	156	1°24‘	150
RE = 2,5 mm	**32**	64	6°24‘	59	5°54‘	54
	40	80	4°42‘	75	4°12‘	70
	50	100	3°24‘	95	3°00‘	90
	63	126	2°24‘	121	2°12‘	116
	80	160	1°48‘	155	1°24‘	150
RE = 3,2 mm	**32**	64	6°24‘	58	5°54‘	54
	40	80	4°42‘	74	4°12‘	70
	50	100	3°24‘	94	3°00‘	90
	63	126	2°24‘	120	2°12‘	116
	80	160	1°48‘	154	1°24‘	150
RE = 4,0 mm	**32**	64	6°24‘	56	5°54‘	54
	40	80	4°42‘	72	4°12‘	70
	50	100	3°24‘	92	3°00‘	90
	63	126	2°24‘	118	2°12‘	116
	80	160	1°48‘	152	1°24‘	150

System HSC-15

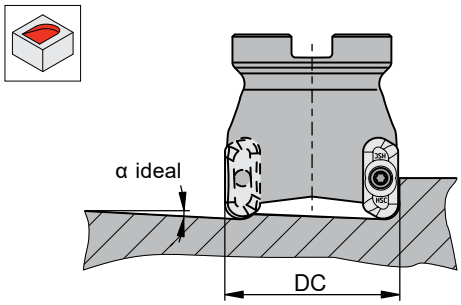
Machining strategy

Axial ramping



HSC 15	DC mm	15 RE 0,4–4,0 $x_{max.}$ mm
CHSC 15 / GHSC 15	32	3,0
CHSC 15 / GHSC 15	40	2,8
AHSC 15	40–80	2,8

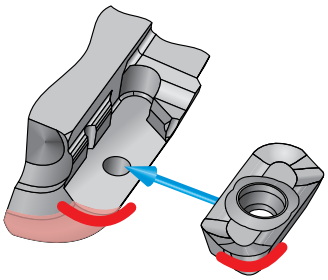
Angled ramping

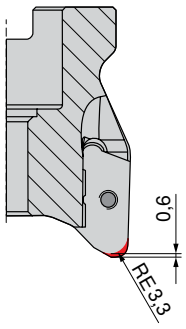


DC mm	α ideal HSC 15 RE=0,4–1,6	α ideal HSC 15 RE=2,0–4,0
32	8°00‘	8°30‘
40	5°12‘	5°30‘
50	4°00‘	4°18‘
63	3°00‘	3°06‘
80	2°00‘	2°18‘

Modification to tool base body

HSC 15





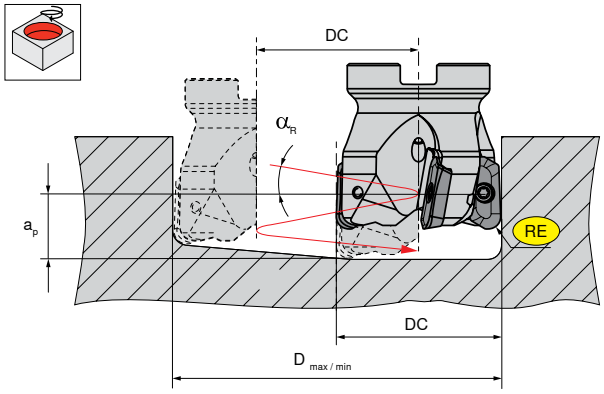
Modification to front profile

For indexable inserts with a corner radius larger than 4.0 mm, the tool base body has to be modified as per the above sketch.

System HSC-19

Machining strategy

Helical plunging



RE = Indexable insert radius

α_R in mm = Maximum plunging angle (related to center of tool)

a_p in mm = Pitch → D x π x tan (α_R)

D in mm = → D_{max} – DC or D_{min} – DC

For flat bottom hole

$D_{max.}$ in mm = largest drilling diameter

$D_{min.}$ in mm = smallest drilling diameter

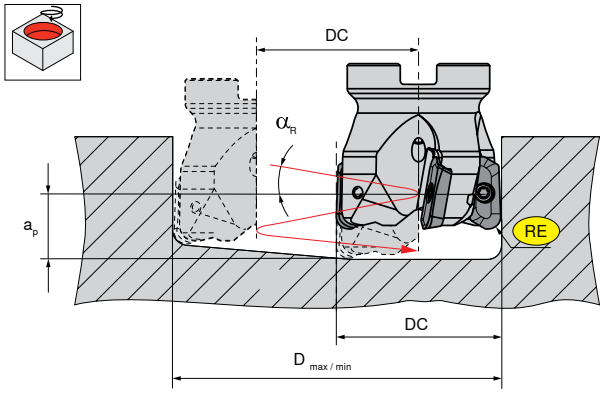
$DN_{max.}$ in mm = maximum hole diameter for non-flat bottom

	DC mm	DN_{max} mm	α_R °	D_{max} mm	D_{min} mm
RE = 0,2 mm	**25**	49	7°02‘	48	32
	32	63	4°34‘	62	46
	40	79	3°47‘	78	62
	50	99	3°01‘	97	81
	63	125	2°17‘	124	107
	80	159		158	141
	100	199		198	181
RE = 0,4 mm	**25**	49	7°08‘	48	32
	32	63	4°37‘	62	46
	40	79	3°49‘	78	62
	50	99	3°02‘	98	81
	63	125	2°18‘	124	107
	80	159		158	141
	100	199		198	181
RE = 0,8 mm	**25**	49	7°21‘	47	32
	32	63	4°44‘	61	46
	40	79	3°53‘	77	62
	50	99	3°05‘	97	81
	63	125	2°20‘	123	107
	80	159		157	141
	100	199		197	181
RE = 2,0 mm	**25**	49	8°40‘	45	32
	32	63	5°04‘	59	46
	40	79	4°06‘	75	62
	50	99	3°13‘	95	81
	63	125	2°25‘	121	107
	80	159		155	141
	100	199		195	181
RE = 2,5 mm	**25**	49	8°24‘	44	32
	32	63	5°13‘	58	46
	40	79	4°12‘	74	62
	50	99	3°17‘	94	81
	63	125	2°27‘	120	107
	80	159		154	141
	100	199		194	181
RE = 3,2 mm	**25**	49	8°54‘	42	32
	32	63	5°26‘	56	46
	40	79	4°20‘	72	62
	50	99	3°21‘	92	81
	63	125	2°30‘	118	107
	80	159		152	141
	100	199		192	181
RE = 4,0 mm	**25**	49	9°32‘	41	32
	32	63	5°42‘	55	46
	40	79	4°30‘	71	62
	50	99	3°28‘	91	81
	63	125	2°33‘	117	107
	80	159		151	141
	100	199		191	181
RE = 5,0 mm	**25**	49	6°49‘	39	32
	32	63	3°59‘	53	46
	40	79	3°20‘	69	62
	50	99	2°13‘	89	81
	63	125	1°52‘	115	107
	80	159		149	141
	100	199		189	181

System HSC-19

Machining strategy

Helical plunging



RE = Indexable insert radius
α_R in inch = Maximum plunging angle (related to center of tool)
a_p in inch = pitch → D x π x tan (α_R)
D in inch = → D_{max} – DC and/or D_{min} – DC

For flat bottom hole

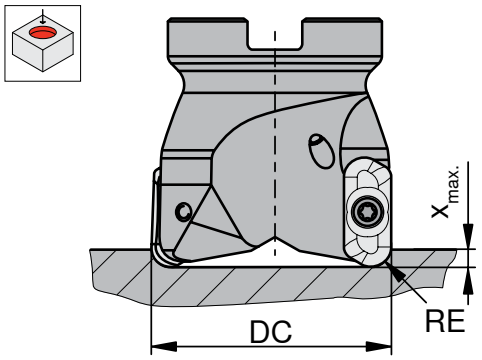
$D_{max.}$ in inch= largest drilling diameter
$D_{min.}$ in inch = smallest drilling diameter
$DN_{max.}$ in inch = maximum hole diameter for non-flat bottom

	DC inch	DN_{max} inch	α_R °	D_{max} inch	D_{min} inch
RE = 0.008“	**1.00**	1.93	7°02‘	1.89	1.26
	1.25	2.48	4°34‘	2.44	1.81
	1.50	3.11	3°47‘	3.07	2.44
	2.00	3.90	3°01‘	3.82	3.19
	2.50	4.92	2°17‘	4.88	4.21
	3.00	6.26		6.22	5.55
	4.00	7.83		7.80	7.13
RE = 0.016“	**1.00**	0.98	7°08‘	1.89	1.26
	1.25	1.26	4°37‘	2.44	1.81
	1.50	1.57	3°49‘	3.07	2.44
	2.00	1.97	3°02‘	3.86	3.19
	2.50	2.48	2°18‘	4.88	4.21
	3.00	3.15		6.22	5.55
	4.00	3.94		7.80	7.13
RE = 0.032“	**1.00**	1.93	7°21‘	1.85	1.26
	1.25	2.48	4°44‘	2.40	1.81
	1.50	3.11	3°53‘	3.03	2.44
	2.00	3.90	3°05‘	3.82	3.19
	2.50	4.92	2°20‘	4.84	4.21
	3.00	6.26		6.18	5.55
	4.00	7.83		7.76	7.13
RE = 0.078“	**1.00**	0.98	8°40‘	1.77	1.26
	1.25	1.26	5°04‘	2.32	1.81
	1.50	1.57	4°06‘	2.95	2.44
	2.00	1.97	3°13‘	3.74	3.19
	2.50	2.48	2°25‘	4.76	4.21
	3.00	3.15		6.10	5.55
	4.00	3.94		7.68	7.13
RE = 0.098“	**1.00**	1.93	8°24‘	1.73	1.26
	1.25	2.48	5°13‘	2.28	1.81
	1.50	3.11	4°12‘	2.91	2.44
	2.00	3.90	3°17‘	3.70	3.19
	2.50	4.92	2°27‘	4.72	4.21
	3.00	6.26		6.06	5.55
	4.00	7.83		7.64	7.13
RE = 0.128“	**1.00**	0.98	8°54‘	1.65	1.26
	1.25	1.26	5°26‘	2.20	1.81
	1.50	1.57	4°20‘	2.83	2.44
	2.00	1.97	3°21‘	3.62	3.19
	2.50	2.48	2°30‘	4.65	4.21
	3.00	3.15		5.98	5.55
	4.00	3.94		7.56	7.13
RE = 0.157“	**1.00**	1.93	9°32‘	1.61	1.26
	1.25	2.48	5°42‘	2.17	1.81
	1.50	3.11	4°30‘	2.80	2.44
	2.00	3.90	3°28‘	3.58	3.19
	2.50	4.92	2°33‘	4.61	4.21
	3.00	6.26		5.94	5.55
	4.00	7.83		7.52	7.13
RE = 0.196“	**1.00**	0.98	6°49‘	1.54	1.26
	1.25	1.26	3°59‘	2.09	1.81
	1.50	1.57	3°20‘	2.72	2.44
	2.00	1.97	2°13‘	3.50	3.19
	2.50	2.48	1°52‘	4.53	4.21
	3.00	3.15		5.87	5.55
	4.00	3.94		7.44	7.13

System HSC-19

Machining strategy

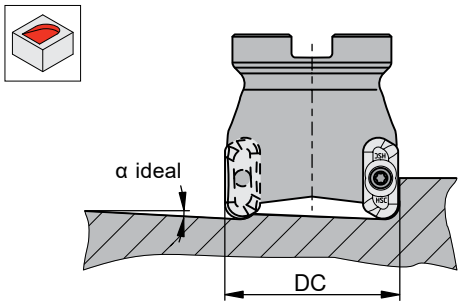
Axial ramping



HSC 19	DC mm	19 RE 0,2–4,0 $x_{max.}$ mm	19 RE 5,0 $x_{max.}$ mm
CHSC 19 / GHSC 19 / MHSC 19	25	5,0	4,0
CHSC 19 / GHSC 19 / MHSC 19	32–40	4,0	3,0
AHSC 19	40–100	4,0	3,0

HPC 19	DC mm	19 RE 0,2–4,0 $x_{max.}$ mm	19 RE 5,0 $x_{max.}$ mm
CHPC 19 / MHPC 19	22–25	5,0	4,0
CHPC 19 / MHPC 19	32–50	6,0	5,0
AHPC 19	40–63	6,0	5,0

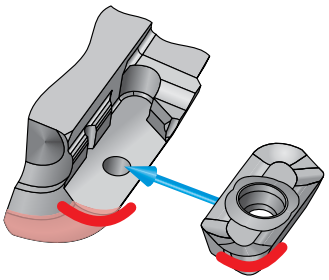
Angled ramping

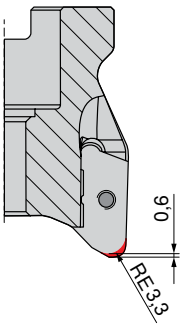


DC mm	α ideal HSC 19	α ideal HPC 19
25	11°	11°
32	7°	7°
40	5°	5°
50	4°	4°
63	3°	3°
80	2°	
100	2°	

Modification to tool base body

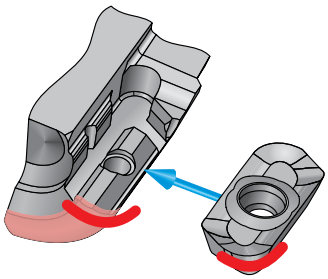
HSC 19





Modification to front profile

HPC 19

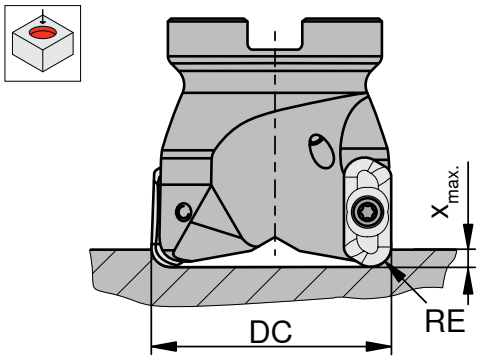


For indexable inserts with a corner radius larger than 4.0 mm, the tool base body has to be modified as per the above sketch.

System HSC-19

Machining strategy

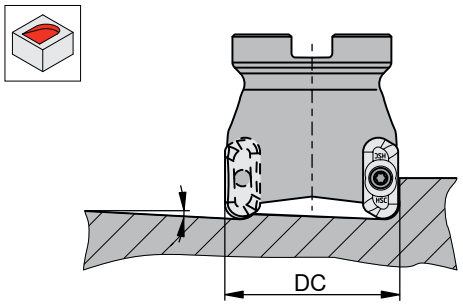
Axial ramping



HSC 19	DC inch	19 RE 0.008–0.157 $x_{max.}$ inch	19 RE 0.196 $x_{max.}$ inch
CHSC 19 / GHSC 19 / MHSC 19	1.00	0.196	0.157
CHSC 19 / GHSC 19 / MHSC 19	1.25–1.50	0.157	0.118
AHSC 19	1.50–4.00	0.157	0.118

HPC 19	DC inch	19 RE 0.008–0.157 $x_{max.}$ inch	19 RE 0.196 $x_{max.}$ inch
CHPC 19 / MHPC 19	1.00	0.196	0.157
CHPC 19 / MHPC 19	1.25–1.50	0.236	0.196
AHPC 19	1.50–2.50	0.236	0.196

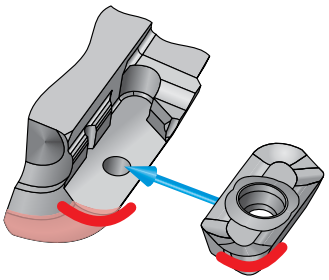
Linear ramping

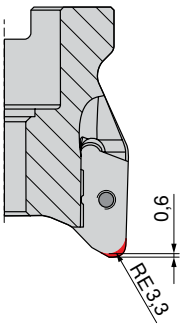


DC inch	α ideal HSC 19	HPC 19
1.00	11°	11°
1.25	7°	7°
1.50	5°	5°
2.00	4°	4°
2.50	3°	3°
3.00	2°	
4.00	2°	

Modification to tool base body

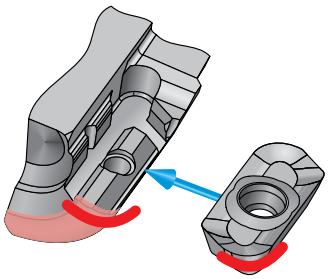
HSC 19





Modification to front profile

HPC 19

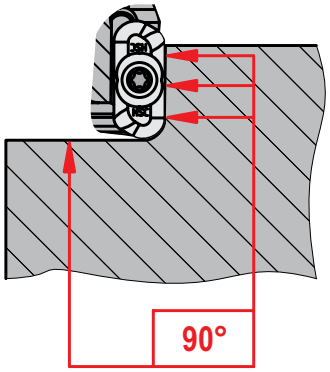


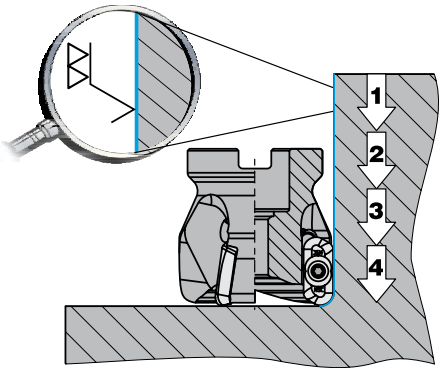
For inserts with a corner radius larger than 4.0 mm the basic body of the tool must be modified according to the drawing above.

System HSC-19

Machining strategy

▽ + ▽▽ Excellent side wall quality after roughing operation.
Additional finishing operations minimized or no longer required.





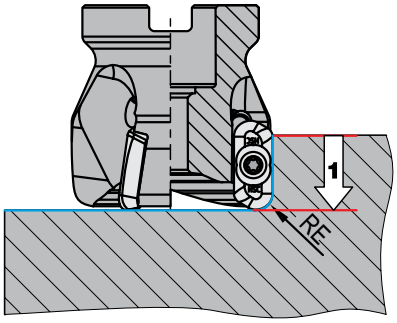
With maximum chip volumes

Wendeschneidplatte	RE mm	a_p mm	$a_{p\,max.}$ mm
XDH. 190402FR-ALP	0,2	18,0	17,8
XDH. 190404FR-ALP	0,4	18,0	17,6
XDH. 190408FR-ALP	0,8	18,0	17,2
XDH. 190420FR-ALP	2,0	18,0	16,0
XDH. 190425FR-ALP	2,5	18,0	15,0
XDH. 190432FR-ALP	3,2	18,0	14,8
XDH. 190440FR-ALP	4,0	18,0	14,0
XDH. 190450FR-ALP	5,0	17,0	13,0

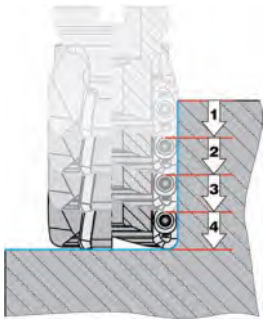
With maximum side wall quality

Wendeschneidplatte	RE mm	$a_{p\,max.}$ mm
XDH. 190402FR-ALP	0,2	11,8
XDH. 190404FR-ALP	0,4	11,6
XDH. 190408FR-ALP	0,8	11,2
XDH. 190420FR-ALP	2,0	10,0
XDH. 190425FR-ALP	2,5	9,5
XDH. 190432FR-ALP	3,2	8,8
XDH. 190440FR-ALP	4,0	8,0
XDH. 190450FR-ALP	5,0	7,0

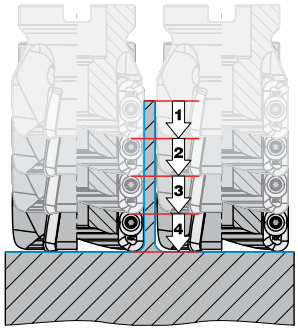
Shoulder milling



Pocket milling



Pocket milling with thin-walled bars

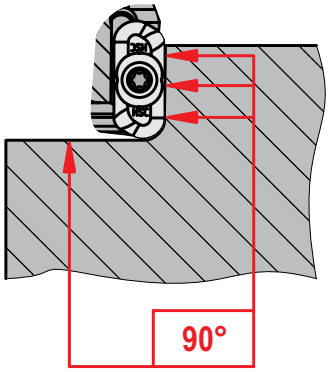


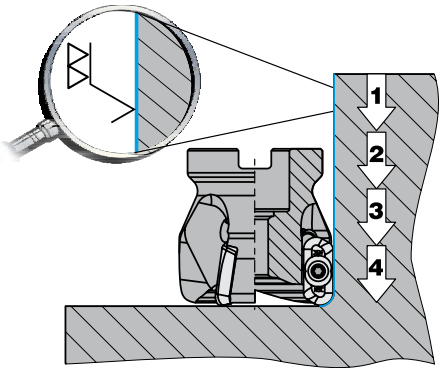
This information applies to the indexable insert versions XDHT 19 and XDHX 19.

System HSC-19

Machining strategy

▽ + ▽▽ Excellent side wall quality after roughing operation.
Additional finishing operations minimized or no longer required.





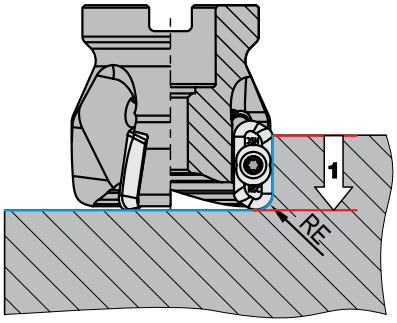
With maximum chip volumes

Indexable insert	RE inch	a_p inch	$a_{p\,max.}$ inch
XDH. 190402FR-ALP	0.008	0.71	0.70
XDH. 190404FR-ALP	0.016	0.71	0.69
XDH. 190408FR-ALP	0.032	0.71	0.68
XDH. 190420FR-ALP	0.078	0.71	0.63
XDH. 190425FR-ALP	0.098	0.71	0.59
XDH. 190432FR-ALP	0.128	0.71	0.58
XDH. 190440FR-ALP	0.157	0.71	0.55
XDH. 190450FR-ALP	0.196	0.67	0.51

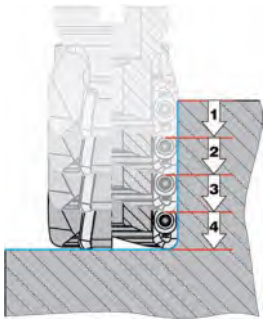
With maximum side wall quality

Indexable insert	RE inch	$a_{p\,max.}$ inch
XDH. 190402FR-ALP	0.008	0.46
XDH. 190404FR-ALP	0.016	0.46
XDH. 190408FR-ALP	0.032	0.44
XDH. 190420FR-ALP	0.078	0.39
XDH. 190425FR-ALP	0.098	0.37
XDH. 190432FR-ALP	0.128	0.35
XDH. 190440FR-ALP	0.157	0.31
XDH. 190450FR-ALP	0.196	0.28

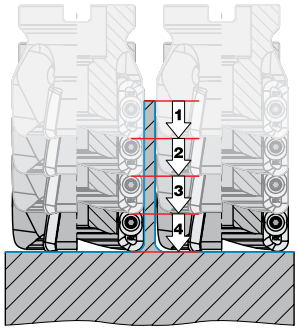
Shoulder milling



Pocket milling



Pocket milling with thin-walled bars



This information applies to the indexable insert versions XDHT 19 and XDHX 19.

System Tangent-09

Machining strategy

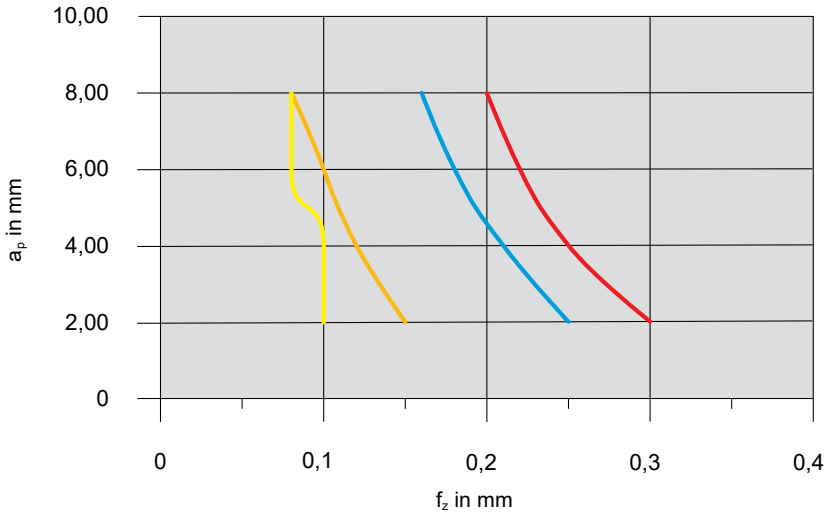
LNHU 09 – DC/a_e ratio (dry machining at $a_{p\ max.}$)

DC	ZNF	5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %
25	3	P																			
		M																			
		K																			
	4	P																			
		M																			
		K																			
32	4	P																			
		M																			
		K																			
	5	P																			
		M																			
		K																			
40	4	P																			
		M																			
		K																			
	6	P																			
		M																			
		K																			
50	5	P																			
		M																			
		K																			
	7	P																			
		M																			
		K																			
63	7	P																			
		M																			
		K																			
	10	P																			
		M																			
		K																			
80	8	P																			
		M																			
		K																			
	11	P																			
		M																			
		K																			

Starting parameters



LNHU 09



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**LNHU 090404-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**LNHU 090404-M50**	**CTPM240**	120	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**LNHU 090404-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**LNHU 090404-F40**	**CTC5240**	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System Tangent-13

Machining strategy

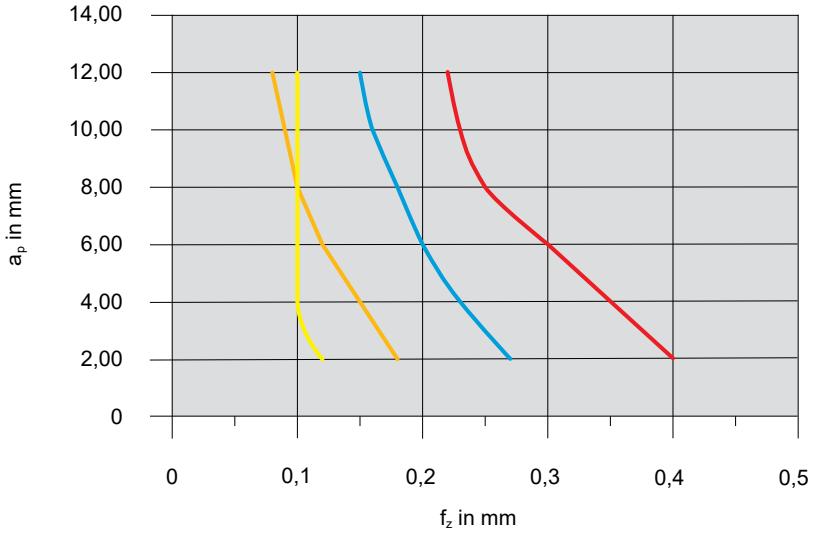
LNHU 13 – DC/a_e ratio (dry machining at $a_{p\ max.}$)

DC	ZNF	5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %
32	3	P																			
		M																			
		K																			
40	4	P																			
		M																			
		K																			
	5	P																			
		M																			
		K																			
50	5	P																			
		M																			
		K																			
	6	P																			
		M																			
		K																			
63	6	P																			
		M																			
		K																			
	8	P																			
		M																			
		K																			
80	7	P																			
		M																			
		K																			
	10	P																			
		M																			
		K																			
100	9	P																			
		M																			
		K																			
	13	P																			
		M																			
		K																			
125	11	P																			
		M																			
		K																			
	16	P																			
		M																			
		K																			

Starting parameters



LNHU 13



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**LNHU 130608-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**LNHU 130608-F50**	**CTPM240**	120	Emulsion
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**LNHU 130608-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**LNHU 130608-F50**	**CTC5240**	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System HPC-04/12

Machining strategy

What do you have to take into account?

- Machine stability.
- Stable work piece clamping and tool adapter.
- Use of coolant generally not necessary, however, this will facilitate the removal of the chips - also improved surface quality.
- Take into account thermal stress and critical temperature of 600°C! If required for material, work with coolant.
- Avoid vibration.
- Observe balancing quality class.
- Observe chemical reactions of diamond to carbide forming elements (Fe, Ti, Ta, Co, Ni)

Excellent suitability

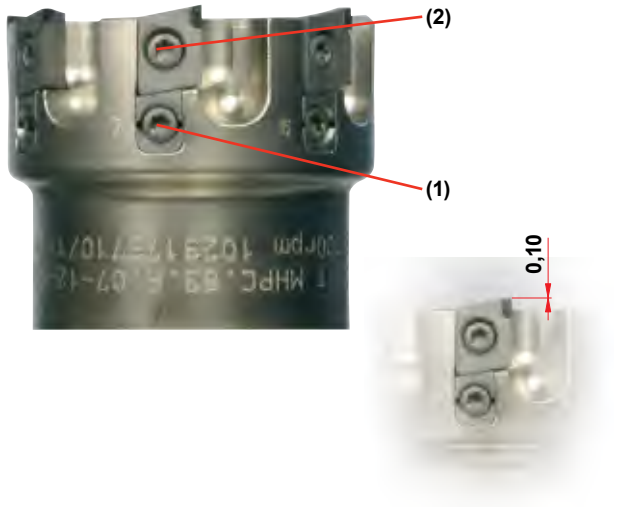
- for components made of light metals and non-ferrous metals, plastic, fibre composite materials, graphite ...
- when the simplest setting method saves cost for tool presetting.
- for high-volume production.
- for high surface quality of the work pieces.
- when long tool life is necessary to reduce tool changes and expensive machine downtime.
- when the tool is already on site (presetting, etc.)

Quality class check

After assembly, clamping of the inserts and adjustment of the axial run-out the balancing quality class of the tools should be checked. When applying shell milling cutters, after assembly with an adapter balancing is necessary.

Setting trailing edge inserts

As in the setting procedure described above the standard inserts are adjusted to a radial run-out of = 0.02 mm. The inserts with Masterfinish edge are then set to 0.02–0.03 mm above the highest cutting edge.



The adjustment procedure

1 Mount Adjustment wedgesin the tools (as delivered). Tighten adjustment screw (1) without deforming the wedges.

2 Mount the PCD inserts and tighten the clamping screws (2) with 1.0 Nm.

3 Mark " highest edge" with the help of pre-setting equipment.

4 Adjust the PCD insert by 0.02 mm turning the clamping screw (1) clockwise.

Pre-loading must be reached. Use the angled TORX screwdrivers

5 Set other cutting edges to this level, maximum deviation of 0.005 mm. Maximum length adjustment = 0.10 mm.

6 Tighten all insert tightening screws (2) to 5,0 Nm.

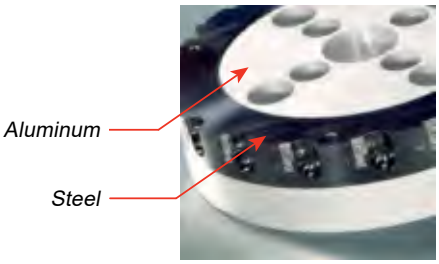
7 Check axial run-out of all inserts: Target = 0.005 mm.

Perfect precision – HPC-12

The adjustable high-performance tool for the finishing of aluminium components

Tool body made of steel

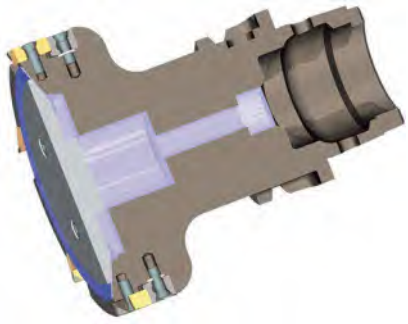
- For highest stability
- Maximum abrasion resistance
- Bimetallic version from diameter 160 mm easier handling and spindle protection with large tools



Picture shows bimetallic version

Available as shell milling cutters and monobloc type

- Direct HSK63 connection as monobloc type
- Monobloc tools balanced to G2.5 at n=20,000 min^{-1} (ISO1940)



Particularly for HSC applications with internal coolant supply

- Improved chip evacuation
- High surface quality
- Optimum application conditions
- Suitability for minimum quantity lubrication

Time is money – the system HPC-12 is simple and quick to adjust!

Highly positive rake angle of +25°

- Low cutting forces
- Increased parallelism of surfaces
- Minimised component deformation



Tangential concept

- Stable location for the PCD segment and maximum process security

Adapted PCD cutting edge

- High impact strength when milling!
- Maximum edge stability
- Reduced built-up edge on the work piece
- The machining of Al-Si alloys with over 12 % silicon is possible without problems

Inserts Selection

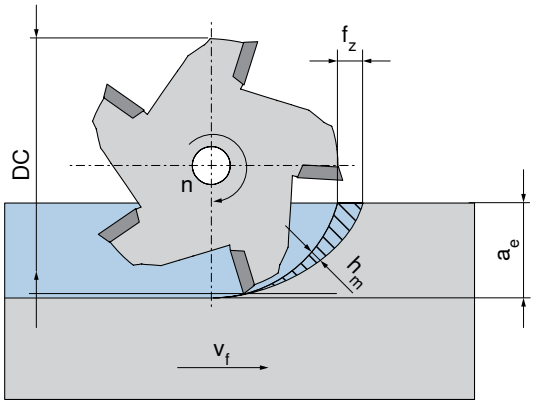
- Standard insert
- Insert with corner radius
- Insert with trailing edge

Average chip thickness [h_m] – the approach

Shoulder milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m mm
for steel	...–800	0,16
for steel	800–1000	0,14
for steel	1000–1200	0,12
for steel	1200–...	0,10
for stainless steel	...–750	0,15
for stainless steel	750–900	0,13
for stainless steel	900–1150	0,11
for stainless steel	1150–...	0,09 *

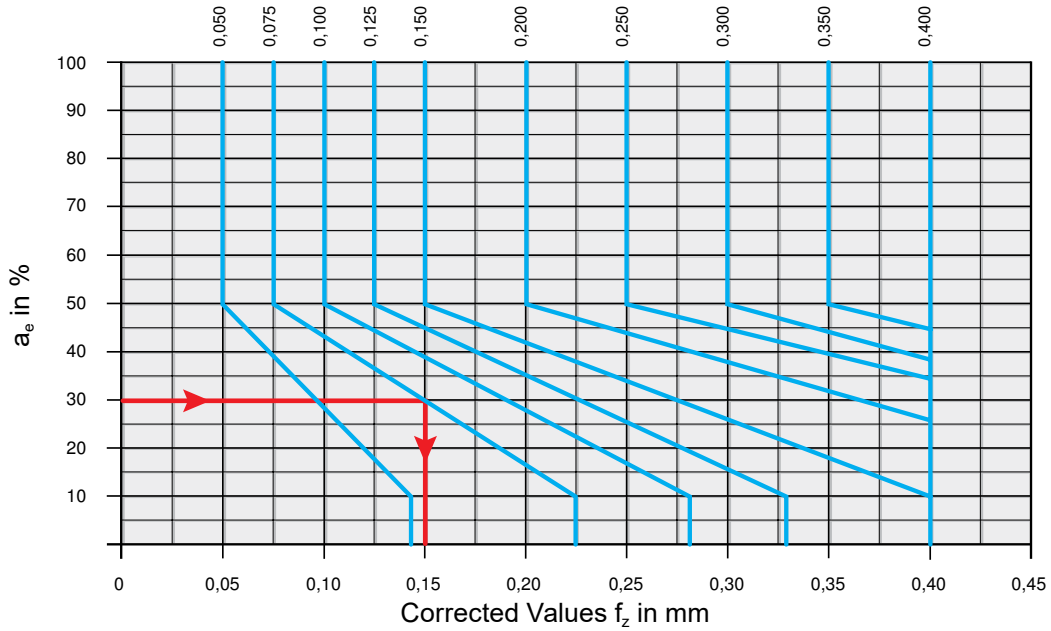


2 Select the corrected feed rate value from the table based on the appropriate average chip thickness [h_m] and width of cut [a_e].

h_m mm	Corrected feed rate value f_z for h_m				
0,16	0,36	0,29	0,25	0,18	0,16
0,14	0,31	0,26	0,22	0,16	0,14
0,12	0,27	0,22	0,19	0,14	0,12
0,10	0,22	0,18	0,16	0,12	0,10
0,15	0,34	0,27	0,24	0,17	0,15
0,13	0,29	0,24	0,21	0,15	0,13
0,11	0,25	0,20	0,17	0,13	0,11
0,09 *	0,20	0,16	0,14	0,10	0,09 *
a_e =	**0,2 x DC**	**0,3 x DC**	**0,4 x DC**	**0,75 x DC**	**1 x DC**

* f_z < 0.08 mm: Risk of tool no longer cutting properly

Start values f_z in mm from starting parameter diagram



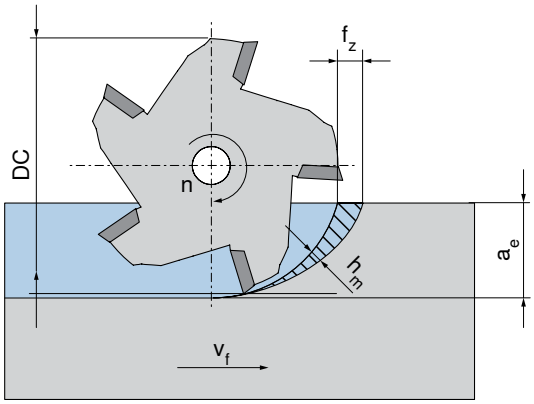
Example:
Start value (f_z) = 0.003"
a_e = 30 %
corrected value (f_z) = 0..006"

Average chip thickness [h_m] – the approach

Shoulder milling

1 Select appropriate average chip thickness [h_m] for the steel from the table.

Material	Tensile strength N/mm²	h_m inch
for steel	...–800	0.0063
for steel	800–1000	0.0055
for steel	1000–1200	0.0048
for steel	1200–...	0.0039
for stainless steel	...–750	0.0059
for stainless steel	750–900	0.0051
for stainless steel	900–1150	0.0043
for stainless steel	1150–...	0.0035*

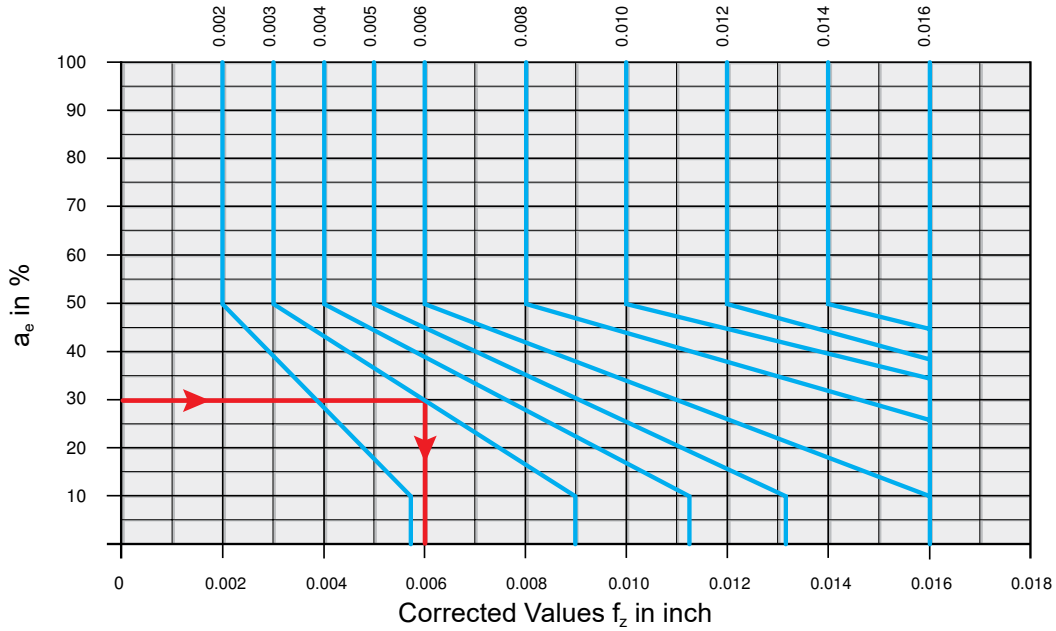


2 Select the corrected feed rate value from the table based on the appropriate average chip thickness [h_m] and width of cut [a_e].

h_m inch	Corrected feed rate value f_z for h_m				
0.0063	0.0142	0.0114	0.0098	0.0071	0.0063
0.0055	0.0122	0.0102	0.0087	0.0060	0.0055
0.0048	0.0106	0.0087	0.0075	0.0055	0.0047
0.0039	0.0087	0.0071	0.0063	0.0047	0.0039
0.0059	0.0134	0.0106	0.0094	0.0067	0.0059
0.0051	0.0114	0.0094	0.0083	0.0059	0.0051
0.0043	0.0098	0.0079	0.0067	0.0051	0.0043
0.0035*	0.0079	0.0063	0.0055	0.0039	0.0035
a_e =	**0.2 x DC**	**0.3 x DC**	**0.4 x DC**	**0.75 x DC**	**1 x DC**

* f_z < 0.0032": Danger, as tool is not working and cutting

Start values f_z in inch from starting parameter diagram

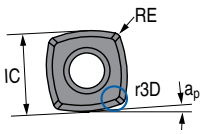


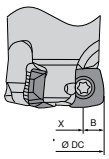
Example:
Start value (f_z) = 0.003"
a_e = 30 %
corrected value (f_z) = 0.006"

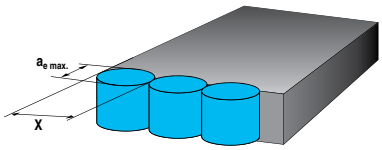
System HFC-06

Machining strategy

Programmed radius R = 1.2 mm







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
6,35	0,5	0,8	16–32	DCX–(2 x B)	4,3	5,3	0,10	0,08	0,15	<0,7 x DCX

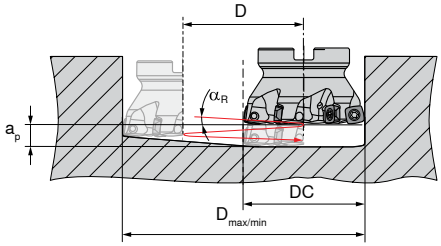


	Circular		
	Circular bore milling (helical plunging into solid material)		
DCX	$D_{min.}$	$D_{max.}$	$\alpha_{R\ max.}$
mm	mm	mm	°
16	22	31	4,5°
20	30	39	2,3°
25	40	49	1,3°
32	54	63	0,9°
42	74	83	0,6°





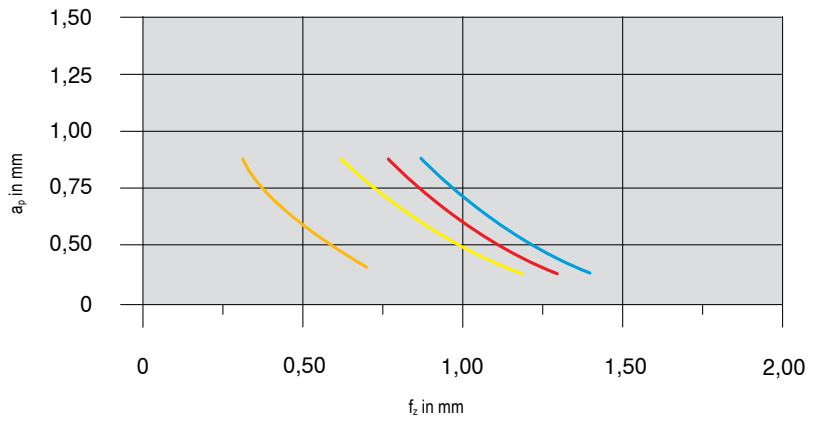
	Axial	Angled
	Plunging	
DCX	$X_{max.}$	$\alpha_{R\ max.}$
mm	mm	°
16		5,9°
20		3,2°
25	0,5	2°
32		1,3°
42		0,7°



Starting parameters



XPLX 06



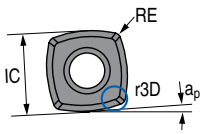
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XPLX 060305SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XPLX 060305ER-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XPLX 060305ER-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XPLX 060305SR-F40**	**CTC5240**	35	Emulsion

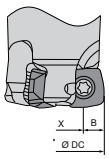
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

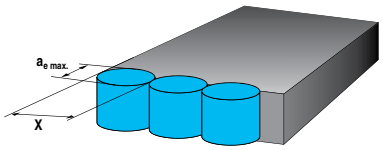
System HFC-06

Machining strategy

Programmed radius R = 0.047“







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in inch	RE in inch	$a_{p\ max.}$ in inch	DCX in inch	X in inch	B in inch	$a_{e\ max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.25	0.020	0.032	0.625–1.25	DC–(2 x B)	0.169	0.209	0.004	0.003	0.006	<0.7 x DC

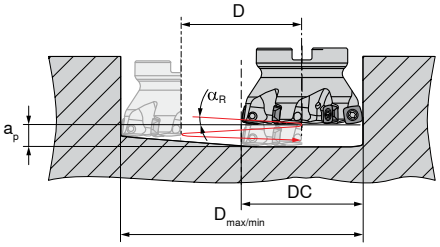


	Circular		
	Circular bore milling (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\ max.}$ °
0.63	0.87	1.22	4.5°
0.79	1.18	1.54	2.3°
0.98	1.57	1.93	1.3°
1.26	2.13	2.48	0.9°
1.65	2.91	3.27	0.6°





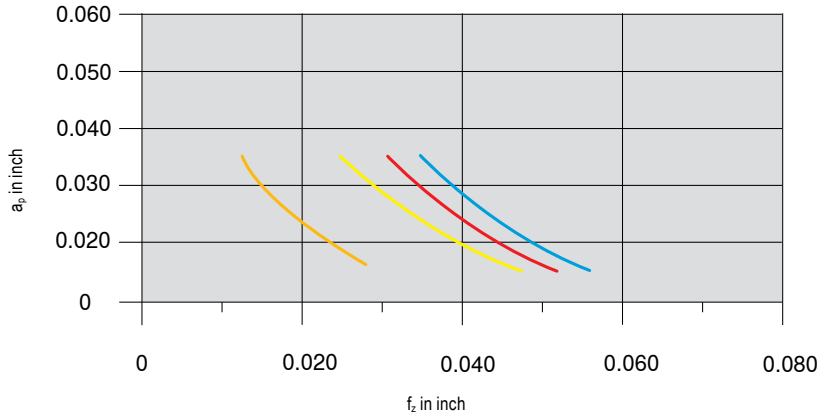
	Axial	Angled
	Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\ max.}$ °
0.63		5.9°
0.79		3.2°
0.98	0.5	2°
1.26		1.3°
1.65		0.7°



Starting parameters



XPLX 06



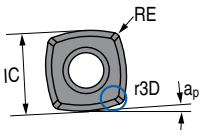
Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XPLX 060305SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**XPLX 060305ER-M40**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**XPLX 060305ER-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XPLX 060305SR-F40**	**CTC5240**	115	Emulsion

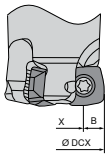
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

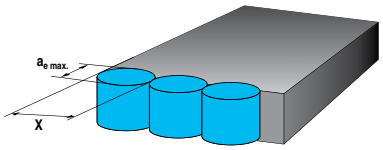
System HFC-09

Machining strategy

Programmed radius R = 2 mm







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
9	0,8	1	25–66	DCX–(2 x B)	5,9	7,5	0,10	0,08	0,15	<0,7 x DCX

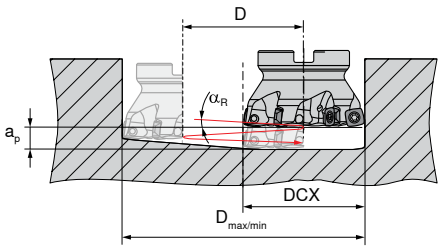






DCX	Circular: Circular bore milling (helical plunging into solid material)		
mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\ max.}$ °
25	35	48	3,1°
32	49	62	1,7°
35	55	68	1,4°
40	65	78	1,0°
42	69	82	0,9°
50	85	98	0,8°
52	89	102	0,7°
63	111	124	0,7°
66	117	130	0,6°

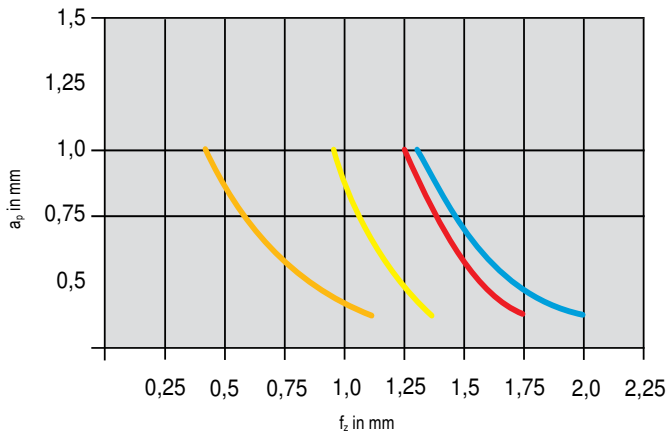
DCX	Axial: Plunging	Angled
mm	$X_{max.}$ mm	$\alpha_{R\ max.}$ °
25		3,6°
32		2,0°
35		1,6°
40		1,2°
42	0,75	1,1°
50		0,9°
52		0,8°
63		0,8°
66		0,7°



Starting parameters



XDLX 09



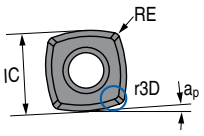
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XDLX09T308SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XDLX09T308SR-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XDLX09T308SR-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDLX09T308ER-F40**	**CTC5240**	35	Emulsion

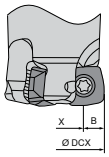
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

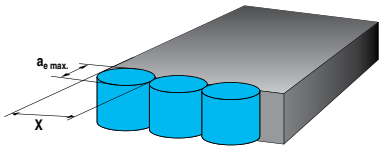
System HFC-09

Machining strategy

Programmed radius R = 0.078"







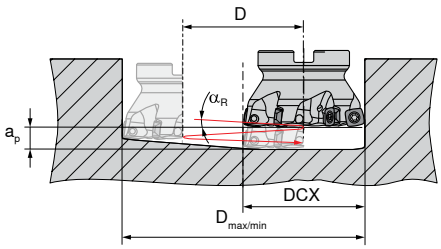
Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in inch	RE in inch	$a_{p\ max.}$ in inch	DCX in inch	X in inch	B in inch	$a_{e\ max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.354	0.032	0.040	1.00–2.50	DC–(2 x B)	0.232	0.295	0.004	0.003	0.006	<0.7 x DC







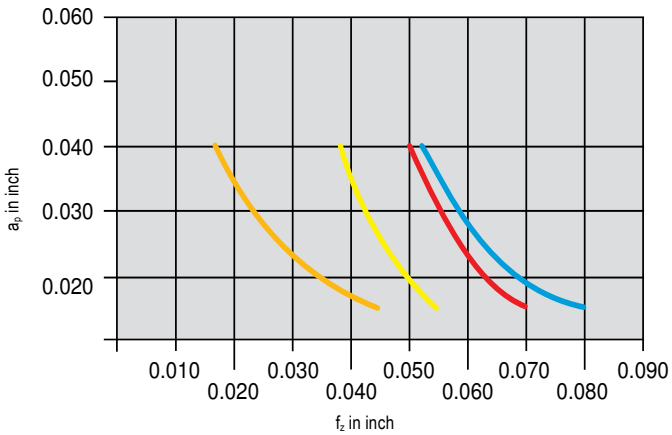
	Circular			Axial	Angled
	Circular bore milling (helical plunging into solid material)			Plunging	
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\ max.}$ °	$X_{max.}$ inch	$\alpha_{R\ max.}$ °
1.00	1.37	1.89	3.1°		3.6°
1.25	1.93	2.44	1.7°		2.0°
1.37	2.16	2.67	1.4°		1.6°
1.50	2.56	3.07	1.0°		1.2°
1.62	2.71	4.01	0.9°	0.030	1.1°
2.00	3.34	3.85	0.8°		0.9°
2.12	3.50	4.01	0.7°		0.8°
2.50	4.37	4.88	0.7°		0.8°
2.62	4.60	5.11	0.6°		0.7°



Starting parameters



XDLX 09



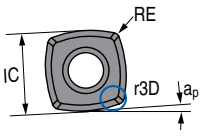
Material			Indexable insert		v_c in ft/min	Cooling
Steel	**P.4.1**	P20	**XDLX09T308SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**XDLX09T308SR-M50**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**XDLX09T308SR-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XDLX09T308ER-F40**	**CTC5240**	115	Emulsion

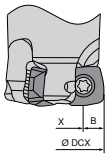
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

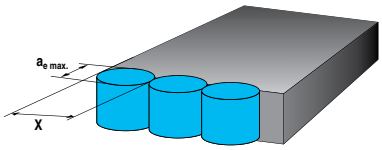
System HFC-12

Machining strategy

Programmed radius R = 3 mm







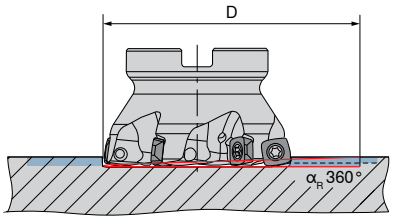
Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
12	1,0	2	32–100	DCX–(2 x B)	8,3	10	0,15	0,10	0,20	<0,7 x DCX







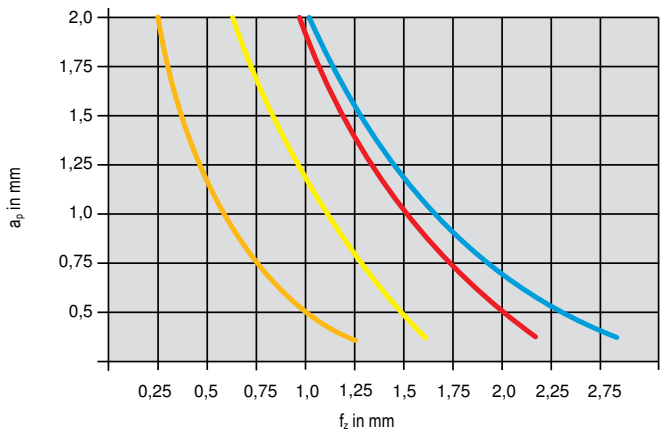
	Circular			Axial	Angled
	Circular bore milling (helical plunging into solid material)			Plunging	
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\ max.}$ °	DCX mm	$X_{max.}$ mm	$\alpha_{R\ max.}$ °
32	44	62	6,1°	**32**	1,15	7,2°
35	50	68	3,7°	**35**		4,4°
40	60	78	2,5°	**40**		2,9°
42	64	82	2,3°	**42**		2,7°
50	80	98	1,3°	**50 + 52**		1,5°
52	84	102	1,3°	**63 + 66**		1,1°
63	106	124	0,9°	**80**		1,3°
66	112	130	0,9°	**100**		0,7°
80	140	158	1,1°			
100	180	198	0,6°			



Starting parameters



XOLX 12



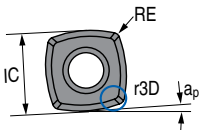
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XOLX120410SR-M50**	**CTPP235**	200	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XOLX120410ER-M50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XOLX120410ER-M50**	**CTCK215**	250	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XOLX120410ER-F40**	**CTC5240**	35	Emulsion

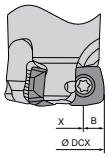
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

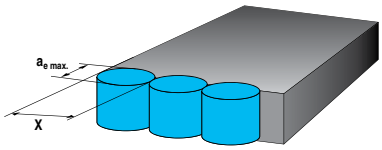
System HFC-12

Machining strategy

Programmed radius R = 0.118"







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in inch	RE in inch	$a_{p\ max.}$ in inch	DCX in inch	X in inch	B in inch	$a_{e\ max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.472	0.040	0.080	1.25–4.00	DC–(2 x B)	0.326	0.393	0.006	0.004	0.008	<0.7 x DC

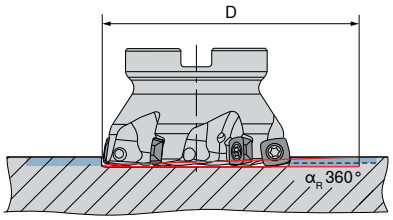


	Circular		
	Circular bore milling (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\ max.}$ °
1.00	1.73	2.45	6.1°
1.25	1.97	2.67	3.7°
1.50	2.56	3.07	2.5°
1.62	2.52	3.22	2.3°
2.00	3.15	3.86	1.3°
2.12	3.30	4.01	1.3°
2.50	4.17	4.88	0.9°
2.62	4.41	5.12	0.9°
3.00	5.51	6.22	1.1°
4.00	7.09	7.79	0.6°





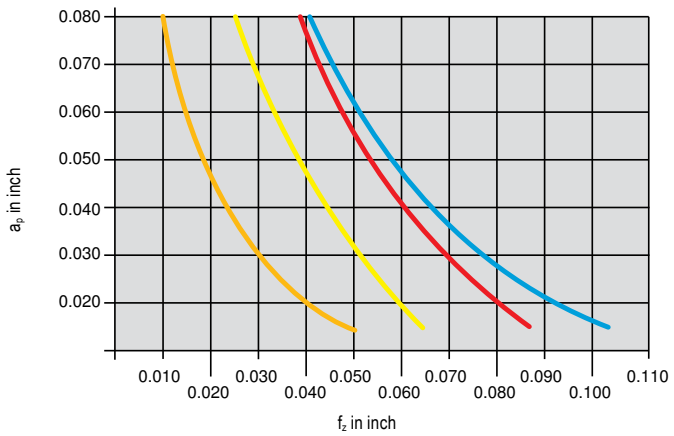
	Axial	Angled
	Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\ max.}$ °
1.25	0.045	7.2°
1.37		4.4°
1.50		2.9°
1.62		2.7°
2.00 + 2.12		1.5°
2.50 + 2.62		1.1°
3.00		1.3°
4.00		0.7°



Starting parameters



XOLX 12



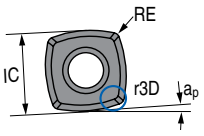
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.4.1**	P20	**XOLX120410SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**XOLX120410ER-M50**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**XOLX120410ER-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XOLX120410ER-F40**	**CTC5240**	115	Emulsion

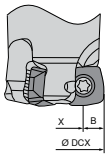
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

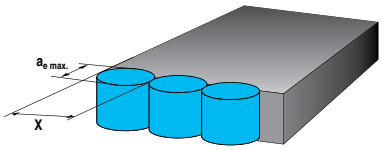
System HFC-19

Machining strategy

Programmed radius R = 5 mm







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
19,14	1,5	3,3	63–160	DCX–(2 x B)	13,1	12	0,2	0,10	0,25	<0,65 x DCX

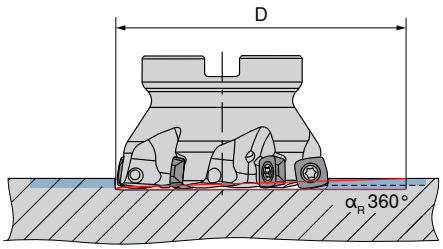


	Circular		
	Circular bore milling (helical plunging into solid material)		
DCX mm	$D_{min.}$ mm	$D_{max.}$ mm	$\alpha_{R\ max.}$ °
63	97	123	2,5°
80	131	157	1,4°
100	171	197	1,0°
125	221	247	0,7°
160	291	317	0,5°





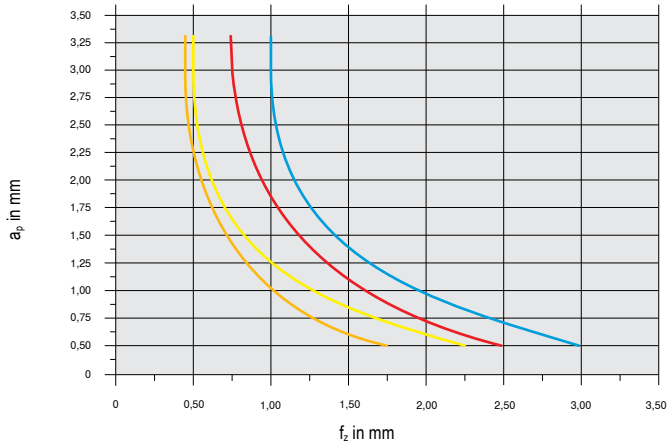
	Axial	Angled	
		Plunging	
DCX mm	$X_{max.}$ mm	$\alpha_{R\ max.}$ °	$a_{p\ max}$ mm
63	1,7	2,9°	3,3
80		1,8°	
100		1,3°	
125		1,0°	
160		0,7°	



Starting parameters



XOLX 19



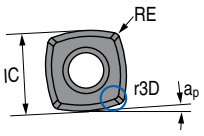
Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XOLX190615SR-M50	CTPP235	200	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XOLX190615SR-M50	CTPM240	180	Dry
Cast iron	K.1.1	EN-GJL-250 (GG25)	XOLX190615SR-M50	CTCK215	250	Dry
Heat-resistant	S.2.2	Inconel 718	XOLX190615ER-F40	CTC5240	35	Emulsion

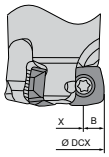
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

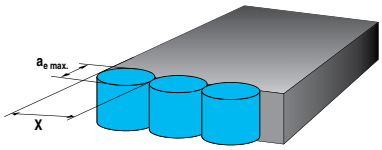
System HFC-19

Machining strategy

Programmed radius R = 0.196"







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in inch	DCX in inch	X in inch	B in inch	$a_{e\ max.}$ in inch	f_z in inch			X
							initial	min.	max.	
0.753	0.060	0.129	2.50–6.00	DC–(2 x B)	0.516	0.472	0.008	0.004	0.010	<0.65 x DC

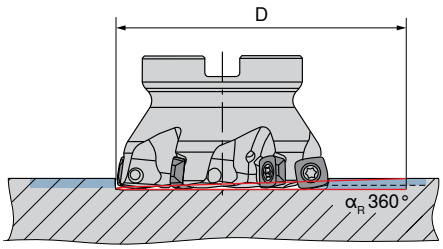


	Circular		
	Circular bore milling (helical plunging into solid material)		
DC inch	$D_{min.}$ inch	$D_{max.}$ inch	$\alpha_{R\ max.}$ °
2.50	3.82	4.84	2.5
3.00	5.15	6.18	1.4
4.00	6.73	7.75	1.0
5.00	8.70	9.72	0.7
6.00	11.45	12.48	0.5





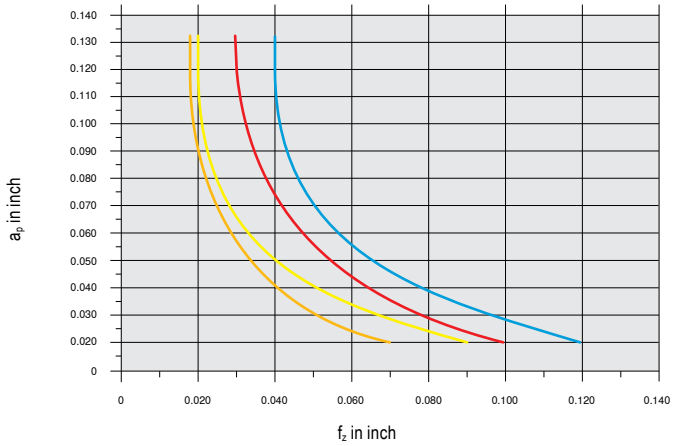
	Axial	Angled	
		Plunging	
DC inch	$X_{max.}$ inch	$\alpha_{R\ max.}$ °	$a_{p\ max}$ inch
2.50		2.9	
3.00		1.8	
4.00	0.067	1.3	0.129
5.00		1.0	
6.00		0.7	



Starting parameters



XOLX 19



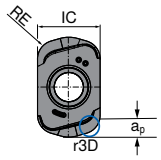
Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.4.1**	P20	**XOLX190615SR-M50**	**CTPP235**	660	Dry
Stainless steel	**M.2.1**	316Ti	**XOLX190615SR-M50**	**CTPM240**	320	Emulsion
Cast iron	**K.1.1**	GG25 Cast Iron	**XOLX190615SR-M50**	**CTCK215**	825	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XOLX190615ER-F40**	**CTC5240**	115	Emulsion

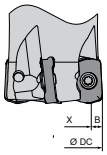
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

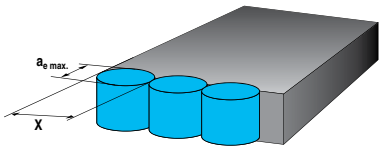
HFCD-06 system

Machining strategy

Programmed radius r3D = 2.0 mm







Cutting depth and remaining material			Cutting width for flat surfaces			Engagement when plunging				
IC in mm	RE in mm	$a_{p\ max.}$ in mm	DCX in mm	X in mm	B in mm	$a_{e\ max.}$ in mm	f_z in mm			X
							initial	min.	max.	
6,05	1,8	0,8	16–66	DCX–(2 x B)	4,3	5,3	0,10	0,08	0,15	<0,7 x DCX



	Circular		
	Circular bore milling (helical plunging into solid material)		
DCX	$D_{min.}$	$D_{max.}$	$\alpha_{R\ max.}$
mm	mm	mm	°
16	29	31	1,2°
20	36	39	1°
25	45	49	0,9°
32	59	63	0,65°
35	64	69	0,6°
40	74	79	0,5°
42	78	83	0,45°
50	94	99	0,35°
52	98	103	0,35°
63	120	125	0,3°
66	126	131	0,25°



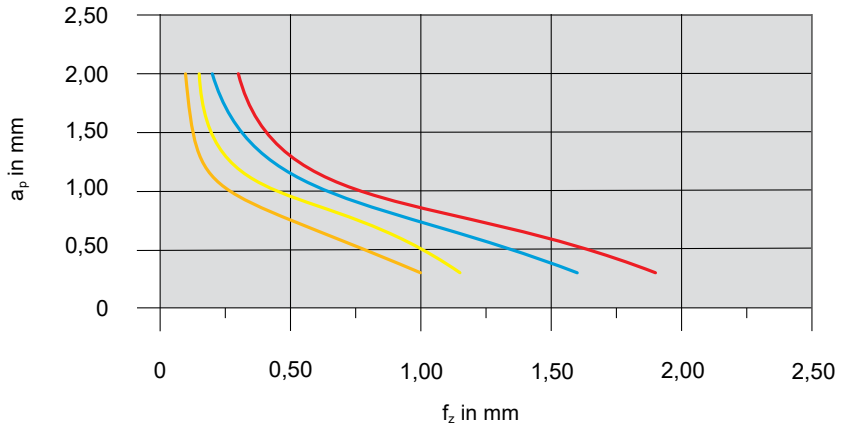


	Axial	Angled
	Plunging	
DCX	$X_{max.}$	$\alpha_{R\ max.}$
mm	mm	°
16	0,2	1,5°
20		1,4°
25		1,1°
32		0,9°
35		0,7°
40		0,65°
42	0,25	0,6°
50		0,5°
52		0,45°
63		0,4°
66		0,35°

Starting parameters



XNEU 06



Material			Indexable insert		v_c in m/min	Cooling
Steel	**P.2.2**	40CrMnMoS 8-6	**XNEU 06T318SR-M50**	**CTPP235**	180	Dry
Stainless steel	**M.1.1**	X6CrNiMoTi 1712 2	**XNEU 06T318SR-F50**	**CTPM240**	180	Dry
Cast iron	**K.1.1**	EN-GJL-250 (GG25)	**XNEU 06T318SR-R50**	**CTCK215**	200	Dry
Heat-resistant	**S.2.2**	Inconel 718	**XNEU 06T318ER-F40**	**CTC5240**	35	Emulsion

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

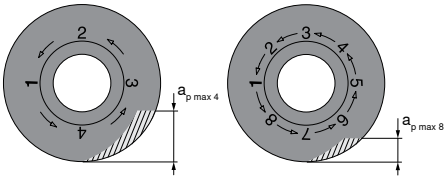
251 RS system

Technical data

Recommended cutting depth

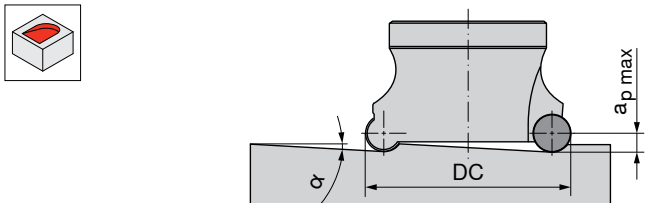
Ø mm	4-position $a_{p\,max.}$ mm	4-position $a_{p\,max}$ theoretical mm	8-position $a_{p\,max.}$ mm
5	1,0	2,0	0,7
8	1,5	3,5	1,1
10	2,5	4,5	1,4
12	3,0	5,5	1,7
16	4,0	7,5	2,3
20	4,0	9,5	2,9

Average depth for the 4/8 index use of the indexable insert



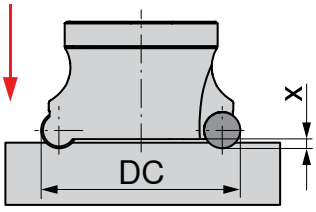
→ **Detailed information on the cutting speed for individual cutting materials can be found here.**

Angled ramping



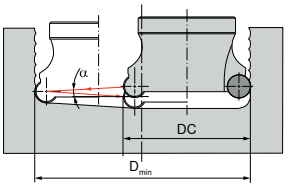
Ø DC mm	05 α °	08 α °	10 α °	12 α °	16 α °	20 α °
10	3,4					
12	16,0					
16	8,0	5,0				
20	5,5	20,0	1,3			
25	4,0	13,0	2,0	6,0		
32	3,0	8,0	3,0	4,0		
40			3,3	2,8		
42			3,1			
50			2,4	2,6	4,0	
52			2,2	2,3		
63				1,9	2,8	
66				1,6		
80				1,3	2,0	3,2
100				1,0	1,5	2,3
125						1,7

Axial ramping

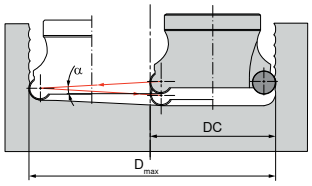


Ø DC mm	05 $X_{max.}$ mm	08 $X_{max.}$ mm	10 $X_{max.}$ mm	12 $X_{max.}$ mm	16 $X_{max.}$ mm	20 $X_{max.}$ mm
10	0,5					
12	1,3					
16	1,3	0,5				
20	1,3	2,7	0,2			
25	1,3	2,7	0,4	1,0		
32	1,3	2,7	0,8	1,1		
40			1,5	1,2		
42			1,5	1,5		
50			1,5	1,5	2,0	
52			1,5	1,5	2,0	
63				1,5	2,0	
66				1,5	2,0	
80				1,5	2,0	3,0
100				1,5	2,0	3,0
125						3,0

Helical plunging



$D_{min.}$ = smallest drilling diameter depends on the tool diameter



$D_{max.}$ = largest drilling diameter depends on the tool diameter

maximum possible drilling diameter = 2 x DC – 1 mm

Ø DC mm	05 D_{min} mm	05 D_{max} mm	05 α_R °	08 D_{min} mm	08 D_{max} mm	08 α_R °	10 D_{min} mm	10 D_{max} mm	10 α_R °	12 D_{min} mm	12 D_{max} mm	12 α_R °	16 D_{min} mm	16 D_{max} mm	16 α_R °	20 D_{min} mm	20 D_{max} mm	20 α_R °
10	12	15	2,5															
12	16	19	2,1															
16	24	27	1,5	21	24	2,4												
20	32	35	1,2	27	32	1,9	26	30	1,3									
25	42	45	1,0	37	42	1,5	37	40	1,8	31	38	2,2						
32	56	59	0,7	51	56	1,2	50	54	1,5	46	52	1,7						
40							64	70	1,1	62	68	1,4						
42							68	74	1,1									
50							84	90	0,9	81	88	1,1	75	84	1,5			
52							88	94	0,9	86	92	1,0						
63										107	114	0,9	101	110	1,1			
66										113	120	0,8						
80										142	148	0,7	135	144	0,9	128	140	1,1
100										181	188	0,5	175	184	0,7	168	180	0,9
125																218	230	0,7

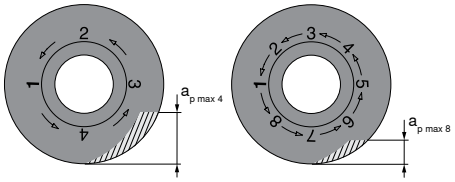
251 RS system

Technical data

Recommended cutting depth

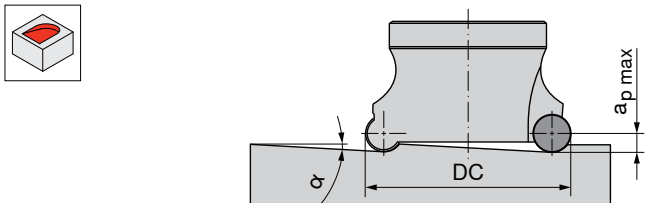
Ø inch	4-position $a_{p\,max.}$ inch	4-position $a_{p\,max}$ theoretical inch	8-position $a_{p\,max.}$ inch
0.196	0.040	0.080	0.028
0.314	0.060	0.140	0.043
0.393	0.100	0.180	0.055
0.472	0.120	0.220	0.067
0.629	0.160	0.300	0.090
0.787	0.160	0.380	0.114

Average depth for the 4/8 index use of the indexable insert



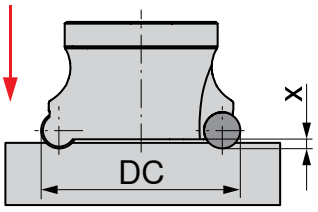
→ **Page**

Angled ramping



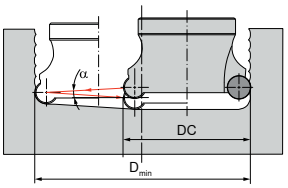
Ø DC inch	05 α °	08 α °	10 α °	12 α °	16 α °	20 α °
0.37	3.4					
0.50	16.0					
0.62	8.0	5.0				
0.75	5.5	20.0	1.3			
1.00	4.0	13.0	2.0	6.0		
1.25	3.0	8.0	3.0	4.0		
1.50			3.3	2.8		
1.62			3.1			
2.00			2.4	2.6	4.0	
2.12			2.2	2.3		
2.50				1.9	2.8	
2.62				1.6		
3.00				1.3	2.0	3.2
4.00				1.0	1.5	2.3
5.00						1.7

Axial ramping

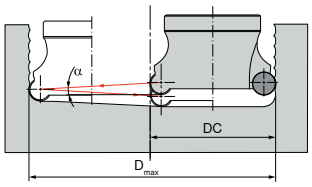


Ø DC inch	05 $X_{max.}$ inch	08 $X_{max.}$ inch	10 $X_{max.}$ inch	12 $X_{max.}$ inch	16 $X_{max.}$ inch	20 $X_{max.}$ inch
0.37	0.020					
0.50	0.050					
0.62	0.050	0.020				
0.75	0.050	0.106	0.008			
1.00	0.050	0.106	0.016	0.040		
1.25	0.050	0.106	0.030	0.043		
1.50			0.060	0.047		
1.62			0.060	0.060		
2.00			0.060	0.060	0.080	
2.12			0.060	0.060	0.080	
2.50				0.060	0.080	
2.62				0.060	0.080	
3.00				0.060	0.080	0.120
4.00				0.060	0.080	0.120
5.00						0.120

Helical plunging



$D_{min.}$ = smallest drilling diameter depending on the tool diameter



$D_{max.}$ = Maximum hole diameter Depending on the tool diameter

maximum possible hole diameter = 2 x DC – 0.040“

Ø DC inch	05 D_{min} inch	05 D_{max} inch	05 α_R °	08 D_{min} inch	08 D_{max} inch	08 α_R °	10 D_{min} inch	10 D_{max} inch	10 α_R °	12 D_{min} inch	12 D_{max} inch	12 α_R °	16 D_{min} inch	16 D_{max} inch	16 α_R °	20 D_{min} inch	20 D_{max} inch	20 α_R °
0.37	0.47	0.59	2.5															
0.50	0.63	0.75	2.1															
0.62	0.94	1.06	1.5	0.83	0.94	2.4												
0.75	1.26	1.38	1.2	1.06	1.26	1.9	1.02	1.18	1.3									
1.00	1.65	1.77	1.0	1.46	1.65	1.5	1.46	1.57	1.8	1.22	1.50	2.2						
1.25	2.20	2.32	0.7	2.01	2.20	1.2	1.97	2.13	1.5	1.81	2.05	1.7						
1.50							2.52	2.76	1.1	2.44	2.68	1.4						
1.62							2.68	2.91	1.1									
2.00							3.31	3.54	0.9	3.19	3.46	1.1	2.95	3.31	1.5			
2.12							3.46	3.70	0.9	3.39	3.62	1.0						
2.50										4.21	4.49	0.9	3.98	4.33	1.1			
2.62										4.45	4.72	0.8						
3.00										5.59	5.83	0.7	5.31	5.67	0.9	5.04	5.51	1.1
4.00										7.13	7.40	0.5	6.89	7.24	0.7	6.61	7.09	0.9
5.00																8.58	9.06	0.7

System 252

Machining strategy

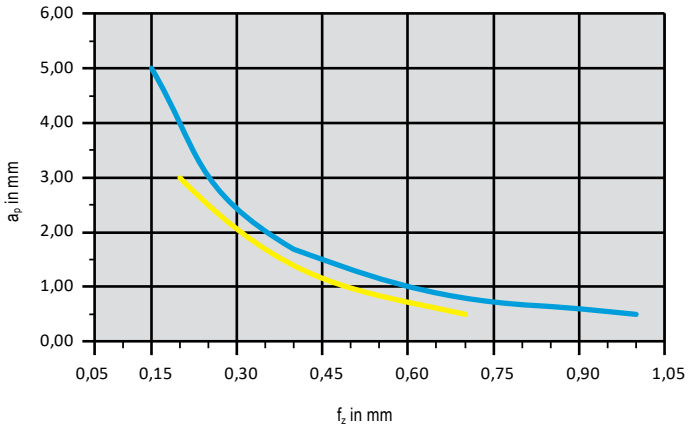
Recommended cutting depth

	4-position	
Ø mm	$a_{p\,max}$ mm	mm
10	2,5	4,5
12	3,0	5,5

Starting parameters



RNHU 10

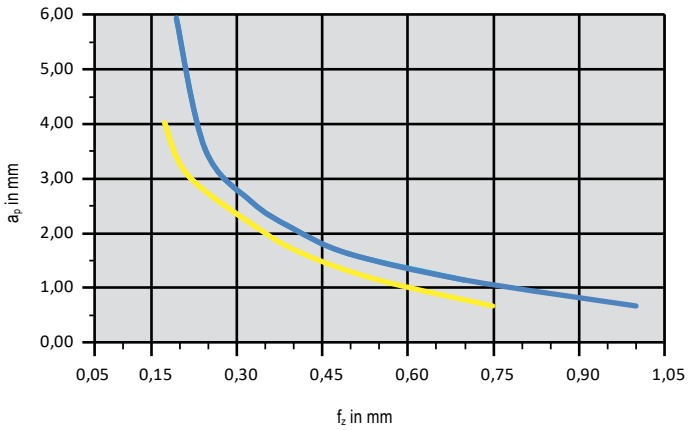


Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XOLX120410SR-M50	CTPP235	180	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XOLX120410ER-M50	CTPM240	180	Dry

Starting parameters



RNHU 12



Material			Indexable insert		v_c in m/min	Cooling
Steel	P.2.2	40CrMnMoS 8-6	XOLX120410SR-M50	CTPP235	180	Dry
Stainless steel	M.1.1	X6CrNiMoTi 1712 2	XOLX120410ER-M50	CTPM240	180	Dry

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 400 m/min, the tool must be balanced!

System 252

Machining strategy

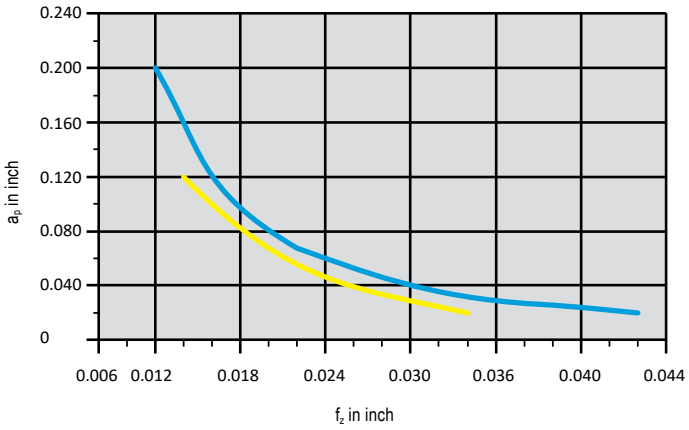
Recommended cutting depth

 Ø inch	4-position $a_{p\,max}$ inch	inch
0.393	0.100	0.180
0.472	0.120	0.220

Starting parameters



RNHU 10

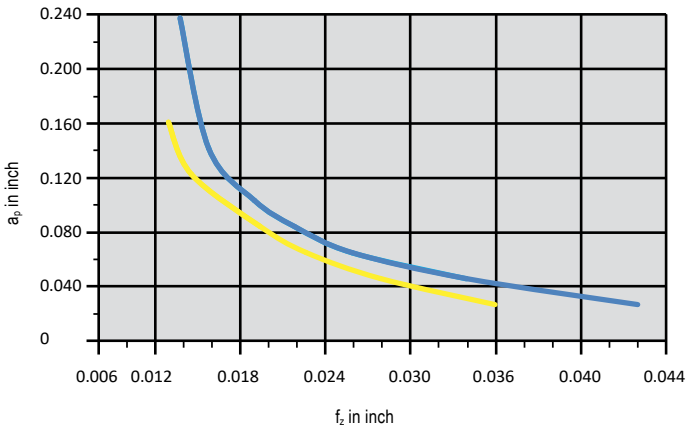


Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	XOLX120410SR-M50	CTPP235	600	Dry
Stainless steel	M.2.1	316Ti	XOLX120410ER-M50	CTPM240	320	

Starting parameters



RNHU 12



Material			Indexable insert		v_c in ft/min	Cooling
Steel	P.4.1	P20	XOLX120410SR-M50	CTPP235	600	Dry
Stainless steel	M.2.1	316Ti	XOLX120410ER-M50	CTPM240	320	

→ **Detailed information on the cutting speed for individual cutting materials can be found here.**
From v_c > 1300 SFM, the tool must be balanced!

Cutting data standard values for copy milling cutter K200.

Index	CTPK226		CTPP211		CTPK231		CTCN211		CTPP216		● 1st choice ○ Suitable		
	R	F	R	F	R	F	R	F	R	F	Emulsion	Compressed air	MMS
	v_c (m/min)												
P.1.1		**280–300**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	●
P.1.2		**220–240**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	●
P.1.3		**220–240**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	
P.1.4		**220–240**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	
P.1.5		**220–240**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	
P.2.1		**280–300**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	●
P.2.2		**280–300**	**180–220**	**220–300**	**160–200**				**220–300**	**280–300**	○	●	●
P.2.3		**280–300**	**180–220**	**240–320**	**160–200**				**250–360**	**240–320**	○	●	
P.2.4		**280–300**	**180–220**	**240–320**	**160–200**				**250–360**	**240–320**	○	●	
P.3.1		**280–300**	**180–220**	**220–280**	**160–200**				**220–300**	**280–300**	○	●	
P.3.2		**280–320**	**180 – 220**	**240–320**	**160–200**				**250–360**	**240–320**	○	●	●
P.3.3		**280–320**	**180 – 220**	**240–320**	**160–200**				**250–360**	**240–320**	○	●	●
P.4.1		**220–220**	**140–180**	**200–240**	**120–180**				**140–180**	**200–240**	○	●	
P.4.2		**220–220**	**140–180**	**200–240**	**120–180**				**140–180**	**200–240**	○	●	
M.1.1		**180–200**	140–160	180–200	**120–160**				220–250	220–240	●	○	
M.2.1		**180–200**	140–160	180–240	**120–160**				220–250	220–240	●		
M.3.1		**220–220**	140–180	200–240	**120–180**				140–180	200–240	●		
K.1.1		**280–300**	160–200	200–300	**120–200**				**240–350**	**240–260**		●	○
K.1.2		**280–300**	160–200	200–300	**120–200**				**240–350**	**240–260**		●	○
K.2.1		**280–300**	160–200	200–300	**120–200**				**240–350**	**240–260**		●	○
K.2.2		**300–350**	180–220	240–350	**180–200**				**340–400**	**240–360**		●	○
K.3.1		**300–350**	180–220	240–350	**180–200**				**340–400**	**240–360**		●	○
K.3.2		**240–260**	160–200	220–260	**160–200**				**280–340**	**220–300**		●	○
N.1.1			240–280	300–600	300–600					400–450	●		
N.1.2			240–280	300–600	300–600					400–450	●		
N.2.1			240–280	300–600	300–600					400–450	●		
N.2.2			240–280	300–600	300–600					400–450	●		
N.2.3										300–400	●		
N.3.1			240–280	280–320	240–280					300–400	●		
N.3.2			240–280	280–320	240–280					300–400	●		
N.3.3			240–280	280–320	240–280					300–400	●		
N.4.1			300–400	300–400				300–400			●		
S.1.1				80–120	80–120					60–80	●		
S.1.2				80–120	80–120					60–80	●		
S.2.1				80–120	80–120					60–80	●		
S.2.2				80–120	80–120					60–80	●		
S.2.3				80–120	80–120					60–80	●		
S.3.1				60–80	80–120					60–80	●		
S.3.2				60–80	60–80					60–80	●	○	
S.3.3				60–80	60–80					60–80	●	○	
H.1.1		240–260		280–300	140–160				**240–260**	**240–260**		●	
H.1.2		240–260		280–300	80–100				**220–240**	**160–240**		●	○
H.1.3		200–220		240–260					**120–140**	**100–140**		●	○
H.1.4		120–140		160–200								●	○
H.2.1		240–260		280–300	80–100				**220–240**	**160–240**		●	○
H.3.1		240–260		280–300	80–100				**220–240**	**160–240**		●	
O.1.1			300–400	300–400						300–350		●	
O.1.2			500–600	500–600						600–800		●	
O.2.1			300–400	300–400								●	
O.2.2			300–400	300–400								●	
O.3.1							**400–600**	**600–800**				●	

Cutting data standard values for copy milling cutter K200.

Index	Roughing (R)		Finishing (F)		only for -MR3 roughing (R)		● 1st choice ○ Suitable		
	Ø 6-16	Ø 20-32	Ø 6-16	Ø 20-32	Ø 6-16	Ø 20-32	Emulsion	Compressed air	MMS
	f_z (mm/tooth)								
P.1.1	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○	●	●
P.1.2	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○	●	●
P.1.3	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○		●
P.1.4	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○		●
P.1.5	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○		●
P.2.1	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○	●	●
P.2.2	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○	●	●
P.2.3	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○		●
P.2.4	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○		●
P.3.1	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○		●
P.3.2	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○	●	●
P.3.3	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,6**	**0,8–1,25**	○	●	●
P.4.1	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○		●
P.4.2	0,08–0,4	**0,25–0,5**	**0,08–0,3**	**0,2–0,8**	**0,3–0,8**	**1,2–1,5**	○		●
M.1.1	0,08–0,4	**0,25–0,5**	0,08–0,3	0,2–0,5	**0,3–0,6**	0,8–1,5	●	○	
M.2.1	0,08–0,4	**0,25–0,5**	0,08–0,4	0,2–0,6	**0,3–0,6**	0,8–1,25	●		
M.3.1	0,08–0,4	**0,25–0,5**	0,08–0,5	0,2–0,7	**0,3–0,6**	0,8–1,25	●		
K.1.1	0,08–0,4	**0,25–0,5**	0,08–0,3	0,2–0,5	**0,3–0,8**	1,0–1,5		●	○
K.1.2	0,08–0,5	**0,25–0,6**	0,08–0,4	0,2–0,6	**0,3–0,8**	1,0–1,5		●	○
K.2.1	0,08–0,6	**0,25–0,7**	0,08–0,5	0,2–0,7	**0,3–0,8**	1,0–1,5		●	○
K.2.2	0,08–0,7	**0,25–0,8**	0,08–0,6	0,2–0,8	**0,3–0,6**	0,8–1,25		●	○
K.3.1	0,08–0,8	**0,25–0,9**	0,08–0,7	0,2–0,9	**0,3–0,6**	0,8–1,25		●	○
K.3.2	0,08–0,9	**0,25–0,10**	0,08–0,8	0,2–0,10	**0,3–0,6**	0,8–1,25		●	○
N.1.1	0,08–0,35	0,25–0,45	0,06–0,25	0,025–0,45			●		
N.1.2	0,08–0,36	0,25–0,46	0,06–0,26	0,025–0,46			●		
N.2.1	0,08–0,37	0,25–0,47	0,06–0,27	0,025–0,47			●		
N.2.2	0,08–0,38	0,25–0,48	0,06–0,28	0,025–0,48			●		
N.2.3	0,08–0,39	0,25–0,49	0,06–0,29	0,025–0,49			●		
N.3.1	0,08–0,40	0,25–0,50	0,06–0,30	0,025–0,50			●		
N.3.2	0,08–0,41	0,25–0,51	0,06–0,31	0,025–0,51			●		
N.3.3	0,08–0,42	0,25–0,52	0,06–0,32	0,025–0,52			●		
N.4.1	0,08–0,43	0,25–0,53	0,06–0,33	0,025–0,53			●		
S.1.1	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.1.2	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.2.1	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.2.2	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.2.3	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.3.1	0,08–0,3	0,15–0,4	0,05–0,2	0,15–0,25	0,25–0,5	0,6–1,0	●		
S.3.2	0,08–0,35	0,4–0,5	0,08–0,3	0,25–0,5	0,25–0,5	0,6–1,0	●	○	
S.3.3	0,08–0,35	0,4–0,5	0,08–0,3	0,25–0,5	0,25–0,5	0,6–1,0	●	○	
H.1.1								●	
H.1.2								●	○
H.1.3								●	○
H.1.4								●	○
H.2.1								●	○
H.3.1								●	
O.1.1								●	
O.1.2								●	
O.2.1								●	
O.2.2								●	
O.3.1								●	

Maximum axial depths of cut a_p for copy milling cutter K200.



Ball nose inserts									
Indexable inserts Ø in mm		6	8	10	12	16	20	25	32
		$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$
ROHX-FM3	**R**	0,8	1,0	1,5	2,0	3,0	4,0	5,0	6,0
	F	0,4	0,8	1,0	1,2	1,5	1,5	2,0	2,0
ROHX-FM4	**R**	0,8	1,0	2,0	3,0	4,0	5,0	6,0	8,0
	F	0,4	0,8	1,0	1,2	1,5	1,5	2,0	2,0
ROHX-FM6	**R**	0,8	1,0	1,5	2,0	3,0	4,0	5,0	6,0
	F	0,4	0,8	1,0	1,2	1,5	1,5	2,0	2,0
ROGX-MR4	**R***				4,0	6,0	8,0	12,0	16,0
	F				2,0	3,0	4,0	5,0	6,0
ROHX-MR5	**R**		1,5	2,0					
	F		0,8	1,0					

*a_p for full engagement is max. 25% of Ø DC!



Torus inserts									
Indexable inserts Ø in mm		6	8	10	12	16	20	25	32
		$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$	$a_{p\ max.}$
XOHX-FM5	**R**		2,0	3,0	3,0	4,0	5,0	6,0	8,0
	F		0,6	2,0	2,4	3,2	4,0	5,0	6,4
XOHX-MR6	**R**		2,0	3,0	3,0	4,0	5,0	6,0	8,0
	F		0,6	2,0	2,4	3,2	4,0	5,0	6,4
XOHX-FM1	**R**			1,5	2,0	3,0	4,0		
	F			0,8	0,8	1,0	1,0		
XOHX-FM2	**R**		1,0	1,5	2,0	3,0	4,0	5,0	
	F		0,5	0,7	0,8	1,0	1,0	1,5	
XOHX-MR2	**R**	0,8	1,0	1,5	2,0	3,0	4,0	5,0	
	F	0,5	0,5	0,7	0,8	1,0	1,0	1,5	
XOGX-MF4	**R**			1,5	2,0	3,0	4,0		
	F			0,7	0,8	1,0	1,0		
XOHX-MR3	**R**			0,5	0,6	0,8	1,0		
	F								

Application ranges of geometry

Indexable insert	F	M	R	Main application
XOHX-FM1	●	●		Steel, steel casting, heat-resistant steel, hardened steel to 63 HRC
XOHX-FM2	●	●		Steel, steel casting, heat-resistant steel, hardened steel to 60 HRC
ROHX-FM3	●	●		Steel, steel casting, heat-resistant steel
ROHX-FM4	●	●		Steel, steel casting, heat-resistant steel, hardened steel to 60 HRC
XOHX-FM5	●	●		Steel, steel casting, heat-resistant steel, hardened steel to 60 HRC
ROHX-FM6	●	●	●	Non-ferrous metals, plastics, graphite
XOHX-MR2		●	●	Long-chipping ferrous materials
XOHX-MR3		●	●	Steel, steel casting, heat-resistant steel
ROGX-MR4		●	●	Steel, steel casting, heat-resistant steel
XOGX-MF4	●	●		Steel, steel casting, heat-resistant steel
ROHX-MR5		●	●	Long-chipping ferrous materials
XOHX-MR6		●	●	Long-chipping ferrous materials

Cutting data standard values for Slot-SX saws

Index	CTCP335	CTP1340	H216T
	v_c in ft/min.		
P.1.1	**240**	**190**	
P.1.2	**210**	**160**	
P.1.3	**180**	**140**	
P.1.4	**160**	**130**	
P.1.5	**140**	**120**	
P.2.1	**220**	**170**	
P.2.2	**160**	**130**	
P.2.3	**140**	**120**	
P.2.4	**100**	**80**	
P.3.1	**130**	**120**	
P.3.2	**110**	**100**	
P.3.3	**90**	**80**	
P.4.1	**140**	**120**	
P.4.2	**120**	**110**	
M.1.1	110	**130**	
M.2.1	100	**120**	
M.3.1	80	**100**	
K.1.1	**300**	200	140
K.1.2	**240**	180	115
K.2.1	**200**	120	150
K.2.2	**160**	100	110
K.3.1	**190**	120	170
K.3.2	**160**	100	140
N.1.1		300	**500**
N.1.2		200	**330**
N.2.1		250	**370**
N.2.2		220	**330**
N.2.3		200	**280**
N.3.1		300	**350**
N.3.2		300	**350**
N.3.3		200	**320**
N.4.1		200	**320**
S.1.1		**70**	
S.1.2		**60**	
S.2.1		**35**	
S.2.2		**25**	
S.2.3		**30**	
S.3.1		**60**	
S.3.2		**50**	
S.3.3		**40**	
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			160
O.1.2			
O.2.1			240
O.2.2			
O.3.1			

Average chip thickness

h_m in mm

$$h_m = f_z \sqrt{\frac{a_e}{DC}}$$

Feed per tooth

f_z in mm

$$f_z = h_m \sqrt{\frac{DC}{a_e}}$$

Feed rate

v_f in mm/min

$$v_f = f_z \times ZNF \times n$$

DC = Ø of the side and face milling cutter

ZNF = Number of teeth on milling cutter

	Reference tool 50 386 12504 – ASLOT.125.R.8.32.DC-SX4											
	SX4 -F2				SX4 -M1				SX4 -M7			
	a_e	10	20	30	a_e	10	20	30	a_e	10	20	30
	hm	f_z in mm			hm	f_z in mm			hm	f_z in mm		
P	**0,08**	0,28	0,20	0,16	**0,1**	0,30	0,25	0,20	**0,09**	0,30	0,23	0,18
M	**0,05**	0,18	0,13	0,10					**0,06**	0,21	0,15	0,12
K					**0,12**	0,30	0,30	0,24	**0,09**	0,30	0,23	0,18
N	**0,08**	0,28	0,20	0,16								
S	**0,04**	0,14	0,10	0,08								
H												
O												

	Reference tool 50 386 12504 – ASLOT.125.R.8.32.DC-SX4							
	SX4 -M8				SX4 -27P			
	a_e	10	20	30	a_e	10	20	30
	hm	f_z in mm			hm	f_z in mm		
P	**0,08**	0,28	0,20	0,16				
M	**0,05**	0,18	0,13	0,10				
K					**0,06**	0,21	0,15	0,12
N	**0,08**	0,28	0,20	0,16	**0,09**	0,30	0,23	0,18
S	**0,04**	0,14	0,10	0,08				
H								
O					**0,05**	0,18	0,13	0,10

Note: For narrower and wider indexable inserts, reduce or increase the feed per tooth accordingly!

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for Slot-SNHX

Index	CTPP235		CTPM240		CTPK220	
	DRAGONSKIN					
	Cutting material **hard** (v_c↑) → **tough** (v_c↓)					
	v_c (m/min)					
P.1.1	**246**	**137**	226	141		
P.1.2	**208**	**121**	188	126		
P.1.3	**172**	**106**	152	112		
P.1.4	**160**	**101**	140	107		
P.1.5	**143**	**94**	123	100		
P.2.1	**214**	**123**	194	128		
P.2.2	**157**	**100**	137	106		
P.2.3	**143**	**94**	123	100		
P.2.4	**98**	**76**	78	83		
P.3.1	**121**	**97**	126	105		
P.3.2	**108**	**83**	112	95		
P.3.3	**96**	**69**	98	85		
P.4.1	**121**	**97**	126	105		
P.4.2	**114**	**90**	119	100		
M.1.1	121	97	**126**	**105**		
M.2.1	108	83	**112**	**95**		
M.3.1	117	93	**121**	**102**		
K.1.1	160	110			**320**	**190**
K.1.2	150	110			**170**	**100**
K.2.1	150	110			**210**	**130**
K.2.2	150	110			**140**	**90**
K.3.1					**200**	**120**
K.3.2					**170**	**100**
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

Average chip thickness

h_m in mm

$$h_m = \frac{f_z}{2} \sqrt{\frac{a_e}{DC}}$$

Feed per tooth

f_z in mm

$$f_z = h_m \sqrt{\frac{DC}{a_e}}$$

Feed rate

v_f in mm/min

$$v_f = f_z \times ZNF \times n$$

DC = Ø of the side and face milling cutter

ZNF = Number of teeth on milling cutter

	Reference tool 50 374 12506 – ASLOT.125.R.12-SN13-06-DC-A32			
	a_e	10	20	30
	h_m	f_z in mm		
P	**0,11**	0,39	0,28	0,22
M	**0,08**	0,28	0,20	0,16
K	**0,13**	0,46	0,33	0,27
N				
S				
H				
O				

ASLOT.125.R.12-SN13-06-DC-A32

Number of teeth on tool (Z)	**12**
Effective number of teeth (Z/2)	**6**

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for TX milling cutters

Index	CWX500		CWK10
	v_c (m/min)	hm (mm)	v_c (m/min)
P.1.1	**160**	0,10	
P.1.2	**140**	0,10	
P.1.3	**110**	0,08	
P.1.4	**110**	0,10	
P.1.5	**90**	0,08	
P.2.1	**110**	0,10	
P.2.2	**90**	0,08	
P.2.3	**90**	0,10	
P.2.4	**80**	0,08	
P.3.1	**80**	0,05	
P.3.2	**60**	0,10	
P.3.3	**50**	0,08	
P.4.1	**100**	0,05	
P.4.2	**90**	0,08	
M.1.1	**110**	0,08	
M.2.1	**90**	0,08	
M.3.1	70	0,08	
K.1.1	140	0,10	
K.1.2	100	0,10	
K.2.1	90	0,08	
K.2.2	80	0,05	
K.3.1	140	0,10	
K.3.2	**120**	0,10	
N.1.1	**600**	0,12	250
N.1.2	**400**	0,12	230
N.2.1	**220**	0,10	210
N.2.2	**180**	0,10	190
N.2.3	**140**	0,10	120
N.3.1	**240**	0,12	200
N.3.2	**200**	0,12	180
N.3.3	**180**	0,12	160
N.4.1	**180**	0,12	160
S.1.1	60	0,05	
S.1.2	50	0,05	
S.2.1	60	0,05	
S.2.2	50	0,05	
S.2.3	40	0,05	
S.3.1	60	0,06	
S.3.2	40	0,06	
S.3.3	30	0,06	
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1	180	0,10	160
O.1.2	180	0,10	160
O.2.1	150	0,10	120
O.2.2	110	0,10	100
O.3.1	170	0,10	160

Average chip thickness

h_m in mm

$$h_m = f_z \sqrt{\frac{a_e}{DC}}$$

Feed per tooth

f_z in mm

$$f_z = h_m \sqrt{\frac{DC}{a_e}}$$

Feed rate

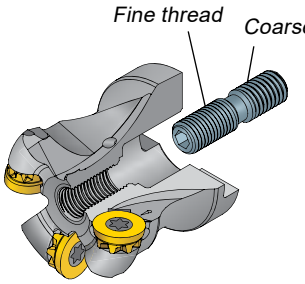
v_f in mm/min

$$v_f = f_z \times ZNF \times n$$

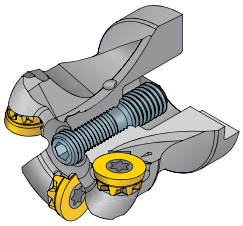
DC = Ø of the side and face milling cutter

ZNF = Number of teeth on milling cutter

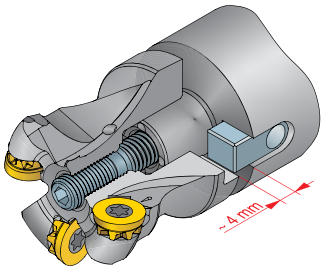
Easy and safe clamping – with the CERATIZIT power screw



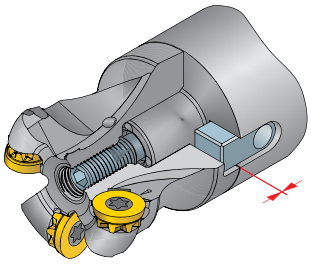
The fine thread part of the clamping screw is threaded into the milling cutter.



The clamping screw is turned carefully until the stop (as delivered).



To ensure optimal fastening, a gap of approx. 4 mm must be present before clamping. This is ensured automatically in combination with a standardized adapter. If required, this can be readjusted by 0.5 mm/rotation via the clamping screw.



Turn clamping screw to tighten.

Clamping screw tightening torques for mounting the milling cutter to the shell mill adapter

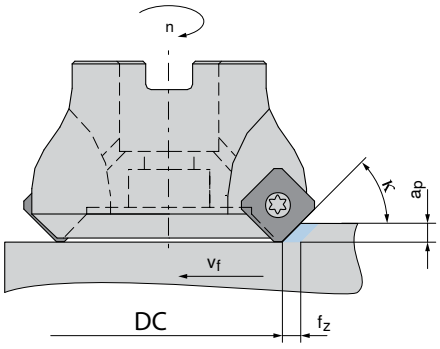
	10				12				16			
Milling cutter Ø mm	Allen screw DIN 912	M_d Nm	Tightening screw article no.	M_d Nm	Allen screw **DIN 912**	M_d Nm	Tightening screw article no.	M_d Nm	Allen screw DIN 912	M_d Nm	Tightening screw article no.	M_d Nm
40			70 950 151	15			70 950 151	15				
42			70 950 151	15			70 950 151	15				
50	M10x25	80			M10x25	80					70 950 154	20
52					M10x25	80					70 950 154	20
63					M10x25	80			M10x25	80		
66					M10x25	80			M10x25	80		

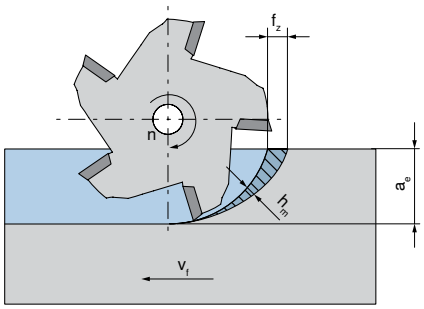
	12				16				20			
Milling cutter Ø mm	Allen screw DIN 912	M_d Nm	Tightening screw article no.	M_d Nm	Allen screw DIN 912	M_d Nm	Tightening screw article no.	M_d Nm	Allen screw DIN 912	M_d Nm	Tightening screw article no.	M_d Nm
80	M12x30	140			M12x30	140			M12x30	140		
100	M16x35	180			M16x35	180			M16x35	180		
125					M16x35	180			M16x35	180		

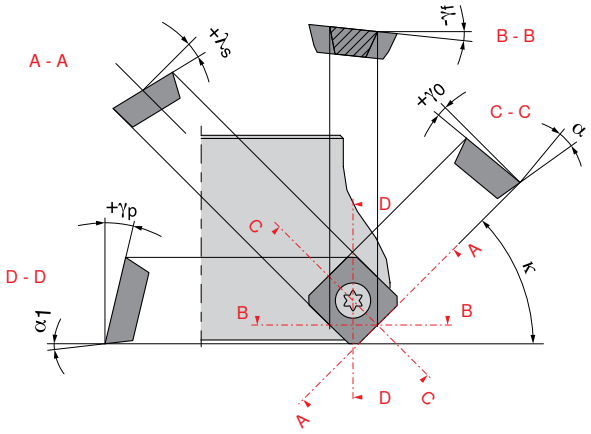
Abbreviations & dimensions

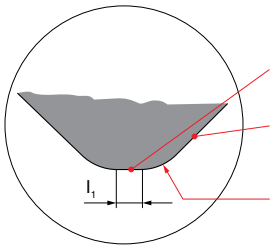
a_e	Width of cut	mm
a_p	Cutting depth	mm
DC	Tool diameter	mm
D_w	Workpiece diameter	mm
f_z	Feed per tooth	mm
h_m	Average chip thickness	mm
k	Number of rows	
k_c	Specific cutting force	N/mm²
$k_{c1.1}$	Specific cutting force for 1 mm² chip thickness	N/mm²
BS	Length of wiper land	mm
m_c	Increase of specific cutting force	
n	Spindle rotation speed	rpm
Q	Chip volume	in³/min
v_c	Cutting speed	m/min
v_f	Feed rate	mm/min.
ZNF	Number of effective teeth	

γ_0	Orthogonal rake angle (effective rake angle)	Degree
γ_f	Side rake angle	Degree
γ_p	Axial cutting angle	Degree
κ	Setting angle	Degree
λ_s	Angle of inclination	Degree
α	Clearance angle	Degree
α_1	Clearance angle of wiper land	Degree









Wiper land

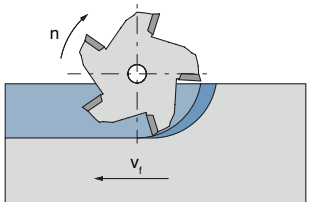
Main cutting edge

Corner radius or corner chamfer

Engagement conditions

Recommended

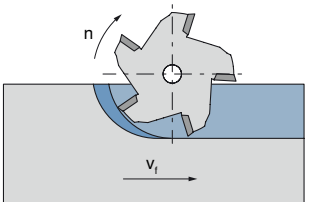
Climb milling



The feed direction of the workpiece matches the direction of rotation of the milling cutter in the cutting zone. The chip thickness is the highest at the cut entrance and decreases to zero at the end of the cut.

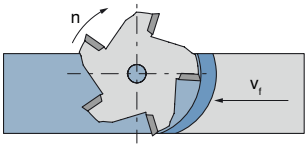
Unsuitable

Conventional milling

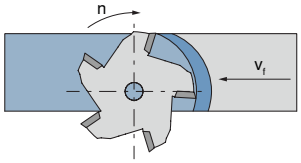


The feed direction of the workpiece moves in the opposite direction of rotation of the milling cutter in the cutting zone. The chip thickness starts at zero at the cut entrance and increases to the maximum at the end of the cut.

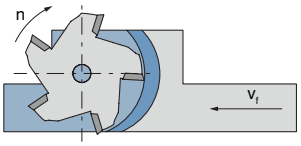
Cutter positioning



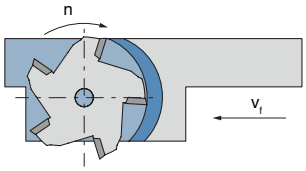
Ideally, the milling tool should exit the workpiece at a tangent.



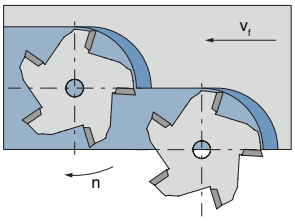
Workpiece position



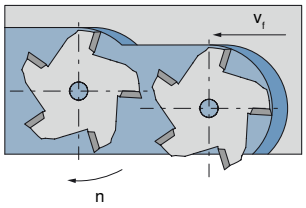
Where possible, the workpiece should be clamped so that the milling tool can exit tangentially over the entire machining length.



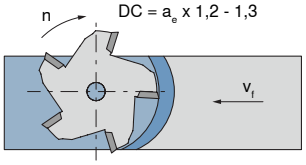
Overlapping



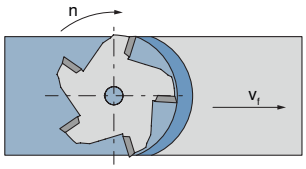
Pay attention to either climb milling or a tangential exit of the milling tool as shown in the example on the left.



Cutter size



For face milling, the diameter of the milling tool should be 20–30% larger than the workpiece.



ISO designation system for indexable milling inserts

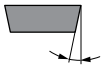
X	D	K	T	11	T3	08	S	R	-	F50	
1	2	3	4	5	6	7	8	9		10	

Z	N	H	W	12	05	PO	S	R	-	15	06	-	R
1	2	3	4	5	6	7	8	9		11	12		13

1 Insert shape

A	85°	
B	82°	
K	55°	
H	120°	
L	90°	
O	135°	
P	108°	
C	80°	
D	55°	
E	75°	
M	86°	
V	35°	
R		
S	90°	
T	60°	
W	80°	
X Z	Special version	

2 Clearance angle

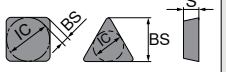


	α
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Special version

3 Tolerances

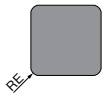


	IC ±mm	BS ±mm	S ±mm	IC = 6,35 / 9,52	IC = 12,7	IC = 15,8 / 19,05
A	0,025	0,005	0,025	●	●	●
C	0,025	0,013	0,025	●	●	●
E	0,025	0,025	0,025	●	●	●
F	0,013	0,005	0,025	●	●	●
G	0,025	0,025	0,13	●	●	●
H	0,013	0,013	0,025	●	●	●
J	0,05	0,005	0,025	●		
	0,08	0,005	0,025		●	
	0,10	0,005	0,025			●
K	0,05	0,013	0,025	●		
	0,08	0,013	0,02		●	
	0,10	0,013	0,02			●



	IC ±mm	BS ±mm	S ±mm	IC = 6,35 / 9,52	IC = 12,7	IC = 15,8 / 19,05
M	0,05	0,08	0,13	●		
	0,08	0,13	0,13		●	
	0,10	0,15	0,13			●
N	0,05	0,08	0,025	●		
	0,08	0,13	0,025		●	
	0,10	0,15	0,025			●
U	0,08	0,13	0,13	●		
	0,13	0,20	0,13		●	
	0,18	0,27	0,13			●

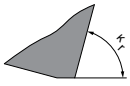
7 Wiper land/corner radius



Radius

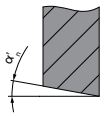
	RE in mm
M0*	
02	0,2
04	0,4
08	0,8
12	1,2

* only for insert shape "R"



1st mark

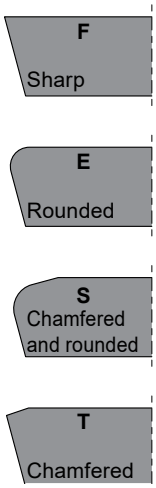
	K_r
A	45°
D	60°
E	75°
F	85°
P	90°
Z	Alternative



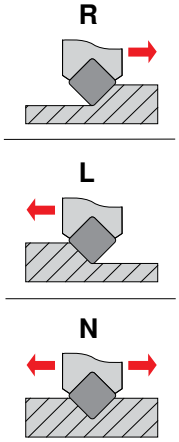
2nd mark

	α'_n
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z O	Alternative

8 Cutting edge



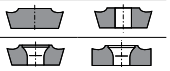
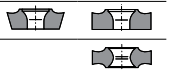
9 Direction of cut



ISO-Bezeichnungssystem für Wendeschneidplatten zum Fräsen

4

Feature

A	
F	
G	
M	
N	
Q	
R	
T	
U	
W	
X	Special version

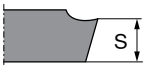
5

Cutting length

IC mm	A	T	C/S	H	L	R	V	W	O	X	Z
4,90										07	
5,00						05					
5,56			05		08			03			
6,00											
6,35		11	06		10			04		06	
6,65	10										
6,80										11	
7,00											04
7,94			07								
8,00						08					
9,00					12						
9,30										15	
9,52	16	16	09		15			06	04		
9,57	15										
9,60										09	
10,00			10		11	10					12
12,00						12					
12,50										20	
12,70		12/22	12		20		22	08		12	
15,81			15		22			10			
16,00						16					
16,20				09							
16,74			16								
17,00			17								
17,18									06		
18,18									07		
19,05			19					13			
20,00						20					

6

Insert thickness



	S mm
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52

10

Chip breaker

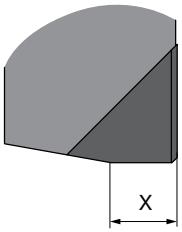
Chip breaker designation
F.. = fine
M.. = medium
R.. Roughing

Additional characteristics:
R = transition radius main/ secondary cutting edge
Q = wiper geometry

11

Manufacturer specification

Length of the finishing cutting edge

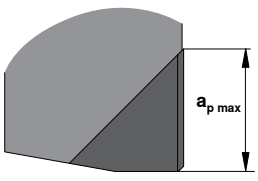


00 = 0,0 mm
10 = 1,0 mm
12 = 1,2 mm
15 = 1,5 mm
30 = 3,0 mm
50 = 5,0 mm

12

Manufacturer specification

$a_{p\ max}$



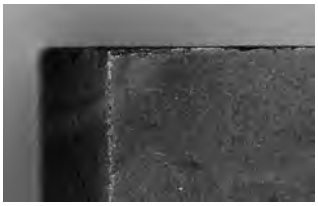
02 = 2,0 mm
03 = 3,0 mm
04 = 4,0 mm
06 = 6,0 mm
07 = 7,0 mm
11 = 11,0 mm

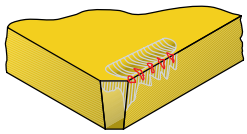
13

Manufacturer specification

F = Fine
M = Medium
R = Rough

Cutting edge wear conditions

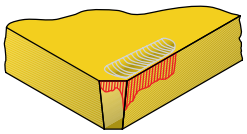




Cutting edge chipping

Cutting speed ↑
Feed per tooth ↓
Toughness of grade ↑
Cutting edge chamfer ↑

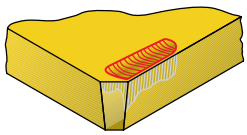




Flank wear

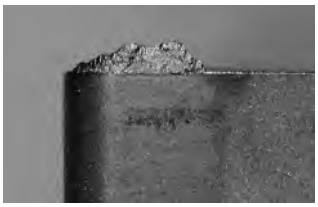
Cutting speed ↓
Feed per tooth ↑
Abrasion resistant grade ↑

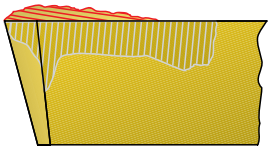




Crater wear

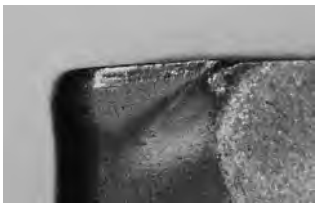
Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

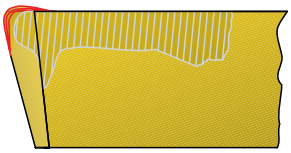




Built-up edge formation

Cutting speed ↑
Feed per tooth ↑
Wear resistance ↑

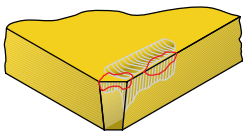




Cutting edge deformation

Cutting speed ↓
Feed per tooth ↓
Abrasion resistant grade ↑

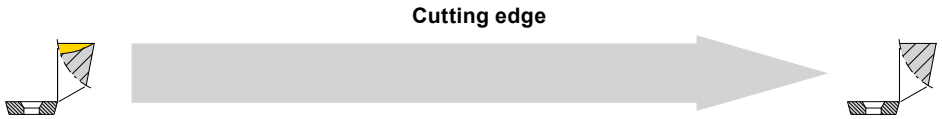




Cutting edge breakage

Cutting speed ↓
Toughness of grade ↑

Chip breakers overview



			Sharp ●		Medium ● ●		Stable ● ● ●	
			10	20	30	40	50	60
Increasing wedge angle	Fine	F	**-F10 -27 -27P**	**-F20**		**-F40**	**-F50**	**-ER -FN -33P -33**
	Medium	M			**-M31 -M30 -M32**		**-M50 -31**	**-EN -29**
	Coarse	R			**-R30**		**-R50**	**-SN -R60 -SR**

Chip breaker code

			Cutting edge		
			Sharp 10–20	Medium 30–40	Stable 50–60
Machining grade	light	F	●	● ●	● ● ●
	universal	M	●	● ●	● ● ●
	difficult	R	●	● ●	● ● ●

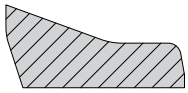
Example: Chip breaker -M50



Chip breaker descriptions

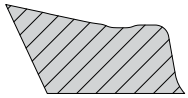
-27P

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



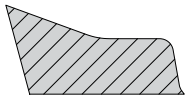
-F10

- Highly positive geometry
- Ground, sharp cutting edge
- Low adhesion
- Recommendation for non-ferrous metals



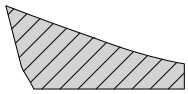
-27

- Highly positive geometry
- Sharp cutting edge
- First choice for non-ferrous metals



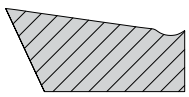
-F20

- Highly positive geometry
- Lightly rounded cutting edge
- Recommendation for non-ferrous metals



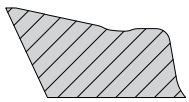
-F40

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- Recommendation for heat-resistant materials, titanium and super alloys



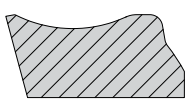
-F50

- Streamlined geometry with protective chamfer
- Rounded cutting edge
- Light rough machining
- For unstable clamping situations
- Recommendation for stainless steel materials



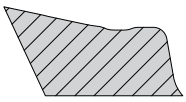
-33P

- Positive geometry with small neutral protective chamfer
- Low adhesion
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steel materials



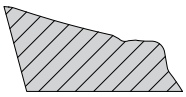
-M30

- Positive geometry
- Rounded cutting edge
- Medium rough machining
- For unstable clamping situations
- Recommendation for martensitic stainless steels (blade machining only with MaxiMill 251)



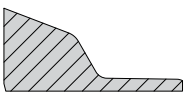
-M31

- Positive geometry
- Rounded cutting edge
- Finish and rough machining
- For unstable clamping situations
- For heat-resistant materials, titanium and super alloys



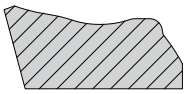
-M32

- Positive geometry
- Rounded cutting edge
- Low cutting force and good stability
- Medium rough machining
- First choice for martensitic stainless steels



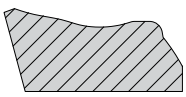
-M50

- Universal geometry with protective chamfer
- Rounded cutting edge
- Light to medium rough machining
- Recommendation for general steel materials



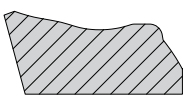
-31

- Positive geometry with neutral protective chamfer
- Rounded cutting edge
- Heavy rough machining
- Strongly interrupted cut
- First choice for cast iron materials



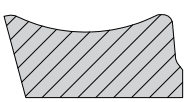
-29

- Positive geometry with slightly negative protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



-33

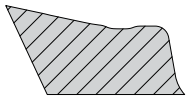
- Positive geometry with small neutral protective chamfer
- Rounded cutting edge
- Low cutting force and good stability
- For unstable clamping situations
- Light rough machining
- First choice for stainless steel materials



Chip breaker descriptions

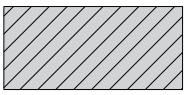
-29R

- Positive geometry with slightly negative protective chamfer
- Heavily rounded cutting edge
- Low cutting force and good stability
- Light to medium rough machining
- First choice for general steels



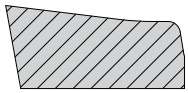
-ER

- Neutral geometry
- Rounded cutting edge
- Can be used for any application
- High surface quality due to wiper land
- First choice for machining cast iron and non-ferrous metals



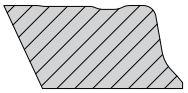
-R30

- Lightly positive geometry
- Rounded cutting edge
- Medium rough machining
- Strongly interrupted cut
- First choice for cast iron materials



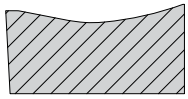
-EN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to wiper land (radial protective chamfer on indexable insert)
- First choice for machining cast iron and non-ferrous metals



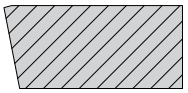
-R50

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- Interrupted cuts
- Recommendation for cast iron materials



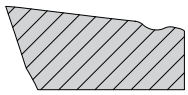
-SN

- Neutral geometry
- Rounded cutting edge
- High surface quality due to wiper land (radial protective chamfer on indexable insert)
- Low cutting forces
- First choice for good flatness



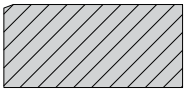
-R60

- Rugged geometry with protective chamfer
- Rounded cutting edge
- Rough machining
- For stable clamping situations
- Recommendation for high-strength steel materials



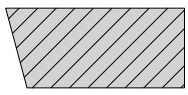
-SR

- Neutral geometry with negative protective chamfer
- Rounded cutting edge
- Robust indexable insert
- For poor machining situations
- First choice for machining cast iron and steel materials



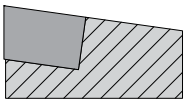
-FN

- Neutral and highly stable geometry
- Heavily rounded cutting edge
- For stable machining conditions
- First choice for hard machining up to approx. 50 HRC



-FR

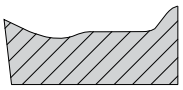
- Neutral geometry
- Lightly rounded and stable cutting edge
- Suitable for ceramic and CBN as cutting material
- For stable machining conditions
- First choice for machining cast iron



Chip breaker descriptions for system Slot-SX

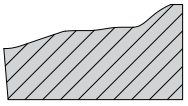
-27P

- Positive geometry
- Ground, sharp cutting edge
- Polished chip breaker
- Low cutting forces
- Fine to medium machining
- First choice for non-ferrous metals



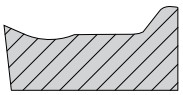
-M8

- Extremely positive geometry
- Ground cutting edge
- Low cutting forces
- Fine to medium machining
- First choice for difficult-to-machine and stainless materials
- Alternatively, can also be used for non-ferrous metals



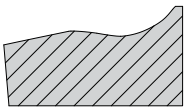
-F2

- Positive geometry
- Ground cutting edge
- Low cutting forces
- Fine to medium machining
- For stainless and steel materials



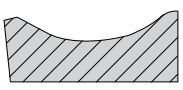
-M7

- Positive geometry
- Medium machining
- Can be used for any application



-M1

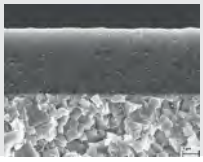
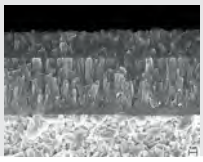
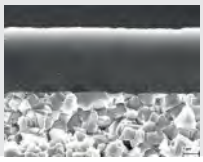
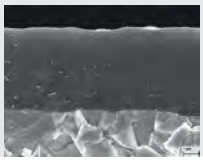
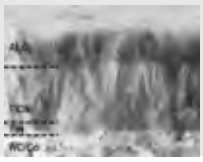
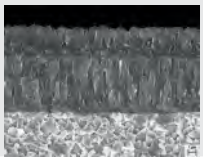
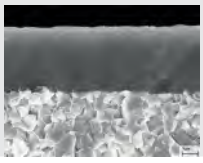
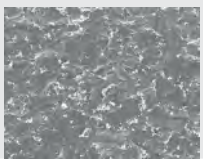
- Stable cutting edge
- Medium to rough machining
- Best suited for steel materials



Grade description

Grades		ISO application range	Grade description and overview Specification / Application recommendation
Main application ● Secondary application ○		V_c+ Wear-resistant … V_c− Tough 01 05 10 15 20 25 30 35 40 45 50	
CTEP210 DRAGONSKIN	P ● M K ● N S H O		**Specification:** Composition: Cermet Co/Ni 12.2%; mixed carbide 71.4%; others; WC balance | Fine grain size | Hardness: HV_{30} 1620 | Layer system: CVD TiCN-Al_3O_3 **Application:** The coated Cermet grade with reserves of toughness for finish machining at high cutting speeds
TCM10	P ● M K ○ N S H O		**Specification:** Composition: Co/Ni 12.2%; WC 15; TaNbC 10.0%; TiCn balance | Hardness: HV_{30} 1620 | Layer system: uncoated **Application:** Uncoated Cermet grade for the finishing of hardened steel
CTN3105	P M K ● N S H O		**Specification:** Composition: ß – Si_3N_4 | Fine grain size | Hardness: HV_{30} 1620 | Layer system: uncoated **Application:** Universal silicon nitride for the machining of cast iron materials
CTL3215	P M K ● N S H ○ O		**Specification:** Composition: Cubic boron nitride (CBN) | 85 vol. + metallic binder phase | Cutting system: PVD **Application:** Coated cubic boron nitride with very good cutting toughness and good wear resistance for the machining of cast iron materials
CTCP220 DRAGONSKIN	P ● M K N S H O		**Specification:** Composition: Co 8.0%; mixed carbide 2.0%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1500 | Layer system: CVD TiCN-Al_3O_2 **Application:** Dry machining, high cutting speed + more wear resistant grade to CTCP230 **Material example:** Low material strength up to approx. 250 HB / 840 N/mm²
CTPP225 DRAGONSKIN	P ● M K N S H O		**Specification:** Composition: Co 8.0%; mixed carbide 2.0%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1500 | Layer system: PVD TiAlTaN **Application:** Dry or wet machining, face milling of steel materials, higher cutting speeds + more wear resistant grade to CTPP235 **Material example:** Medium material strength up to approx. 300 HB / 1000 N/mm²
CTCP230 DRAGONSKIN	P ● M K ○ N S H O		**Specification:** Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1400 | Layer system: CVD TiCN-Al_2O_3 **Application:** Dry machining, universal grade for higher cutting speeds
CTPP235 DRAGONSKIN	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1400 | Layer system: PVD TiAlTaN **Application:** Wet machining, universal grade for medium cutting speeds
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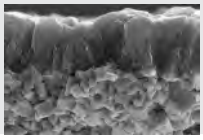
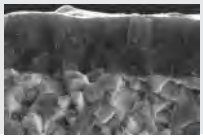
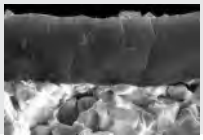
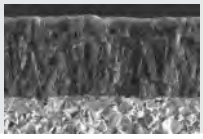
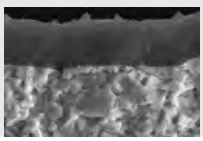
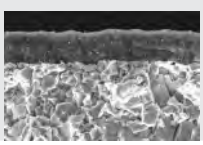
Grade description

Grades			ISO application range	Grade description and overview Specification / Application recommendation
Main application ●			V_c + Wear-resistant … V_c − Tough	
Secondary application ○			01 05 10 15 20 25 30 35 40 45 50	
CTPM225 DRAGONSKIN		P ● M ● K N S H O		**Specification:** Composition: Co 9.0%; mixed carbide 0.75%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1590 | Layer system: PVD TiAlTaN **Application:** Dry or wet machining at medium cutting speeds **Material example:** Austenitic stainless steels
CTCM235 DRAGONSKIN		P ● M ● K N S H O		**Specification:** Composition: Co 12.5%; mixed carbide 2.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1380 | Layer system: CVD TiCN-Al_2O_3 **Application:** Dry machining for medium cutting speeds **Material example:** Martensitic, stainless steels
CTPM240 DRAGONSKIN		P ○ M ● K N S H O		**Specification:** Composition: Co 12.0%; mixed carbide 2.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1380 | Layer system: PVD TiAlTaN **Application:** Wet machining, universal grade for higher cutting speeds **Material example:** Austenitic stainless steels
CTPM245 DRAGONSKIN		P ● M ● K N S H O		**Specification:** Composition: Co 10.0%; others 1.5%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1330 | Layer system: PVD TiAlTaN **Application:** Dry or wet machining **Material example:** High-alloy martensitic and austenitic stainless steel
CTCM245 DRAGONSKIN		P ● M ● K N S ○ H O		**Specification:** Composition: Co 10.0%; others 1.5%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1330 | Layer system: CVD TiCN-Al_2O_3 **Application:** Dry machining **Material example:** High-alloy martensitic and austenitic stainless steel
CTCK215 DRAGONSKIN		P M K ● N S H O		**Specification:** Composition: Co 6.0%; mixed carbide 2.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1630 | Layer system: CVD TiCN-Al_2O_3 **Application:** Special grade for the dry machining of cast iron materials at high cutting speeds **Material example:** Cast iron materials such as GG25 and GGG40
CTPK220 DRAGONSKIN		P M K ● N S H O		**Specification:** Composition: Co 6.0%; mixed carbide 2.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1630 | Layer system: PVD TiAlTaN **Application:** Special grade for the wet machining of cast iron materials in demanding application ranges **Material example:** High-strength cast iron materials such as GGG50 and GGG70
CTD4205		P M K N ● S H O ○		**Specification:** Composition: Polycrystalline diamond (PCD) | Grain size 2-5 µm | Layer system: uncoated **Application:** For the machining of aluminum and non-ferrous metals **Material example:** Non-ferrous metals such as AlMgSi1
			01 05 10 15 20 25 30 35 40 45 50	

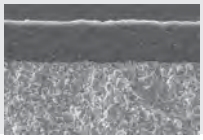
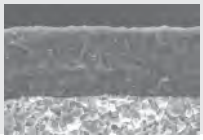
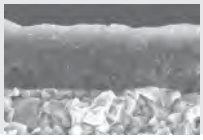
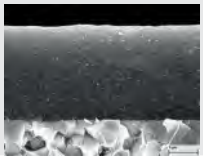
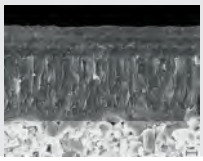
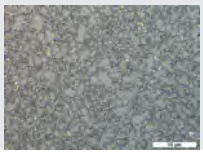
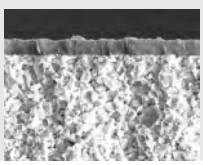
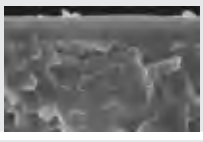
Grade description

Grades		ISO application range	Grade description and overview Specification / Application recommendation
Main application ● Secondary application ○		V_c+ Wear-resistant … V_c− Tough 01 05 10 15 20 25 30 35 40 45 50	
CTWN215 (H216T)	P M K ○ N ● S H O ○		**Specification:** Composition: Co 6.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1650 | Layer system: uncoated **Application:** Uncoated carbide for the machining of aluminum and non-ferrous metals **Material example:** Non-ferrous metals such as AlMgSi1
CTPX715 DRAGONSKIN	P ○ M ○ K ● N ● S ○ H O ○		**Specification:** Composition: Co 6.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1650 | Layer system: PVD AlTiN **Application:** For the machining of aluminum and non-ferrous metals **Material example:** Non-ferrous metals such as AlMgSi1 or GGG30 cast iron
CTC5240 DRAGONSKIN	P M K N S ● H O		**Specification:** Composition: Co 10.0%; WC balance | Medium grain size 2 µm | Hardness: HV_{30} 1330 | Layer system: CVD TiN-TiB_2 **Application:** Special wet machining grade for the machining of titanium materials **Material example:** Titanium Ti6Al4V
CTCS245 DRAGONSKIN	P M K N S ● H O		**Specification:** Composition: Co 12.0%; mixed carbide 1.8%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1260 | Layer system: CVD TiN-TiB_2 **Application:** Wet machining special grade for the machining of nickel-based alloys or the dry machining of austenitic stainless steels **Material example:** Heat-resistant materials such as Inconel, Rene, Nimonic, etc.
CTP6215	P M K ● N S H ● O		**Specification:** Composition: Co 12.0%; WC balance | Ultra-fine grain size 0.4 µm | Hardness: HV_{30} 1630 | Layer system: PVD TiAlN **Application:** For the machining of high-strength martensitic tool steels 400 HB / 1300 N/mm² **Material example:** Tool steel 1.2379, 1.2312
CTPK231	P ● M ● K ● N ○ S ○ H ○ O		**Specification:** Composition: Co 9.8%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1612 | Layer system: PVD TiN / TiAlN / ZS / TiAlN / Al_2O_3 / TiN **Application:** Dry machining, tough carbide grade for the medium and rough machining of steel and cast iron materials
CTPP216	P ● M ○ K ● N ○ S ○ H ● O ○		**Specification:** Composition: Co 9.6%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1824 | Layer system: PVD TiN / TiAlN / DS **Application:** Highly wear-resistant carbide grade with high cutting edge stability for the machining of high-strength materials, non-alloyed tool steels, cast iron, and hardened steel up to 54 HRC
CTPK226	P ● M ● K ● N S H ○ O		**Specification:** Composition: Co 11.6%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1711 | Layer system: PVD TiN / AlTiN / DS **Application:** Highly wear-resistant ultra-fine grain carbide grade for the machining of cast iron metals and hardened steels up to 62 HRC
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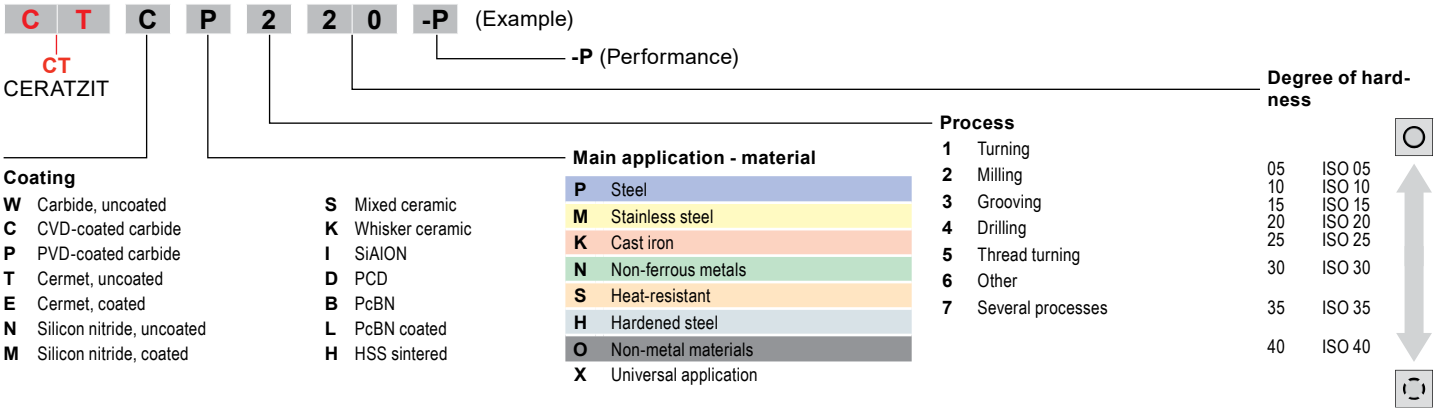
Grade description

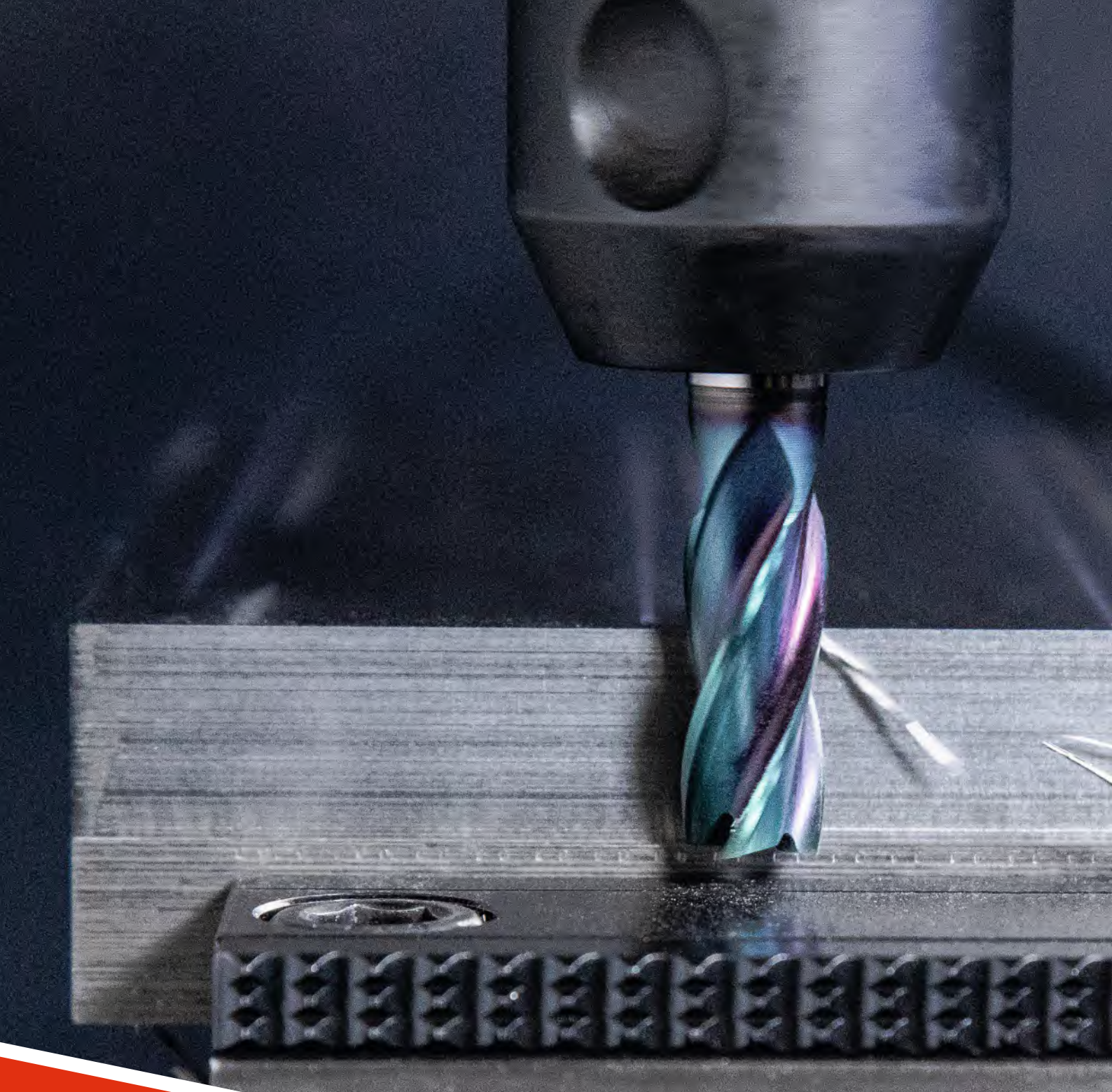
Grades		ISO application range	Grade description and overview Specification / Application recommendation
Main application ● Secondary application ○		V_c+ Wear-resistant — V_c− Tough 01 05 10 15 20 25 30 35 40 45 50	
CTCN211 	P M K N ○ S H O ●		**Specification:** Composition: Co 6.5%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1827 | Layer system: PVD diamond **Application:** Diamond-coated carbide grade for the machining of graphite and non-ferrous metals
WAN1240 	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 9%; mixed carbide 3.8%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1449 | Layer system: PVD TiAlN / TiN **Application:** Tough special grade for the machining of steel at medium to high cutting speeds. Also suitable for the machining of cast iron in secondary applications
WAN2225 	P M ● K N S ● H O		**Specification:** Composition: Co 11.3%; WC balance | Medium grain size 2 µm | Hardness: HV_{30} 1307 | Layer system: PVD TiAlN / TiN **Application:** Dry and wet machining, fine grain grade with high toughness and temperature resistance. For rough and finish machining of rust and acid-resistant steels
WUN4210 	P M K ○ N ● S H O		**Specification:** Composition: Co 8.1%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1715 | Layer system: uncoated **Application:** Uncoated carbide for the machining of aluminum and non-ferrous metals **Material example:** Non-ferrous metals such as AlMgSi1
WAX1240 	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 10.5%; mixed carbide 2.1%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1345 | Layer system: CVD TiN / TiCN / TiN / Al_2O_3 **Application:** High-strength special grade for medium and rough machining at medium cutting speeds and extreme feed rates per tooth
WTN1205 	P ● M ○ K ● N S H ● O		**Specification:** Composition: Co 7.3%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1801 | Layer system: PVD TiN / TiAlN **Application:** Special grade for the machining of steel, hardened steel, cast iron, and non-ferrous metals and graphite
CTPP231 	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 9.5%; mixed carbide 2%; WC balance | Medium grain size 2-3 µm | Hardness: HV_{30} 1400 | Layer system: PVD TiAlN **Application:** A very tough special grade for the medium and rough machining of steel at medium cutting speeds and extremely high feed rates
CTPP211 	P ● M ○ K ○ N ○ S ○ H ○ O ○		**Specification:** Composition: Co 6.3%; WC balance | Fine grain size 0.7-1 µm | Hardness: HV_{30} 1843 | Layer system: PVD TiN / TiAlN / ZS / TiAN / Al_2O_3 / ZS / TiN **Application:** Universal grade for medium cutting speeds
		01 05 10 15 20 25 30 35 40 45 50	

Grade description

Grades		ISO application range	Grade description and overview Specification / Application recommendation
Main application ● Secondary application ○		V_c+ Wear-resistant … V_c− Tough 01 05 10 15 20 25 30 35 40 45 50	
CTPP236 	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 9.5%; mixed carbide 2%; WC balance | Medium grain size 2-3 µm | Hardness: HV_{30} 1370 | Layer system: PVD TiAlN **Application:** Tough special grade for the medium and rough machining of steel at high cutting speeds. Also suitable for the machining of cast iron and stainless steels in secondary applications
CTPK221 	P ○ M K ● N S H O		**Specification:** Composition: Co 6%; WC balance | Medium grain size 1 µm | Hardness: HV_{30} 1600 | Layer system: PVD TiAlN **Application:** Standard grade for the fine machining of cast iron and non-ferrous metals at medium cutting speeds
CTPM241 	P ● M ● K N S ○ H O		**Specification:** Composition: Co 12%; WC balance | Medium grain size 1-2 µm | Hardness: HV_{30} 1450 | Layer system: PVD TiAlN **Application:** Tough special grade for the machining of stainless and heat-resistant steels
CTP1340 DRAGONSKIN 	P ● M ● K ○ N ○ S ● H O		**Specification:** Composition: Co 9.0%, mixed carbides 0.75%, WC balance | Grain size: 0.7–1 µm | Hardness: HV_{30} 1590 | Layer system: PVD TiAlTaN **Recommended use:** The universal high-performance grade for steel materials, austenitic steel, cast iron materials, and heat-resistant alloys.
CTCP335 DRAGONSKIN 	P ● M ○ K ● N S H O		**Specification:** Composition: Co 10.5%, mixed carbides 1.9%, WC balance | Grain size: 1 µm | Hardness: HV_{30} 1370 | Layer system: CVD TiCN-Al_2O_3 Multilayer **Recommended use:** The reliable choice for machining steel and cast iron materials.
CWK10 	P M K N ● S H O ○		**Specification:** Composition: Co 6.0%; WC balance | Fine grain size 1 µm | Hardness: HV_{30} 1650 | Layer system: uncoated **Application:** Uncoated carbide for the machining of aluminum and non-ferrous metals **Material example:** Non-ferrous metals such as AlMgSi1
CWX500 	P ● M ● K ○ N ● S ○ H O ○		**Specification:** Composition: Co 10.0%; others 0.7%; WC balance | Grain size: 1 µm | Hardness: HV_{30} 1660 **Recommended use:** The universal carbide grade for almost all materials
CT-P30 	P ● M ○ K ○ N S H O		**Specification:** Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Medium grain size 1-2 µm | Layer system: PVD **Application:** Universal grade for medium cutting speeds
		01 05 10 15 20 25 30 35 40 45 50	

Designation key





CERATIZIT GROUP

HSS Milling Cutters



Contents

→ Explanation of symbols
→ Toolfinder
→ Content overview
→ Product program
Technical information
→ Cutting data
→ Formula for cutting data calculation
→ Version description
→ Differences between the milling cutter types
→ Coating

Explanation of symbols

Shank



Shank type



Overall length: extra-short / short / medium / long / extra-long

Cutting edge preparation



Sharp



Corner chamfer (CHW = chamfer width in mm)



Full radius



Type of cutting edge



Application



Machining example



The red arrows indicate the possible feed directions



Cutting edge geometry
λ_s = Helix angle
γ_s = Rake angle

ZEFP = Number of teeth

● = **Main application**

○ = Secondary application

Symbols



Warning



Page reference

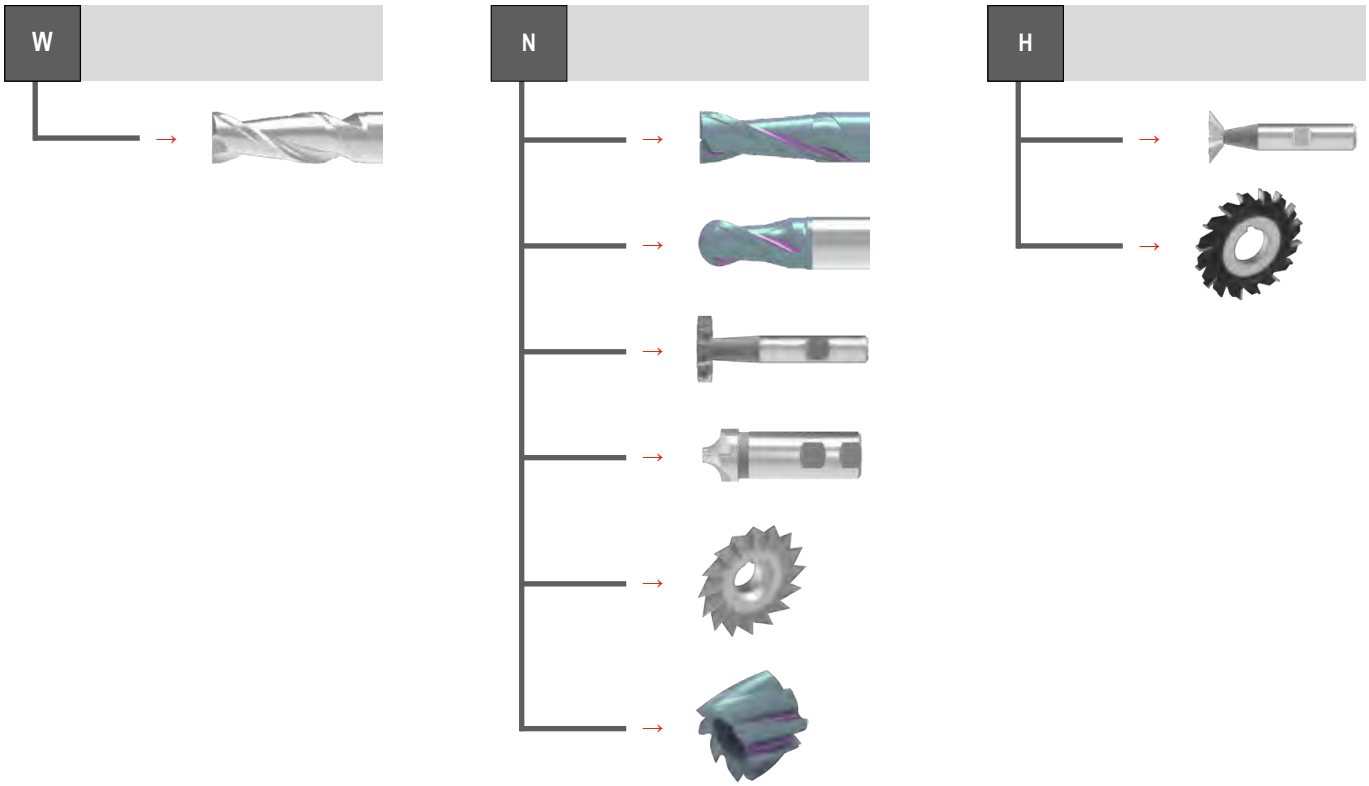


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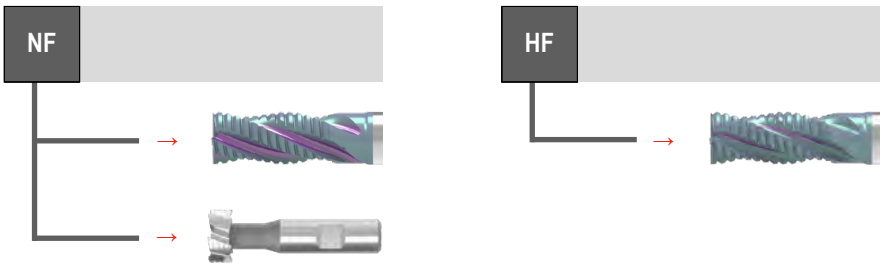
Toolfinder

Softer — Material to be machined — Harder

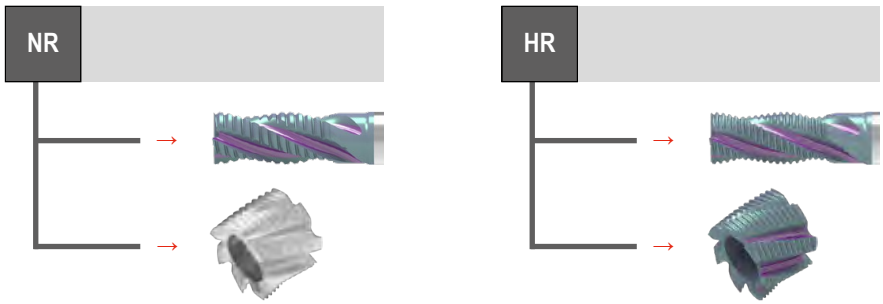
Finish machining



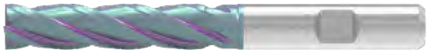
Rough and finish machining



Rough machining

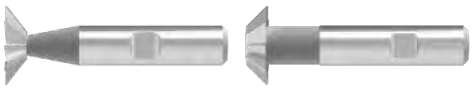
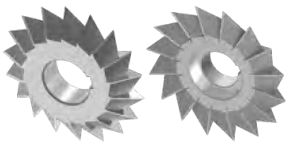
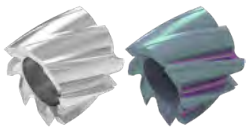
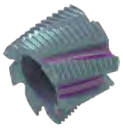


Overview of HSS milling cutters

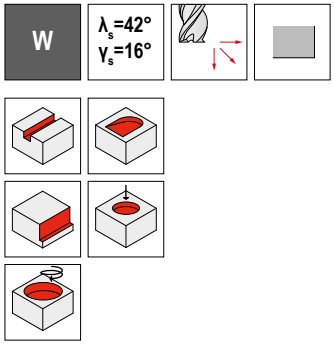
		Tool type	Number of teeth ZEFP	Diameter in mm Ø DC	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Material, e.g., PM = powder steel	coated	uncoated
Finish milling cutters																			
→		W	2	2–20				●			●						HSS-E		☐
→		W	3–4	2–32				●			●						HSS-E		☐
→		N	2	1–26	●	●	●	○	○		○						HSS-E	☐	☐
→		N	3	1–10	●	●	●	○	○		○						HSS-E	☐	☐
→		N	3	1,8–22,0	●	●	●	○	○		○						HSS-E	☐	
→		N	4	4–20	○	●	○	●	●		●						HSS-E	☐	☐
→		N	4–8	2–50	●	●	●	○	○		○						HSS-E	☐	☐
Roughing-finishing milling cutters																			
→		NF	4	6–25	●	○	●	○	○		○						HSS-E	☐	
→		HF	4	6–20	●	○	●	○	○		○						PM	☐	
Rough milling cutters																			
→		NR	3	6–25	●	○	●	○	○		○						HSS-E	☐	
→		HR	4–6	6–32	●	●	●	○	○		○						PM	☐	
→		HR	3–6	4–32	●	●	●	○	○		○						HSS-E	☐	
Radius cutters																			
→		N	2	2–30	●	○	●	○	○		○						HSS-E	☐	☐

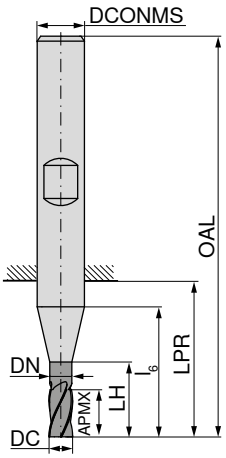
Overview of HSS milling cutters

Form / chamfering and die-sinking cutters

		Tool type	Number of teeth ZEFP	Diameter in mm Ø DC	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O	Square end	Corner chamfer	Corner radius	Full radius	Overall length	Material, e.g., PM = powder steel	coated	uncoated
→		N	6–10	11–60	●	○	●	○	○		○						HSS-E		☐
→		N	6–12	10,5–45,5	●	○	●	○	○		○						HSS-E		☐
→		NF	6–8	21–45	●	○	●	○	○		○						HSS-E		☐
→		N	4–6	6–16	●	○	●	○	○		○						HSS-E		☐
→		H	10	16–25	●	○	●	○	○		○						HSS-E		☐
→		N	14–28	40–125	●	○	●	○	○		○						HSS-E		☐
→		H	16–48	50–160	●	○	●	●	●		●						HSS-E		☐
→		N	7–10	40–80	●	●	●	●	○		●						HSS-E	☐	☐
→		NR	7–10	40–80	●	●	●	●	○		●						HSS-E		☐
→		HR	7–10	40–80	●	●	●	●	○		●						HSS-E	☐	

CoreLine – Slot milling cutter HSS-E Co 8 – W





uncoated





DIN 844

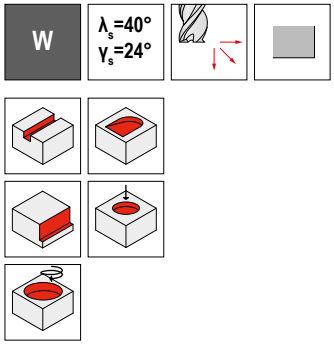


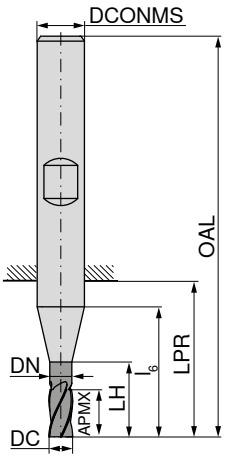
DC e8 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	HD 50 144 ...
2.0	7		7	13	15	51	6	2	**020**
2.5	8		8	14	16	52	6	2	**025**
3.0	8		8	14	16	52	6	2	**030**
4.0	11		11	17	19	55	6	2	**040**
5.0	13		13	19	21	57	6	2	**050**
6.0	13		13	19	21	57	6	2	**060**
6.5	16	6.0	22	24	26	66	10	2	**065**
8.0	19	7.5	25	27	29	69	10	2	**080**
10.0	22	9.5	30	30	32	72	10	2	**100**
12.0	26	11.5	36	36	38	83	12	2	**120**
14.0	26	11.5	36	36	38	83	12	2	**140**
16.0	32	15.0	42	42	44	92	16	2	**160**
18.0	32	15.0	42	42	44	92	16	2	**180**
20.0	38	19.0	52	52	54	104	20	2	**200**

P	
M	
K	
N	●
S	
H	
O	●

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – End mill HSS-E Co 8 – W









DIN 69844 DIN 844



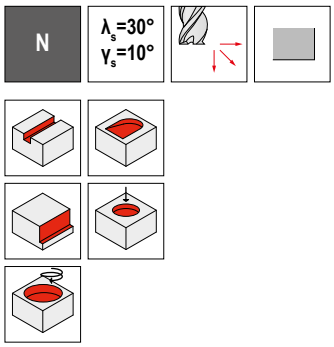
HD HD

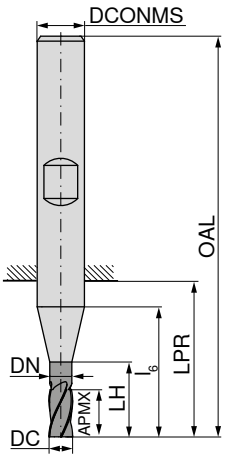
DC k10 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	50 120 ...	50 121 ...
2	7		7	13	15	51	6	3	020	
3	8		8	14	16	52	6	3	030	
3	12		12	18	20	56	6	3		030
4	11		11	17	19	55	6	3	040	
4	19		19	25	27	63	6	3		040
5	13		13	19	21	57	6	3	050	
5	24		24	30	32	68	6	3		050
6	13	5.5	19	19	21	57	6	3	060	
6	24	5.5	30	30	32	68	6	3		060
7	16	6.5	22	24	26	66	10	3	070	
7	30	6.5	36	38	40	80	10	3		070
8	19	7.5	25	27	29	69	10	3	080	
8	38	7.5	44	46	48	88	10	3		080
9	19	8.5	26	27	29	69	10	3	090	
9	38	8.5	45	46	48	88	10	3		090
10	22	9.5	30	30	32	72	10	3	100	
10	45	9.5	53	53	55	95	10	3		100
12	26	11.5	36	36	38	83	12	3	120	
12	53	11.5	63	63	65	110	12	3		120
14	26	11.5	36	36	38	83	12	3	140	
14	53	11.5	63	63	65	110	12	3		140
16	32	15.0	42	42	44	92	16	3	160	
16	63	15.0	73	73	75	123	16	3		160
18	32	15.0	42	42	44	92	16	3	180	
18	63	15.0	73	73	75	123	16	3		180
20	38	19.0	52	52	54	104	20	3	200	
20	75	19.0	89	89	91	141	20	3		200
22	38	19.0	52	52	54	104	20	3	220	
22	75	19.0	89	89	91	141	20	3		220
24	90	23.0	106	108	110	166	25	3		240
25	90	24.0	108	108	110	166	25	4		250
25	45	24.0	63	45	65	121	25	4	250	
28	90	24.0	108	108	110	166	25	4		280
30	90	24.0	108	108	110	166	25	4		300
32	106	31.0	123	123	126	186	32	4		320

P		
M		
K		
N	●	●
S		
H		
O	●	●

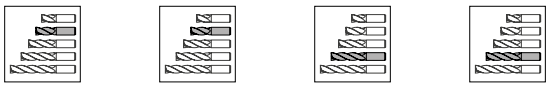
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Slot milling cutter HSS-E Co 8 – N









										DIN 327	DIN 327	Factory standard	Factory standard
										HD	HD	HD	HD
DC	DC tol.	APMX	DN	LH	l_6	LPR	OAL	DCONMS $_{h6}$	ZEFP	**50 100 ...**	**54 025 ...**	**50 122 ...**	**54 020 ...**
mm		mm	mm	mm	mm	mm	mm	mm					
1.0	h10	2.5		2.5	9	11	47	6	2	**010** [1]	**010** [1]		
1.5	h10	3.0		3.0	9	11	47	6	2	**015** [1]	**015** [1]		
1.8	h10	4.0		4.0	10	12	48	6	2	**018**	**018**		
2.0	e8	4.0		4.0	10	12	48	6	2	**020**	**020**		
2.5	e8	5.0		5.0	11	13	49	6	2	**025**	**025**		
3.0	e8	5.0		5.0	11	13	49	6	2	**030**	**030**		
3.0	e8	8.0		8.0	18	20	56	6	2			**030**	**030**
3.5	h10	6.0		6.0	12	14	50	6	2	**035**	**035**		
4.0	e8	7.0		7.0	13	15	51	6	2	**040**	**040**		
4.0	e8	11.0		11.0	25	27	63	6	2			**040**	**040**
4.5	h10	7.0		7.0	13	15	51	6	2	**045**	**045**		
5.0	e8	8.0		8.0	14	16	52	6	2	**050**	**050**		
5.0	e8	13.0		13.0	30	32	68	6	2			**050**	**050**
5.5	h10	8.0		8.0	14	16	52	6	2	**055**	**055**		
6.0	e8	8.0	5.50	14.0	14	16	52	6	2	**060**	**060**		
6.0	e8	13.0	5.50	30.0	30	32	68	6	2			**060**	**060**
6.5	h10	10.0	6.00	16.0	18	20	60	10	2	**065**	**065**		
7.0	e8	10.0	6.50	16.0	18	20	60	10	2	**070**	**070**		
7.0	e8	16.0	6.35	36.0	38	40	80	10	2			**070**	**070**
7.5	h10	10.0	7.00	16.0	18	20	60	10	2	**075**	**075**		
8.0	e8	11.0	7.50	17.0	19	21	61	10	2	**080**	**080**		
8.0	e8	19.0	7.35	44.0	46	48	88	10	2			**080**	**080**
8.5	h10	11.0	8.00	18.0	19	21	61	10	2	**085**	**085**		
9.0	h10	11.0	8.50	18.0	19	21	61	10	2	**090**	**090**		
9.0	h10	19.0	8.35	45.0	46	48	88	10	2			**090**	**090**
9.5	h10	11.0	9.00	18.0	19	21	61	10	2	**095**	**095**		
10.0	e8	13.0	9.50	21.0	21	23	63	10	2	**100**	**100**		
10.0	e8	22.0	9.35	53.0	53	55	95	10	2			**100**	**100**
10.5	h10	13.0	10.00	21.0	23	25	70	12	2	**105**	**105**		
11.0	h10	13.0	10.50	21.0	23	25	70	12	2	**110**	**110**		
11.0	h10	22.0	10.50	53.0	55	57	102	12	2			**110**	**110**
11.5	h10	13.0	11.00	21.0	23	25	70	12	2	**115**	**115**		
12.0	e8	16.0	11.50	26.0	26	28	73	12	2	**120**	**120**		

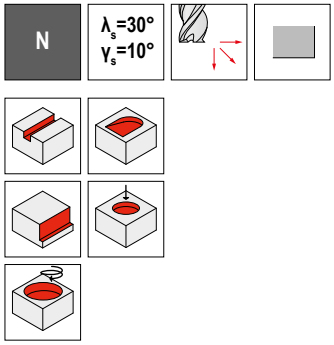
P	●	●	●	●
M	○	●	○	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O	○	○	○	○

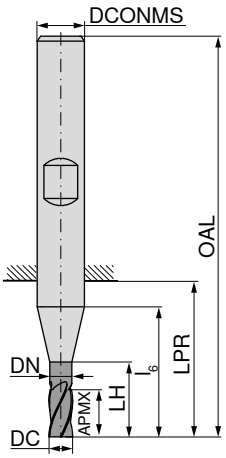
1) Factory standard

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

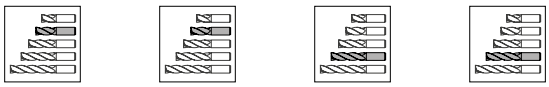
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CoreLine – Slot milling cutter HSS-E Co 8 – N









										DIN 327	DIN 327	Factory standard	Factory standard
										HD	HD	HD	HD
DC	DC tol.	APMX	DN	LH	l_6	LPR	OAL	DCONMS $_{h6}$	ZEFP	**50 100 ...**	**54 025 ...**	**50 122 ...**	**54 020 ...**
mm		mm	mm	mm	mm	mm	mm	mm					
12.0	e8	26.0	11.50	63.0	63	65	110	12	2			**120**	**120**
13.0	h10	16.0	11.50	26.0	26	28	73	12	2	**130**	**130**		
14.0	e8	16.0	11.50	26.0	26	28	73	12	2	**140**	**140**		
14.0	e8	26.0	11.50	63.0	63	65	110	12	2			**140**	**140**
15.0	h10	16.0	11.50	26.0	26	28	73	12	2	**150**	**150**		
15.0	h10	26.0	11.50	63.0	63	65	110	12	2			**150**	**150**
16.0	e8	19.0	15.00	29.0	29	31	79	16	2	**160**	**160**		
16.0	e8	32.0	15.00	73.0	73	75	123	16	2			**160**	**160**
17.0	h10	19.0	15.00	29.0	29	31	79	16	2	**170**	**170**		
18.0	e8	19.0	15.00	29.0	29	31	79	16	2	**180**	**180**		
18.0	e8	32.0	15.00	73.0	73	75	123	16	2			**180**	**180**
19.0	h10	19.0	15.00	29.0	29	31	79	16	2	**190**	**190**		
20.0	e8	22.0	19.00	36.0	36	38	88	20	2	**200**	**200**		
20.0	e8	38.0	19.00	89.0	89	91	141	20	2			**200**	**200**
22.0	e8	22.0	19.00	36.0	36	38	88	20	2	**220**	**220**		
24.0	e8	26.0	23.00	42.0	44	46	102	25	2	**240**	**240**		
25.0	e8	26.0	24.00	44.0	44	46	102	25	2	**250**	**250**		
26.0	h10	26.0	24.00	44.0	44	46	102	25	2	**260**	**260**		
P										●	●	●	●
M										○	●	○	●
K										●	●	●	●
N										○	○	○	○
S										○	○	○	○
H													
O										○	○	○	○

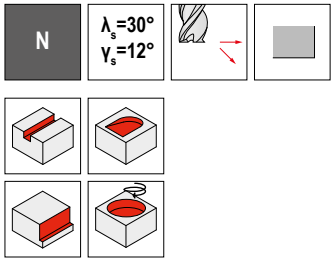
1) Factory standard

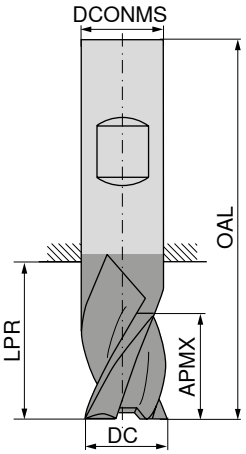


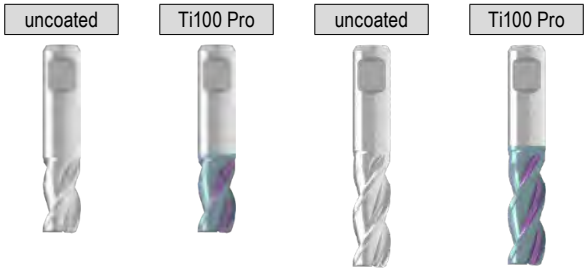
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

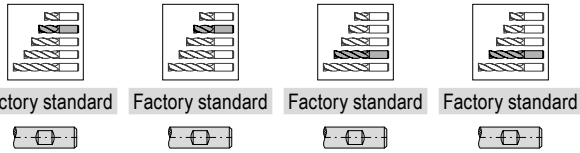
CoreLine – Disposable milling cutter HSS-E Co 8 – N

▲ Shank similar to DIN 1835 B









DC e8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	HD 50 092 ...	HD 54 014 ...	HD 50 093 ...	HD 54 042 ...
1.00	2	8	34	6	3	010	010		
1.50	3	8	34	6	3	015	015		
1.50	4	10	35	6	3			015 1)	015 1)
1.80	3	8	34	6	3	018	018		
2.00	4	9	35	6	3	020	020		
2.00	7	12	38	6	3			020 1)	020
2.30	4	9	35	6	3	023	023		
2.50	5	10	36	6	3	025	025		
2.50	8	13	39	6	3			025 1)	025
2.80	5	10	36	6	3	028	028		
3.00	5	10	36	6	3	030	030		
3.00	8	13	39	6	3			030 1)	030
3.30	6	11	37	6	3	033	033		
3.50	6	11	37	6	3	035	035		
3.50	10	15	41	6	3			035 1)	035
3.80	7	12	38	6	3	038	038		
4.00	7	12	38	6	3	040	040		
4.00	11	16	42	6	3			040 1)	040
4.30	7	12	38	6	3	043	043		
4.50	7	12	38	6	3	045	045		
4.50	11	16	42	6	3			045 1)	045
4.80	8	13	39	6	3	048	048		
5.00	8	13	39	6	3	050	050		
5.00	13	18	44	6	3			050 1)	050
5.30	8	13	39	6	3	053	053		
5.50	8	13	39	6	3	055	055		
5.50	13	18	44	6	3			055 1)	055
5.75	8	13	39	6	3	057	057		
6.00	8	13	39	6	3	060	060		
6.00	13	18	44	6	3			060 1)	060
6.50	10	14	42	8	3	065	065		
6.50	16	20	48	8	3			065 1)	065

P	●	●	●	●
M	○	●	○	●
K	●	●	●	●
N	○	○	○	○
S	○	○	○	○
H				
O	○	○	○	○

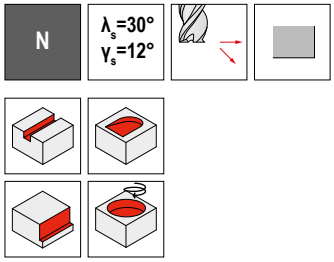
1) Shank tolerance -0.025 / -0.0323

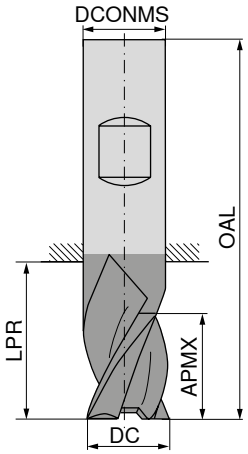
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

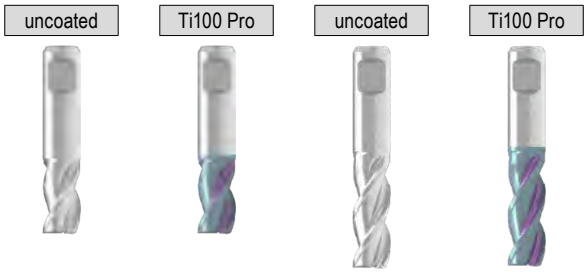
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CoreLine – Disposable milling cutter HSS-E Co 8 – N

▲ Shank similar to DIN 1835 B









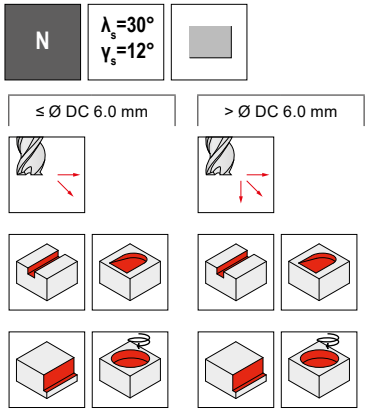
DC e8 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	HD 50 092 ...	HD 54 014 ...	HD 50 093 ...	HD 54 042 ...
7.00	10	14	42	8	3	070	070		
7.00	16	20	48	8	3			070 1)	070
7.50	10	14	42	8	3	075	075		
7.50	16	20	48	8	3			075 1)	075
8.00	11	15	43	8	3	080	080		
8.00	19	23	51	8	3			080 1)	080
8.50	11	16	48	10	3	085	085		
8.50	19	24	56	10	3			085 1)	085
9.00	11	16	48	10	3	090	090		
9.00	19	24	56	10	3			090 1)	090
9.50	11	16	48	10	3	095	095		
9.50	19	24	56	10	3			095 1)	095
10.00	13	18	50	10	3	100	100		
10.00	22	27	59	10	3			100 1)	100
P						●	●	●	●
M						○	●	○	●
K						●	●	●	●
N						○	○	○	○
S						○	○	○	○
H									
O						○	○	○	○

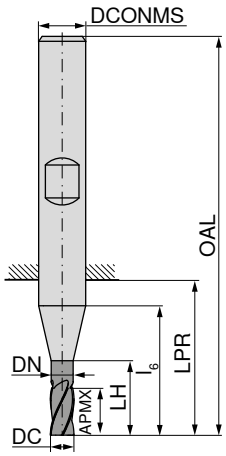
1) Shank tolerance -0.025 / -0.0323

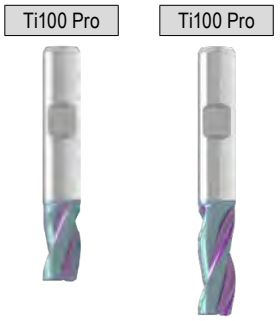
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – End mill HSS-E Co 8 – N

▲ ≤ Ø DC 6 mm, 3 cutting edges to center










DIN 327 | DIN 844 K




DC mm	DC tol.	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	HD 54 021 ...	HD 54 016 ...
1.8	h10	4		4	10	12	48	6	3	018	
2.0	e8	4		4	10	12	48	6	3	020	
2.5	e8	5		5	11	13	49	6	3	025	
3.0	e8	5		5	11	13	49	6	3	030	
3.0	e8	8		8	14	16	52	6	3		030
3.5	h10	6		6	12	14	50	6	3	035	
3.5	h10	10		10	16	18	54	6	3		035
4.0	e8	7		7	13	15	51	6	3	040	
4.0	e8	11		11	17	19	55	6	3		040
4.5	h10	7		7	13	15	51	6	3	045	
4.5	h10	11		11	17	19	55	6	3		045
5.0	e8	8		8	14	16	52	6	3	050	
5.0	e8	13		13	19	21	57	6	3		050
5.5	h10	8		8	14	16	52	6	3	055	
5.5	h10	13		13	19	21	57	6	3		055
6.0	e8	8	5.5	14	14	16	52	6	3	060	
6.0	e8	13	5.5	19	19	21	57	6	3		060
6.5	h10	10	6.0	16	18	20	60	10	3	065	
6.5	h10	16	6.0	22	24	26	66	10	3		065
7.0	e8	10	6.5	16	18	20	60	10	3	070	
7.0	e8	16	6.5	22	24	26	66	10	3		070
7.5	h10	10	7.0	16	18	20	60	10	3	075	
7.5	h10	16	7.0	22	24	26	66	10	3		075
8.0	e8	11	7.5	17	19	21	61	10	3	080	
8.0	e8	19	7.5	25	27	29	69	10	3		080
8.5	h10	11	8.0	18	19	21	61	10	3	085	
8.5	h10	19	8.0	26	27	29	69	10	3		085
9.0	h10	11	8.5	18	19	21	61	10	3	090	
9.0	h10	19	8.5	26	27	29	69	10	3		090
9.5	h10	11	9.0	18	19	21	61	10	3	095	
9.5	h10	19	9.0	26	27	29	69	10	3		095
10.0	e8	13	9.5	21	21	23	63	10	3	100	
10.0	e8	22	9.5	30	30	32	72	10	3		100

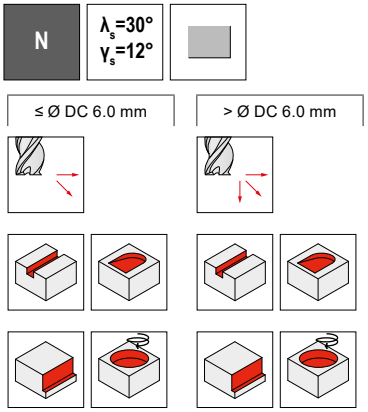
P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H		
O	○	○

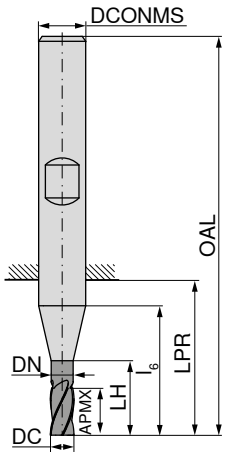
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

Continued on next page

CoreLine – End mill HSS-E Co 8 – N

▲ ≤ Ø DC 6 mm, 3 cutting edges to center









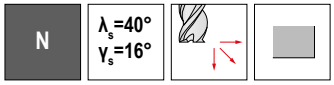

	DIN 327	DIN 844 K
	HD	HD

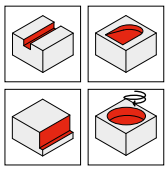
DC mm	DC tol.	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	54 021 ...	54 016 ...
10.5	h10	13	10.0	21	23	25	70	12	3	**105**	
11.0	h10	13	10.5	21	23	25	70	12	3	**110**	
11.0	h10	22	10.5	30	32	34	79	12	3		**110**
11.5	h10	13	11.0	21	23	25	70	12	3	**115**	
11.5	h10	22	11.0	30	32	34	79	12	3		**115**
12.0	e8	16	11.5	26	26	28	73	12	3	**120**	
12.0	e8	26	11.5	36	36	38	83	12	3		**120**
13.0	h10	16	11.5	26	26	28	73	12	3	**130**	
13.0	h10	26	11.5	36	36	38	83	12	3		**130**
14.0	e8	16	11.5	26	26	28	73	12	3	**140**	
14.0	e8	26	11.5	36	36	38	83	12	3		**140**
15.0	h10	16	11.5	26	26	28	73	12	3	**150**	
15.0	h10	26	11.5	36	36	38	83	12	3		**150**
15.5	h10	32	15.0	42	42	44	92	16	3		**155**
16.0	e8	19	15.0	29	29	31	79	16	3	**160**	
16.0	e8	32	15.0	42	42	44	92	16	3		**160**
17.0	h10	19	15.0	29	29	31	79	16	3	**170**	
17.0	h10	32	15.0	42	42	44	92	16	3		**170**
18.0	e8	19	15.0	29	29	31	79	16	3	**180**	
18.0	e8	32	15.0	42	42	44	92	16	3		**180**
19.0	h10	19	15.0	29	29	31	79	16	3	**190**	
19.0	h10	32	15.0	42	42	44	92	16	3		**190**
19.5	h10	38	19.0	52	52	54	104	20	3		**195**
20.0	e8	22	19.0	36	36	38	88	20	3	**200**	
20.0	e8	38	19.0	52	52	54	104	20	3		**200**
22.0	e8	38	19.0	52	52	54	104	20	3		**220**

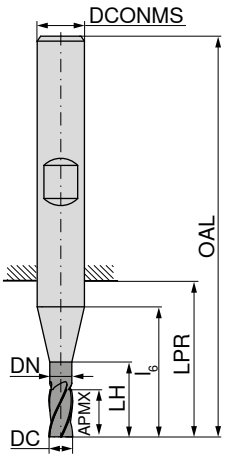
P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H		
O	○	○

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

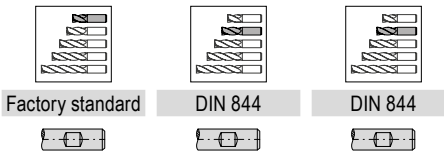
CoreLine – End mill HSS-E Co 8 – N











DC mm	DC tol.	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	HD 54 017 ...	HD 50 124 ...	HD 54 011 ...
4	k10	11		11	17	19	55	6	4		**040**	**040**
5	k10	13		13	19	21	57	6	4		**050**	**050**
6	e8	8	5.5	14	14	16	52	6	4	**060**		
6	k10	13	5.5	19	19	21	57	6	4		**060**	**060**
8	e8	11	7.5	17	19	21	61	10	4	**080**		
8	k10	19	7.5	25	27	29	69	10	4		**080**	**080**
10	e8	13	9.5	21	21	23	63	10	4	**100**		
10	k10	22	9.5	30	30	32	72	10	4		**100**	**100**
12	e8	16	11.5	26	26	28	73	12	4	**120**		
12	k10	26	11.5	36	36	38	83	12	4		**120**	**120**
14	e8	16	11.5	26	26	28	73	12	4	**140**		
14	k10	26	11.5	36	36	38	83	12	4		**140**	**140**
15	k10	26	11.5	36	36	38	83	12	4		**150**	
16	e8	19	15.0	29	29	31	79	16	4	**160**		
16	k10	32	15.0	42	42	44	92	16	4		**160**	**160**
20	e8	22	19.0	36	36	38	88	20	4	**200**		
20	k10	38	19.0	52	52	54	104	20	4		**200**	**200**
P										○	○	○
M										●	●	●
K										○	○	○
N										●	●	●
S										●	●	●
H												
O										●	●	●

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

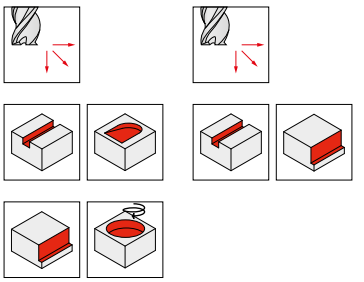
CoreLine – End mill HSS-E Co 8 – N

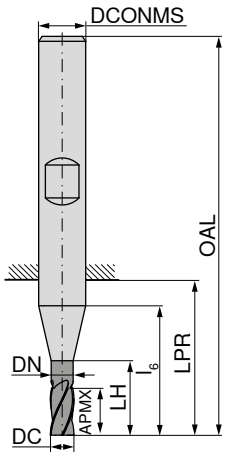
▲ > Ø DC 28.0 mm, recessed center

N

λ_s=30°
γ_s=12°

≤ Ø DC 28.0 mm | > Ø DC 28.0 mm





uncoated | Ti100 Pro







DIN 69844



DIN 69844



HD



HD

DC $_{k10}$ mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	50 110 ...	54 018 ...
2.0	7		7	13	15	51	6	4	**020**	**020**
2.5	8		8	14	16	52	6	4	**025**	**025**
3.0	8		8	14	16	52	6	4	**030**	**030**
4.0	11		11	17	19	55	6	4	**040**	**040**
5.0	13		13	19	21	57	6	4	**050**	**050**
6.0	13	5.5	19	19	21	57	6	4	**060**	**060**
7.0	16	6.5	22	24	26	66	10	4	**070**	**070**
8.0	19	7.5	25	27	29	69	10	4	**080**	**080**
9.0	19	8.5	26	27	29	69	10	4	**090**	**090**
10.0	22	9.5	30	30	32	72	10	4	**100**	**100**
11.0	22	10.5	30	32	34	79	12	4	**110**	**110**
12.0	26	11.5	36	36	38	83	12	4	**120**	**120**
13.0	26	11.5	36	36	38	83	12	4	**130**	**130**
14.0	26	11.5	36	36	38	83	12	4	**140**	**140**
15.0	26	11.5	36	36	38	83	12	4	**150**	**150**
16.0	32	15.0	42	42	44	92	16	4	**160**	**160**
18.0	32	15.0	42	42	44	92	16	4	**180**	**180**
20.0	38	19.0	52	52	54	104	20	4	**200**	**200**
22.0	38	19.0	52	52	54	104	20	5	**220**	**220**
25.0	45	24.0	63	63	65	121	25	5	**250**	**250**
28.0	45	24.0	63	63	65	121	25	5	**280**	**280**
30.0	45	24.0	63	63	65	121	25	5	**300**	**300**
32.0	53	31.0	70	70	73	133	32	6	**320**	**320**
40.0	63	38.0	80	80	85	155	40	6	**400**	**400**

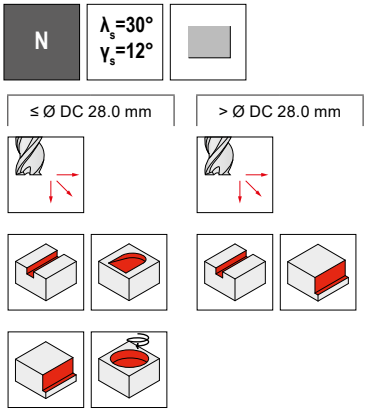
P	●	●
M	○	●
K	●	●
N	○	○
S	○	○
H		
O	○	○

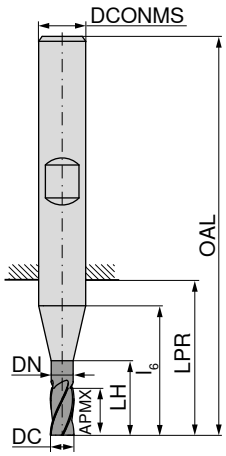


→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – End mill HSS-E Co 8 – N

▲ > Ø DC 28.0 mm, recessed center





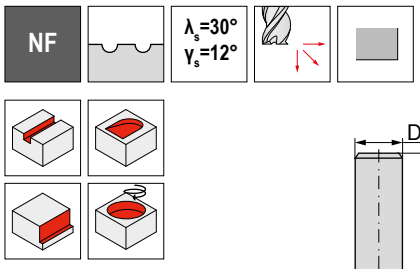


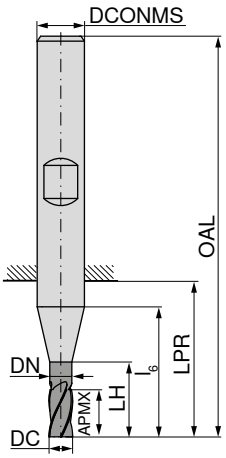
DC k10 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	DIN 844 HD 50 111 ...	DIN 844 HD 54 019 ...	Factory standard HD 50 104 ...
3	12		12	18	20	56	6	4	**030**	**030**	
4	19		19	25	27	63	6	4	**040**	**040**	
5	24		24	30	32	68	6	4	**050**	**050**	
6	24	5.5	30	30	32	68	6	4	**060**	**060**	
6	56	5.5	62	62	64	100	6	4			**060**
8	38	7.5	44	46	48	88	10	4	**080**	**080**	
8	70	7.5	73	73	75	115	10	4			**080**
10	45	9.5	53	53	55	95	10	4	**100**	**100**	
10	75	9.5	79	79	81	121	10	4			**100**
12	53	11.5	63	63	65	110	12	4	**120**	**120**	
12	85		85	85	85	130	12	4			**120**
14	53	11.5	63	63	65	110	12	4	**140**	**140**	
14	85		85	85	85	130	12	4			**140**
15	53	11.5	63	63	65	110	12	4	**150**	**150**	
16	63	15.0	73	73	75	123	16	4	**160**	**160**	
16	90	15.0	95	95	97	145	16	4			**160**
18	63	15.0	73	73	75	123	16	4	**180**	**180**	
18	100	15.0	110	110	112	160	16	5			**180**
20	75	19.0	89	89	91	141	20	4	**200**	**200**	
20	110	19.0	128	128	130	180	20	5			**200**
22	75	19.0	89	89	91	141	20	5	**220**	**220**	
22	110	19.0	128	128	130	180	20	5			**220**
25	90	24.0	108	108	110	166	25	5	**250**	**250**	
25	125	24.0	142	142	144	200	25	6			**250**
28	90	24.0	108	108	110	166	25	5	**280**	**280**	
28	140	24.0	147	147	149	205	25	6			**280**
30	90	24.0	108	108	110	166	25	5	**300**	**300**	
32	106	31.0	123	123	126	186	32	6	**320**	**320**	
32	160	31.0	167	167	170	230	32	6			**320**
40	125	38.0	142	142	147	217	40	6	**400**	**400**	
40	180	31.0	197	197	200	260	32	8			**400**
50	150	48.0	172	172	172	252	50	8	**500**	**500**	

P	●	●	●
M	○	●	○
K	●	●	●
N	○	○	○
S	○	○	○
H			
O	○	○	○

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Roughing-finishing milling cutter HSS-E Co 5 – NF









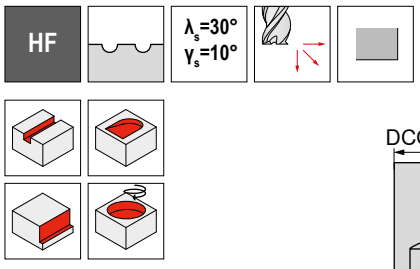
	DIN 69844	DIN 844
	HD	HD
DC k12 mm	54 028 ...	54 029 ...

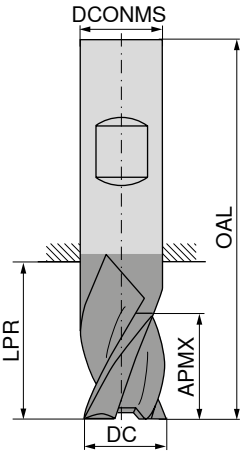
DC k12 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	54 028 ...	54 029 ...
6	13	5.5	19	19	21	57	6	4	**060**	
6	24	5.5	30	30	32	68	6	4		**060**
7	16	6.5	22	24	26	66	10	4	**070**	
8	19	7.5	25	27	29	69	10	4	**080**	
8	38	7.5	44	46	48	88	10	4		**080**
9	19	8.5	26	27	29	69	10	4	**090**	
10	22	9.5	30	30	32	72	10	4	**100**	
10	45	9.5	53	53	55	95	10	4		**100**
11	22	10.5	30	32	32	79	12	4	**110**	
11	45	10.5	53	55	57	102	12	4		**110**
12	26	11.5	36	36	38	83	12	4	**120**	
12	53	11.5	63	63	65	110	12	4		**120**
13	26	11.5	36	36	38	83	12	4	**130**	
14	26	11.5	36	36	38	83	12	4	**140**	
16	32	15.0	42	42	44	92	16	4	**160**	
16	63	15.0	73	73	75	123	16	4		**160**
18	32	15.0	42	42	44	92	16	4	**180**	
20	38	19.0	52	52	54	104	20	4	**200**	
20	75	19.0	89	89	91	141	20	4		**200**
22	38	19.0	52	52	54	104	20	4	**220**	
22	75	19.0	89	89	91	141	20	4		**220**
25	45	24.0	63	63	65	121	25	4	**250**	
25	90	24.0	108	108	110	166	25	4		**250**

P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Powder steel roughing-finishing milling cutters – HF





Ti100 Pro





DIN 844



HD

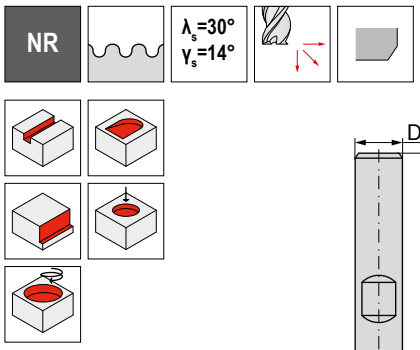
DC k12 mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	54 034 ...
6	13	21	57	6	4	**060**
8	19	29	69	10	4	**080**
10	22	32	72	10	4	**100**
12	26	38	83	12	4	**120**
16	32	44	92	16	4	**160**
20	38	54	104	20	4	**200**

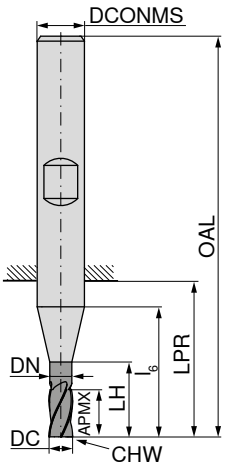
P	●
M	○
K	●
N	○
S	○
H	
O	○



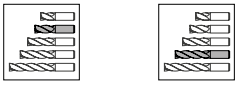
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Rough milling cutter HSS-E Co 8 – NR







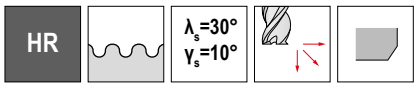


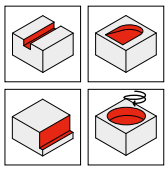
DC k12	APMX	DN	LH	l6	LPR	OAL	DCONMS h6	CHW	ZEFP	DIN 69844	DIN 844
mm	mm	mm	mm	mm	mm	mm	mm	mm		HD	HD
										54 026 ...	54 027 ...
6	13	5.5	19	19	21	57	6	0.5	3	060	
6	24	5.5	30	30	32	68	6	0.5	3		060
8	19	7.5	25	27	29	69	10	0.7	3	080	
8	38	7.5	44	46	48	88	10	0.7	3		080
10	22	9.5	30	30	32	72	10	0.7	3	100	
10	45	9.5	53	53	55	95	10	0.7	3		100
12	26	11.5	36	36	38	83	12	0.7	3	120	
12	53	11.5	63	63	65	110	12	0.7	3		120
14	26	11.5	36	36	38	83	12	0.9	3	140	
14	53	11.5	63	63	65	110	12	0.9	3		140
16	32	15.0	42	42	44	92	16	0.9	3	160	
16	63	15.0	73	73	75	123	16	0.9	3		160
18	32	15.0	42	42	44	92	16	0.9	3	180	
18	63	15.0	73	73	75	123	16	0.9	3		180
20	38	19.0	52	52	54	104	20	0.9	3	200	
20	75	19.0	89	89	91	141	20	0.9	3		200
25	45	24.0	63	63	65	121	25	0.9	3	250	
25	90	24.0	108	108	110	166	25	0.9	3		250

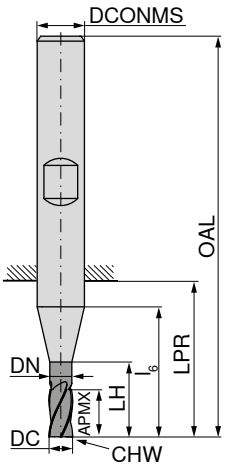
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

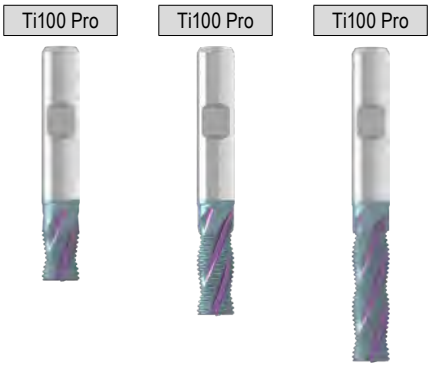
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Powder steel fine roughing milling cutters – HR









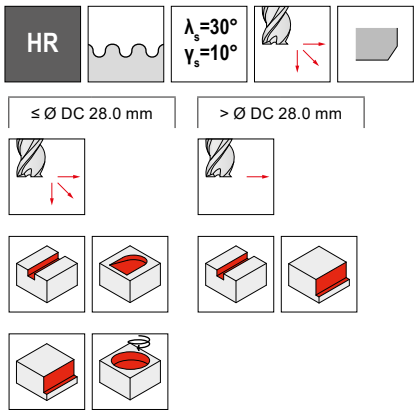


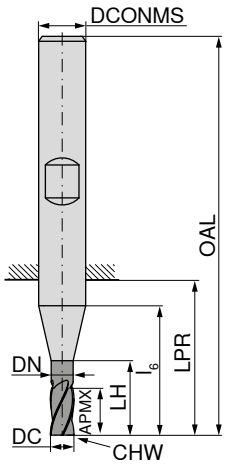
DC k12 mm	APMX mm	DN mm	LH mm	l6 mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	HD 54 031 ...	HD 54 032 ...	HD 54 033 ...
6	8	5.5	14	14	16	52	6	0.35	4	060		
6	13	5.5	19	19	21	57	6	0.35	4		060	
8	11	7.5	17	19	21	61	10	0.45	4	080		
8	19	7.5	25	27	29	69	10	0.45	4		080	
8	28	7.5	34	36	38	78	10	0.45	4			080
10	13	9.5	21	21	23	63	10	0.45	4	100		
10	22	9.5	30	30	32	72	10	0.45	4		100	
10	34	9.5	42	42	44	84	10	0.45	4			100
12	16	11.5	26	26	28	73	12	0.60	4	120		
12	26	11.5	36	36	38	83	12	0.60	4		120	
12	40	11.5	50	50	52	97	12	0.60	4			120
14	16	11.5	26	26	28	73	12	0.60	4	140		
14	26	11.5	36	36	38	83	12	0.60	4		140	
14	40	11.5	50	50	52	97	12	0.60	4			140
16	19	15.0	29	29	31	79	16	0.70	4	160		
16	32	15.0	42	42	44	92	16	0.70	4		160	
16	48	15.0	58	58	60	108	16	0.70	4			160
18	19	15.0	29	29	31	79	16	0.70	4	180		
18	32	15.0	42	42	44	92	16	0.70	4		180	
18	48	15.0	58	58	60	108	16	0.70	4			180
20	22	19.0	36	36	38	88	20	0.70	4	200		
20	38	19.0	52	52	54	104	20	0.70	4		200	
20	56	19.0	70	70	72	122	20	0.70	4			200
22	22	19.0	36	36	38	88	20	0.70	4	220		
22	38	19.0	52	52	54	104	20	0.70	4		220	
22	56	19.0	70	70	72	122	20	0.70	4			220
25	26	24.0	44	44	46	102	25	0.70	4	250		
25	45	24.0	63	63	65	121	25	0.70	4		250	
25	68	24.0	86	86	88	144	25	0.70	4			250
32	32	31.0	49	49	52	112	32	0.90	6	320		
32	53	31.0	70	70	73	133	32	0.90	6		320	
P										●	●	●
M										●	●	●
K										●	●	●
N										○	○	○
S										○	○	○
H												
O										○	○	○



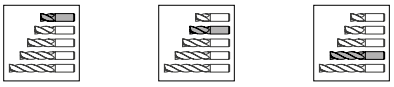
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Fine profile milling cutter HSS-E Co 8 – HR





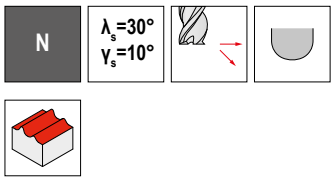


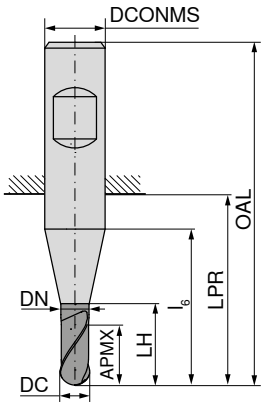


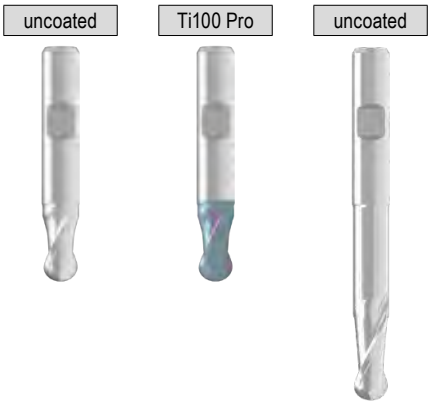
DC $_{k12}$	APMX	DN	LH	l_6	LPR	OAL	DCONMS $_{h6}$	CHW	ZEFP	Factory standard	DIN 69844	DIN 844
mm	mm	mm	mm	mm	mm	mm	mm	mm		HD	HD	HD
										54 022 ...	54 023 ...	54 024 ...
4	11		11	17	19	55	6	0.35	3		040	
5	13		13	19	21	57	6	0.35	3		050	
6	8	5.5	14	14	16	52	6	0.35	4	060		
6	13	5.5	19	19	21	57	6	0.35	4		060	
6	24	5.5	30	30	32	68	6	0.35	4			060
8	11	7.5	17	19	21	61	10	0.45	4	080		
8	19	7.5	25	27	29	69	10	0.45	4		080	
8	38	7.5	44	46	48	88	10	0.45	4			080
10	13	9.5	21	21	23	63	10	0.45	4	100		
10	22	9.5	30	30	32	72	10	0.45	4		100	
10	45	9.5	53	53	55	95	10	0.45	4			100
12	16	11.5	26	26	28	73	12	0.60	4	120		
12	26	11.5	36	36	38	83	12	0.60	4		120	
12	53	11.5	63	63	65	110	12	0.60	4			120
14	16	11.5	26	26	28	73	12	0.60	4	140		
14	26	11.5	36	36	38	83	12	0.60	4		140	
14	53	11.5	63	63	65	110	12	0.60	4			140
16	19	15.0	29	29	31	79	16	0.70	4	160		
16	32	15.0	42	42	44	92	16	0.70	4		160	
16	63	15.0	73	73	75	123	16	0.70	4			160
18	19	15.0	29	29	31	79	16	0.70	4	180		
18	32	15.0	42	42	44	92	16	0.70	4		180	
18	63	15.0	73	73	75	123	16	0.70	4			180
20	22	19.0	36	36	38	88	20	0.70	4	200		
20	38	19.0	52	52	54	104	20	0.70	4		200	
20	75	19.0	89	89	91	141	20	0.70	4			200
22	38	19.0	52	52	54	114	20	0.70	4		220	
22	75	19.0	89	89	91	141	20	0.70	4			220
25	45	24.0	63	63	65	121	25	0.70	4		250	
25	90	24.0	108	108	110	166	25	0.70	4			250
28	45	24.0	63	63	65	121	25	0.90	5		280	
28	90	24.0	108	108	110	166	25	0.90	5			280
30	45	24.0	63	63	65	121	25	0.90	5		300	
30	90	24.0	108	108	110	166	25	0.90	5			300
32	53	31.0	70	70	73	133	32	0.90	6		320	
32	106	31.0	123	123	126	186	32	0.90	6			320
P										●	●	●
M										●	●	●
K										●	●	●
N										○	○	○
S										○	○	○
H												
O										○	○	○

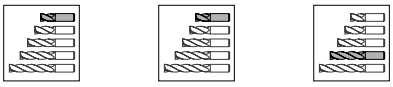
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Ball nosed end milling cutter HSS-E Co 8 – N









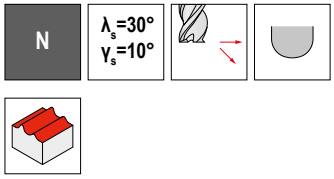
									Factory standard	Factory standard	Factory standard
											
									HD	HD	HD
DC h10	APMX	DN	LH	l_6	LPR	OAL	DCONMS h6	ZEFP	**50 320 ...**	**54 041 ...**	**50 321 ...**
mm	mm	mm	mm	mm	mm	mm	mm				
2	4		4	10	12	48	6	2	**020**	**020**	
3	5		5	11	13	49	6	2	**030**	**030**	
3	8		8	18	20	56	6	2			**030**
4	7		7	13	15	51	6	2	**040**	**040**	
4	11		11	25	27	63	6	2			**040**
5	8		8	14	16	52	6	2	**050**	**050**	
5	13		13	30	32	68	6	2			**050**
6	8	5.50	14	14	16	52	6	2	**060**	**060**	
6	13	5.50	30	30	32	68	6	2			**060**
7	10	6.50	16	18	20	60	10	2	**070**	**070**	
7	16	6.35	36	38	40	80	10	2			**070**
8	11	7.50	17	19	21	61	10	2	**080**	**080**	
8	19	7.35	44	46	48	88	10	2			**080**
9	11	8.50	18	19	21	61	10	2	**090**	**090**	
9	19	8.35	45	46	48	88	10	2			**090**
10	13	9.50	21	21	23	63	10	2	**100**	**100**	
10	22	9.35	53	53	55	95	10	2			**100**
11	13	10.50	21	23	25	70	12	2	**110**		
11	22	10.50	53	55	57	102	12	2			**110**
12	16	11.50	26	26	28	73	12	2	**120**	**120**	
12	26	11.50	63	63	65	110	12	2			**120**
13	16	11.50	26	26	28	73	12	2	**130**	**130**	
14	16	11.50	26	26	28	73	12	2	**140**	**140**	
14	26	11.50	63	63	65	110	12	2			**140**
15	16	11.50	26	26	28	73	12	2	**150**	**150**	
15	26	11.50	63	63	65	110	12	2			**150**
16	19	15.50	29	29	31	79	16	2	**160**	**160**	
16	32	15.00	73	73	75	123	16	2			**160**
18	19	15.50	29	29	31	79	16	2	**180**	**180**	
18	32	15.00	73	73	75	123	16	2			**180**
20	22	19.00	36	36	38	88	20	2	**201**	**201**	
22	22	19.00	36	36	38	88	20	2	**220**		
24	26	23.00	42	44	46	102	25	2	**240**	**240**	
24	45	23.00	106	108	110	166	25	2			**240**
P									●	●	●
M									○	○	○
K									●	●	●
N									○	○	○
S									○	○	○
H											
O									○	○	○

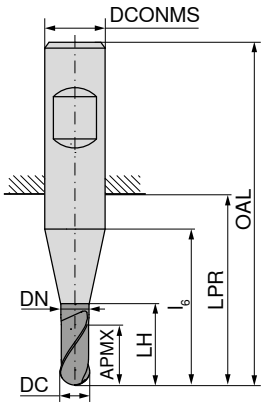


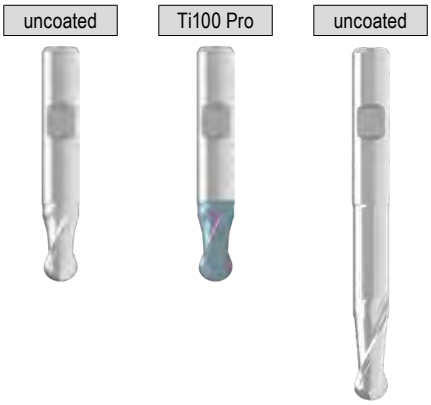
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

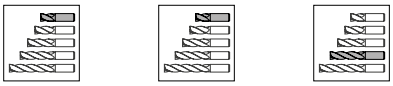
Continued on next page

CoreLine – Ball nosed end milling cutter HSS-E Co 8 – N









Factory standard | Factory standard | Factory standard



HD | HD | HD

DC h10 mm	APMX mm	DN mm	LH mm	l_6 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	50 320 ...	54 041 ...	50 321 ...
25	26	24.00	44	44	46	102	25	2	**250**		
25	45	24.00	108	108	110	166	25	2			**250**
26	26	24.00	44	44	46	102	25	2	**260**		
28	26	24.00	44	44	46	102	25	2	**280**		
30	26	24.00	44	44	46	102	25	2	**300**		
30	45	24.00	108	108	110	166	25	2			**300**

P	●	●	●
M	○	○	○
K	●	●	●
N	○	○	○
S	○	○	○
H			
O	○	○	○



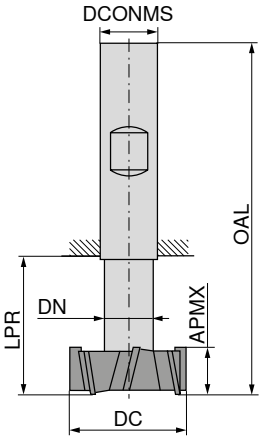
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – T-slot milling cutter HSS-E Co 5, cross-pitched – N

▲ For slots according to DIN 650

N

λ_s=10°
γ_s=11°



uncoated



DIN 851 A



DC d11 mm	APMX d11 mm	DN h12 mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	HD 50 240 ...
11.0	4	4	13.5	53.5	10	6	**110**
12.5	6	5	17.0	57.0	10	6	**125**
16.0	8	7	22.0	62.0	10	6	**160**
18.0	8	8	25.0	70.0	12	6	**180**
19.0	9	8	26.0	71.0	12	6	**190** [1]
21.0	9	10	29.0	74.0	12	6	**210**
22.0	10	10	30.0	75.0	12	6	**220** [1]
25.0	11	12	34.0	82.0	16	8	**250**
28.0	12	13	37.0	85.0	16	8	**280** [1]
32.0	14	15	42.0	90.0	16	8	**320**
36.0	16	17	47.0	103.0	25	8	**360** [1]
40.0	18	19	52.0	108.0	25	10	**400**
45.0	20	21	57.0	113.0	25	10	**450** [1]
50.0	22	25	64.0	124.0	32	10	**500**
60.0	28	30	79.0	139.0	32	10	**600**

P	●
M	○
K	●
N	○
S	○
H	
O	○

1) Factory standard

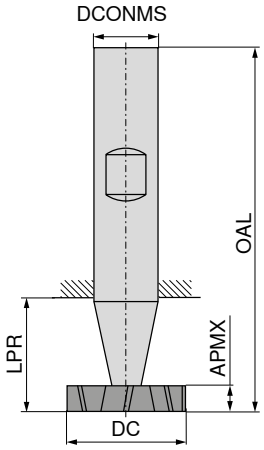
→ Find the cutting data standard values here.

CoreLine – Slot milling cutter HSS-E Co 5, cross-pitched – N

▲ For slots according to DIN 6888
▲ CDX = maximum grooving depth

N | λ_s=10° γ_s=10°





uncoated



DIN 850



HD

DC h12 mm	APMX e8 mm	LPR mm	OAL mm	DCONMS h6 mm	CDX mm	ZEFP	50 234 ...
10.5	2.0	14	50	6	3.25	6	100
10.5	2.5	14	50	6	3.15	6	101
10.5	3.0	14	50	6	3.15	6	102
13.5	2.0	16	56	10	4.45	6	130 1)
13.5	3.0	16	56	10	4.45	6	132
13.5	4.0	16	56	10	4.45	6	133
16.5	3.0	16	56	10	5.95	6	161
16.5	4.0	16	56	10	5.95	6	162
16.5	5.0	16	56	10	5.75	6	163
19.5	3.0	23	63	10	6.95	8	190 1)
19.5	4.0	23	63	10	6.95	8	191
19.5	5.0	23	63	10	6.75	8	192
22.5	4.0	23	63	10	8.25	8	220 1)
22.5	5.0	23	63	10	8.25	8	221
22.5	6.0	23	63	10	8.00	8	222
25.5	5.0	23	63	10	9.00	10	250 1)
25.5	6.0	23	63	10	9.00	10	251
28.5	6.0	23	63	10	10.00	10	281
28.5	8.0	23	63	10	10.00	10	283
32.5	6.0	26	71	12	12.00	10	321 1)
32.5	8.0	26	71	12	12.00	10	322
38.5	8.0	26	71	12	13.35	10	381 1)
45.5	10.0	26	71	12	16.85	12	450

P	●
M	○
K	●
N	○
S	○
H	
O	○

1) Factory standard



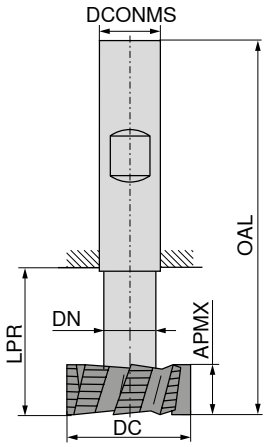
→ Find the cutting data standard values here.

CoreLine – T-slot milling cutter HSS-E Co 5 – NF

▲ For slots according to DIN 650

NF | λ_s=20° γ_s=11°





uncoated



DIN 851 A



DC $_{d11}$ mm	APMX mm	DN $_{h12}$ mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	HD 50 241 ...
21	9	10	29	74	12	6	**210**
22	10	10	30	75	12	6	**220** [1]
25	11	12	34	82	16	6	**250**
28	12	13	37	85	16	6	**280** [1]
32	14	15	42	90	16	6	**320**
36	16	17	47	103	25	6	**360** [1]
40	18	19	52	108	25	8	**400**
45	20	21	57	113	25	8	**450** [1]

P	●
M	○
K	●
N	○
S	○
H	
O	○

1) Factory standard

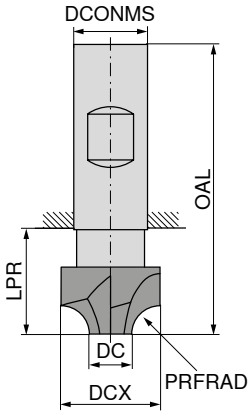


→ Find the cutting data standard values here.

CoreLine – Quarter-round profile milling cutter HSS-E Co 5, concave – N

N | λ_s=0° γ_s=0°





uncoated



DIN 6518



HD

PRFRAD $_{H11}$ mm	DCX mm	DC mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	50 248 ...
1.0	8	6	20	60	10	4	**010**
1.5	9	6	20	60	10	4	**015**
2.0	10	6	20	60	10	4	**020**
2.5	11	6	20	60	10	4	**025**
3.0	12	6	15	60	12	4	**030**
4.0	14	6	15	60	12	4	**040**
5.0	16	6	15	60	12	4	**050**
6.0	20	8	19	67	16	4	**060**
8.0	24	8	23	71	16	4	**080**
9.0	26	8	29	85	25	4	**090**
10.0	28	8	29	85	25	4	**100**
12.0	34	10	34	90	25	4	**120**
15.0	46	16	44	100	25	6	**150**
16.0	48	16	44	100	25	6	**160**

P	●
M	○
K	●
N	○
S	○
H	
O	○

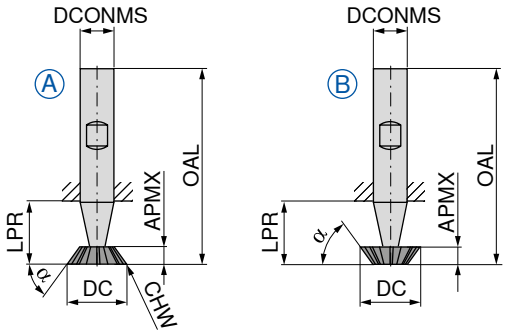


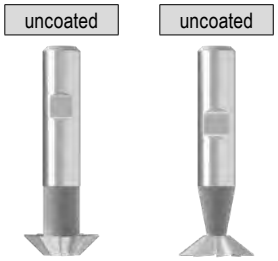
→ Find the cutting data standard values here.

CoreLine – Single angle milling cutter HSS-E Co 5 – H

H

λ_s=0°
γ_s=0°





α°	DC mm	APMX mm	LPR mm	OAL mm	DCONMS h6 mm	CHW mm	ZEFP	Fig.	DIN 1833 HD 50 246 ...	DIN 1833 HD 50 245 ...
45	16	4.0	15	60	12	0.3	10	A		016
	16	4.0	15	60	12		10	B	016	
	20	5.0	18	63	12	0.3	10	A		020
	20	5.0	18	63	12		10	B	020	
	25	6.3	22	67	12	0.3	10	A		025
	25	6.3	22	67	12		10	B	025	
60	16	6.3	15	60	12	0.3	10	A		116
	16	6.3	15	60	12		10	B	116	
	20	8.0	18	63	12	0.3	10	A		120
	20	8.0	18	63	12		10	B	120	
	25	10.0	22	67	12	0.3	10	A		125
	25	10.0	22	67	12		10	B	125	
70	16	7.0	15	60	12	0.3	10	A		216 [1]
	20	9.0	18	63	12	0.3	10	A		220 [1]
	25	11.0	19	67	16	0.3	10	A		225 [1]

P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

1) Factory standard

→ Find the cutting data standard values here.

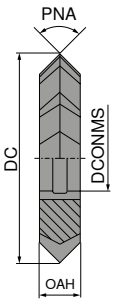
CoreLine – Double angle milling cutter HSS – N

▲ with keyway in accordance with DIN 138

N

λ_s=0°
γ_s=0°

uncoated





DIN 847

HD

PNA °	DC mm	OAH mm	DCONMS mm	ZEFP	50 360 ...
45	50	8	16	22	045
	63	10	22	24	145
	80	12	27	26	245
	100	18	32	28	345
60	50	10	16	18	060
	63	14	22	20	160
	80	18	27	22	260
	100	25	32	24	360
90	50	14	16	16	090
	63	20	22	18	190
	80	22	27	20	290
	100	32	32	24	390
120	50	14	16	16	120 [1]
	63	20	22	16	121 [1]

P	●
M	○
K	●
N	○
S	○
H	
O	○

1) Factory standard

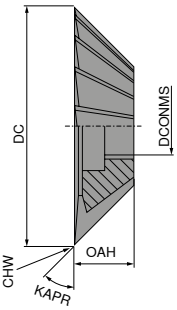
→ Find the cutting data standard values here.

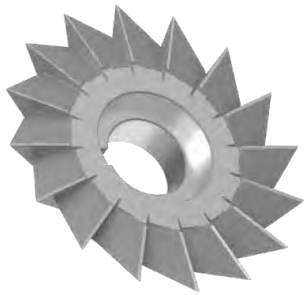
CoreLine – Shell type single angle milling cutter HSS – N

▲ with keyway in accordance with DIN 138

N | λ_s=0° γ_s=2°

uncoated





DIN 842 A

KAPR °	DC mm	OAH mm	DCONMS mm	CHW mm	ZEFP	HD 50 362 ...
45	40	10	10	0.3	14	045
	50	13	13	0.3	16	145
	63	18	16	0.3	18	245
	80	22	22	0.3	20	345
	100	28	27	0.3	22	445
50	50	16	13	0.3	16	150
60	40	13	10	0.3	14	060
	50	16	13	0.3	16	160
	63	20	16	0.3	18	260
	80	25	22	0.3	20	360
	100	32	27	0.3	22	460
	125	40	32	0.3	28	560

P	●
M	○
K	●
N	○
S	○
H	
O	○

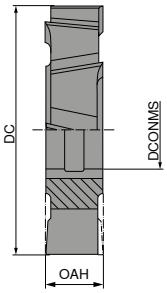
→ Find the cutting data standard values here.

CoreLine – Side and face milling cutter HSS-E Co 5 – H

▲ fine cross-pitched version
▲ with keyway in accordance with DIN 138

H | λ_s = 8° | γ_s = 12° 4° 8°

uncoated





DIN 885 A

DC js16 mm	OAH k11 mm	DCONMS H7 mm	ZEFP	HD 50 349 ...
50	4	16	16	100
50	5	16	16	102
50	6	16	16	104
50	8	16	16	106
50	10	16	16	108
63	4	22	18	200
63	5	22	18	202
63	6	22	18	204
63	8	22	18	206
63	10	22	18	208
63	12	22	18	210
63	14	22	18	212
80	5	27	20	300
80	6	27	20	302
80	8	27	20	304
80	10	27	18	306
80	12	27	18	308
80	14	27	18	310
80	16	27	18	312
80	18	27	18	314
80	20	27	18	316
100	6	32	22	400
100	8	32	22	402
100	10	32	20	404
100	12	32	20	406
100	14	32	20	408
100	16	32	20	410
100	18	32	20	412
100	20	32	20	414
100	25	32	20	418
125	8	32	24	500
125	10	32	22	502
125	12	32	22	504
125	14	32	22	506
125	16	32	22	508
125	18	32	22	510
125	20	32	22	512
125	25	32	22	516
160	10	40	26	600

P	●
M	○
K	●
N	●
S	○
H	
O	●

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Side and face milling cutter HSS-E Co 5 – H

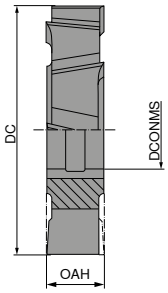
▲ fine cross-pitched version
▲ with keyway in accordance with DIN 138

H

λ_s= 8°
12°
γ_s= 4°
8°

uncoated





DIN 885 A

DC js16 mm	OAH k11 mm	DCONMS H7 mm	ZEFP	HD 50 349 ...
160	12	40	26	**602**
160	14	40	26	**604**
160	16	40	26	**606**
160	18	40	26	**608**
160	20	40	26	**610**
160	25	40	26	**614**
160	32	40	26	**618**

P	●
M	○
K	●
N	●
S	○
H	
O	●

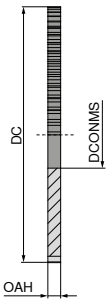
→ Find the cutting data standard values here.

CoreLine – Narrow side and face milling cutter HSS-E Co 5 – H

▲ fine cross-pitched version
▲ with keyway in accordance with DIN 138

H | λ_s=12° 15° | γ_s=13° 15°

uncoated





DIN 1834 A

HD

DC js16 mm	OAH k11 mm	DCONMS H7 mm	ZEFP	50 340 ...
63	1.6	22	28	200
63	2.0	22	28	202
63	2.5	22	28	204
63	3.0	22	28	206
80	1.6	27	32	300
80	2.0	27	32	302
80	2.5	27	32	304
80	3.0	27	32	306
80	4.0	27	32	310
100	1.6	32	36	400
100	2.0	32	36	402
100	2.5	32	36	404
100	3.0	32	36	406
100	4.0	32	36	410
100	5.0	32	36	414
125	1.6	32	40	500
125	2.0	32	40	502
125	2.5	32	40	504
125	3.0	32	40	506
125	4.0	32	40	510
125	5.0	32	40	514
125	6.0	32	40	516
160	2.0	40	48	600
160	2.5	40	48	602
160	3.0	40	48	604
160	4.0	40	48	606
160	5.0	40	48	608
160	6.0	40	48	610
160	8.0	40	36	612

P	●
M	
K	●
N	●
S	●
H	
O	●

→ Find the cutting data standard values here.

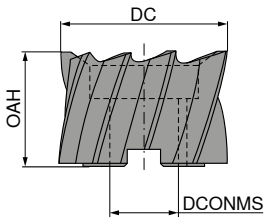
CoreLine – Shell end mill HSS-E Co 5 – N

▲ with keyway in accordance with DIN 138

N

λ_s=25°
γ_s=10°

uncoated





DIN 1880

HD

DC k10 mm	OAH mm	DCONMS mm	ZEFP	50 250 ...
40	32	16	8	**040**
50	36	22	8	**050**
63	40	27	8	**063**
80	45	27	10	**080**

P	●
M	●
K	●
N	●
S	○
H	
O	●

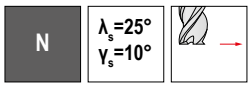
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Shell end mill HSS-E Co 5 – N

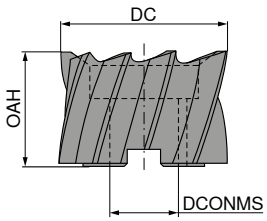
▲ with keyway in accordance with DIN 138

N

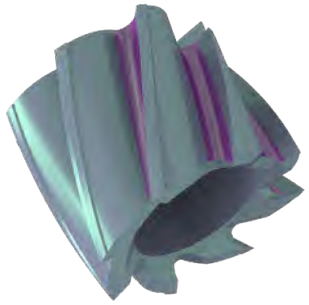
λ_s=25°
γ_s=10°







Ti100 Pro



DIN 1880

DC k10 mm	OAH mm	DCONMS mm	ZEFP	HD 54 035 ...
40	32	16	8	**040**
50	36	22	8	**050**
63	40	27	8	**063**
80	45	27	10	**080**

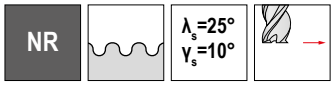
P	●
M	●
K	●
N	●
S	○
H	
O	●



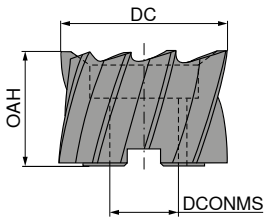
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Roughing face milling cutter HSS-E Co 5 – NR

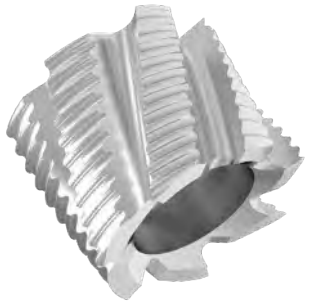
▲ with keyway in accordance with DIN 138
▲ Manufacturing tolerance lies in the plus range of the tolerance js14







uncoated



DC js14 mm	OAH mm	DCONMS mm	ZEFP	DIN 1880 HD 50 260 ...
40	32	16	7	**040**
50	36	22	8	**050**
63	40	27	8	**063**
80	45	27	10	**080**

P	●
M	●
K	●
N	●
S	○
H	
O	●



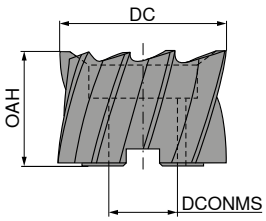
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

CoreLine – Roughing-finishing face milling cutter HSS-E Co 8 – HR

▲ with keyway in accordance with DIN 138
▲ Manufacturing tolerance lies in the plus range of the tolerance js14

HR | λ_s=25° γ_s=10°





Ti100 Pro



DC js14 mm	OAH mm	DCONMS mm	ZEFP	DIN 1880 HD 54 037 ...
40	32	16	7	**040**
50	36	22	8	**050**
63	40	27	8	**063**
80	45	27	10	**080**

P	●
M	●
K	●
N	●
S	○
H	
O	●



→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting speeds – slot, end milling and ball-nosed end milling cutters

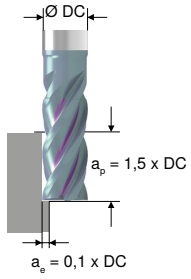
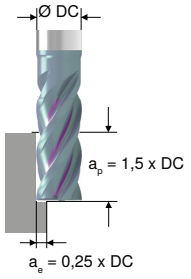
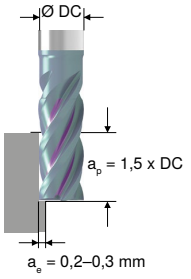
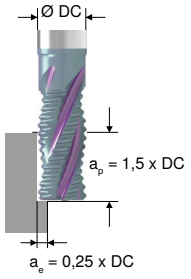
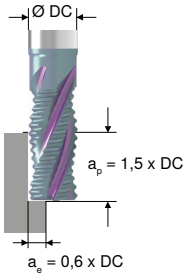
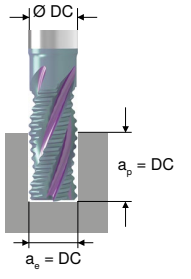
Index	Kf f_z	uncoated	Ti100 Pro	Ti100 Pro	● 1st choice ○ Suitable		
				Powder steel	Emulsion	Compressed air	MMS
		v_c (m/min)					
P.1.1	1,2	20	45	50	●		
P.1.2	1,2	20	45	50	●		
P.1.3	1,2	20	45	50	●		
P.1.4	1,0	15	30	35	●		
P.1.5	1,0	15	30	35	●		
P.2.1	1,2	20	40	45	●		
P.2.2	1,0	15	40	45	●		
P.2.3	0,8	15	30	35	●		
P.2.4	0,8	15	30	35	●		
P.3.1	1,0	15	30	35	●		
P.3.2	0,8	12	25	30	●		
P.3.3	0,8	10	20	25	●		
P.4.1	1,0	10	20	25	●		
P.4.2	1,0	10	20	25	●		
M.1.1	1,0	10	20	25	●		
M.2.1	0,9	7	15	20	●		
M.3.1	1,0	5	10	15	●		
K.1.1	1,0	18	35	40	●		
K.1.2	1,0	18	25	30	●		
K.2.1	1,0	15	30	35	●		
K.2.2	1,0	15	30	35	●		
K.3.1	1,0	15	35	40	●		
K.3.2	0,8	12	25	30	●		
N.1.1	1,9	150	240	260	●		
N.1.2	1,9	100	130	150	●		
N.2.1	1,8		100	140	●		
N.2.2	1,7		60	80	●		
N.2.3							
N.3.1	1,1		100	130	●		
N.3.2	1,2	30	60	80	●		
N.3.3	1,2	30	60	80	●		
N.4.1	1,8	90	140	160		●	
S.1.1							
S.1.2							
S.2.1							
S.2.2							
S.2.3							
S.3.1	1,0	10	15	25	●		
S.3.2	1,1	10	15	25	●		
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1	2,0	30	50	70	●		
O.1.2	2,0	20	25	40	●		
O.2.1							
O.2.2							
O.3.1	1,0		30	40	○		

For full slot milling, reduce the cutting speed (v_c) specified in this table by approx. 15 to 20%.

Kf f_z = Correction factor for feed per tooth

Feed per tooth for HSS end mills

Recommended values (in mm) for the feed per tooth (f_z)

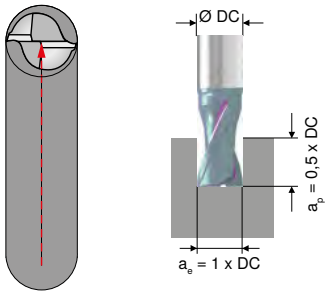
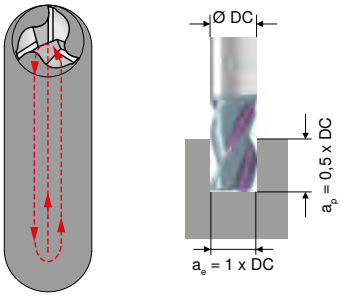
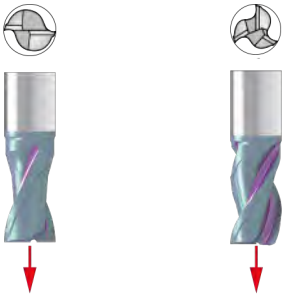
	Finish machining						Rough machining					
	Profiling										Full slot milling	
												
	f_z in mm		f_z in mm		f_z in mm		f_z in mm		f_z in mm		f_z in mm	
Ø DC mm	uncoated	coated	uncoated	coated	uncoated	coated	uncoated	coated	uncoated	coated	uncoated	coated
2	0,008	0,009	0,008	0,009	0,008	0,009						
3	0,011	0,012	0,009	0,010	0,010	0,012						
4	0,017	0,018	0,013	0,014	0,014	0,015	0,015	0,016	0,013	0,014	0,011	0,012
5	0,024	0,026	0,014	0,015	0,018	0,020	0,019	0,021	0,016	0,018	0,014	0,016
6	0,032	0,035	0,015	0,017	0,022	0,024	0,024	0,027	0,020	0,022	0,018	0,019
8	0,047	0,051	0,020	0,022	0,029	0,032	0,032	0,036	0,027	0,030	0,024	0,026
10	0,065	0,072	0,026	0,028	0,037	0,041	0,042	0,047	0,035	0,039	0,031	0,034
12	0,084	0,091	0,031	0,034	0,044	0,049	0,051	0,057	0,043	0,047	0,037	0,041
14	0,100	0,106	0,037	0,041	0,054	0,059	0,063	0,069	0,053	0,058	0,045	0,050
16	0,111	0,121	0,042	0,046	0,061	0,067	0,072	0,079	0,060	0,066	0,052	0,057
18	0,126	0,136	0,048	0,053	0,070	0,077	0,084	0,093	0,071	0,078	0,061	0,067
20	0,141	0,151	0,052	0,057	0,076	0,083	0,092	0,101	0,077	0,084	0,066	0,073
22	0,160	0,166	0,059	0,065	0,085	0,094	0,104	0,114	0,087	0,096	0,075	0,082
25	0,170	0,188	0,065	0,072	0,095	0,104	0,117	0,129	0,098	0,108	0,084	0,093
28	0,196	0,210	0,075	0,083	0,109	0,120	0,136	0,150	0,114	0,125	0,098	0,108
32	0,212	0,240	0,086	0,094	0,124	0,137	0,157	0,173	0,131	0,145	0,113	0,125
36	0,224	0,240	0,099	0,109	0,144	0,159	0,170	0,194	0,142	0,162	0,126	0,140
40	0,240	0,240	0,108	0,119	0,157	0,173	0,184	0,202	0,154	0,169	0,132	0,146
45	0,240	0,240	0,108	0,119	0,157	0,173	0,200	0,220	0,170	0,180	0,140	0,160
50	0,240	0,240	0,108	0,119	0,157	0,173	0,200	0,220	0,170	0,180	0,140	0,160

→ **Feed correction:**
Please multiply the value f_z from the table above by the **corresponding correction factor Kf f_z**

Note:
For uncoated milling cutters, climb milling is generally preferable to conventional milling.
With coated milling cutters, climb milling is necessary to achieve optimum performance.

Feed per tooth when milling parallel key slots with HSS slot drills

Recommended values (in mm) for the feed per tooth (f_z)

	Full slot milling (in one cut)		Undersize milling (internal profile milling)				Circular bore milling			
										
			Roughing cut		Finishing cut					
	f_z in mm		f_z in mm				f_z in mm			
Ø DC mm	uncoated	coated	uncoated	coated	uncoated	coated	uncoated	coated	uncoated	coated
2	0,005	0,006	0,005	0,006	0,008	0,009	0,003	0,003	0,002	0,002
3	0,009	0,010	0,009	0,010	0,015	0,016	0,004	0,005	0,003	0,003
4	0,012	0,013	0,012	0,013	0,022	0,024	0,006	0,007	0,004	0,004
5	0,016	0,017	0,016	0,017	0,030	0,033	0,008	0,009	0,005	0,006
6	0,020	0,022	0,020	0,022	0,039	0,043	0,010	0,011	0,007	0,007
8	0,026	0,029	0,026	0,029	0,055	0,061	0,013	0,014	0,009	0,010
10	0,034	0,037	0,034	0,037	0,075	0,082	0,017	0,019	0,011	0,012
12	0,040	0,044	0,040	0,044	0,093	0,101	0,020	0,022	0,013	0,015
14	0,049	0,054	0,049	0,054	0,117	0,118	0,024	0,027	0,016	0,018
16	0,056	0,062	0,056	0,062	0,135	0,135	0,028	0,031	0,019	0,021
18	0,065	0,072	0,065	0,072	0,151	0,151	0,033	0,036	0,022	0,024
20	0,071	0,078	0,071	0,078	0,167	0,167	0,035	0,039	0,024	0,026
22	0,080	0,088	0,080	0,088	0,184	0,184	0,040	0,044	0,027	0,029
25	0,089	0,098	0,089	0,098	0,208	0,208	0,044	0,049	0,030	0,033
28	0,103	0,113	0,103	0,113	0,233	0,233	0,051	0,056	0,034	0,037
32	0,118	0,130	0,118	0,130	0,260	0,260	0,060	0,065	0,040	0,043
36	0,130	0,143	0,130	0,143	0,260	0,260	0,060	0,065	0,040	0,043
40	0,130	0,143	0,130	0,143	0,260	0,260	0,060	0,065	0,040	0,043
45	0,130	0,143	0,130	0,143	0,260	0,260	0,060	0,065	0,040	0,043
50	0,130	0,143	0,130	0,143	0,260	0,260	0,060	0,065	0,040	0,043

→ **Feed correction:**
Please multiply the value f_z from the table above by the **corresponding correction factor Kf f_z**

Note:
For uncoated milling cutters, climb milling is generally preferable to conventional milling.
With coated milling cutters, climb milling is necessary to achieve optimum performance.

Cutting data standard values – Form cutters

Index	v_c (m/min)	50 241 ... Ø DC (mm) = 21–25	28–36	40–45	50 240 ... Ø DC (mm) = 11–16	18–22	25–32	36–45	50–60	v_c (m/min)	50 234 ... Ø DC (mm) = 10–17	19–26	28–33	33–46	50 248 ... Ø DCX (mm) = 8–11	12–24	26–34	46–48	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		f_z (mm)			f_z (mm)						f_z (mm)				f_z (mm)						
P.1.1	28	0,07	0,1	0,12	0,015	0,03	0,03	0,03	0,04	28	0,02	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
P.1.2	28	0,07	0,1	0,12	0,015	0,03	0,03	0,03	0,04	28	0,02	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
P.1.3	28	0,07	0,1	0,12	0,015	0,03	0,03	0,03	0,04	28	0,02	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
P.1.4	22	0,06	0,08	0,1	0,015	0,03	0,03	0,03	0,04	22	0,02	0,03	0,035	0,045	0,025	0,055	0,08	0,1	●		
P.1.5	22	0,06	0,08	0,1	0,015	0,03	0,03	0,03	0,04	22	0,02	0,03	0,035	0,045	0,025	0,055	0,08	0,1	●		
P.2.1	22	0,06	0,08	0,1	0,015	0,03	0,03	0,03	0,04	22	0,02	0,03	0,035	0,045	0,025	0,055	0,08	0,1	●		
P.2.2	28	0,07	0,1	0,12	0,015	0,03	0,03	0,03	0,04	28	0,02	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
P.2.3	20	0,06	0,08	0,1	0,015	0,03	0,03	0,03	0,04	20	0,02	0,03	0,035	0,045	0,025	0,055	0,08	0,1	●		
P.2.4	20	0,06	0,08	0,1	0,015	0,03	0,03	0,03	0,04	20	0,02	0,03	0,035	0,045	0,025	0,055	0,08	0,1	●		
P.3.1																					
P.3.2																					
P.3.3																					
P.4.1	10	0,06	0,08	0,1	0,01	0,025	0,025	0,025	0,03	10	0,02	0,025	0,03	0,04	0,02	0,045	0,08	0,09	●		
P.4.2	10	0,06	0,08	0,1	0,01	0,025	0,025	0,025	0,03	10	0,02	0,025	0,03	0,04	0,02	0,045	0,08	0,09	●		
M.1.1	10	0,06	0,08	0,1	0,01	0,025	0,025	0,025	0,03	10	0,02	0,025	0,03	0,04	0,02	0,045	0,08	0,09	●		
M.2.1																					
M.3.1																					
K.1.1	28	0,07	0,1	0,12	0,015	0,03	0,025	0,04	0,035	24	0,025	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
K.1.2																					
K.2.1	22	0,07	0,1	0,12	0,015	0,03	0,025	0,04	0,035	22	0,025	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
K.2.2	20	0,07	0,1	0,12	0,015	0,03	0,025	0,04	0,035	20	0,025	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
K.3.1	15	0,07	0,1	0,12	0,015	0,03	0,025	0,04	0,035	15	0,025	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
K.3.2	15	0,07	0,1	0,12	0,015	0,03	0,025	0,04	0,035	15	0,025	0,03	0,04	0,05	0,03	0,06	0,1	0,12	●		
N.1.1	100	0,1	0,12	0,15	0,02	0,045	0,045	0,045	0,055	90	0,03	0,04	0,06	0,07	0,035	0,07	0,14	0,15	●		
N.1.2	100	0,1	0,12	0,15	0,02	0,045	0,045	0,045	0,055	90	0,03	0,04	0,06	0,07	0,035	0,07	0,14	0,15	●		
N.2.1	80	0,09	0,11	0,13	0,015	0,04	0,035	0,04	0,045	80	0,03	0,035	0,045	0,055	0,03	0,06	0,12	0,12	●		
N.2.2	60	0,09	0,11	0,13	0,015	0,04	0,035	0,04	0,045	60	0,03	0,035	0,045	0,055	0,03	0,06	0,12	0,12	●		
N.2.3																					
N.3.1	25	0,08	0,1	0,12	0,015	0,04	0,035	0,03	0,035	25	0,02	0,035	0,045	0,055	0,03	0,06	0,12	0,12	●		
N.3.2	25	0,08	0,1	0,12	0,015	0,04	0,035	0,03		25	0,02	0,035	0,045	0,055	0,03	0,06	0,12	0,12	●		
N.3.3	25	0,08	0,1	0,12	0,015	0,04	0,035	0,03		25	0,02	0,035	0,045	0,055	0,03	0,06	0,12	0,12	●		
N.4.1	70	0,1	0,12	0,15	0,018	0,04	0,03	0,035	0,045	70	0,03	0,035	0,05	0,06	0,025	0,06	0,1	0,12	●		
S.1.1																					
S.1.2																					
S.2.1																					
S.2.2																					
S.2.3																					
S.3.1	20	0,06	0,08	0,1	0,012	0,025	0,025	0,025	0,035	20	0,015	0,025	0,035	0,045	0,02	0,05	0,07	0,09	●		
S.3.2																					
S.3.3																					
H.1.1																					
H.1.2																					
H.1.3																					
H.1.4																					
H.2.1																					
H.3.1																					
O.1.1	65	0,12	0,15	0,18		0,06	0,055	0,055	0,07	65	0,04	0,05	0,07	0,09	0,045	0,1	0,18	0,18	●		
O.1.2	80	0,12	0,15	0,18		0,06	0,055	0,055	0,07	80	0,04	0,05	0,07	0,09	0,045	0,1	0,18	0,18	●		
O.2.1																					
O.2.2																					
O.3.1																					

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Form cutters

Index	v_c (m/min)	50 245 ... / 50 246 ... Ø DC (mm) = 16	20	25	v_c (m/min)	50 360 ... Ø DC (mm) = 50	63	80	100	50 362 ... Ø DC (mm) = 40–50	63	80	100	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		a_e = 3,2	a_e = 4	a_e = 5		a_e = 5	a_e = 6,3	a_e = 8	a_e = 10							
		f_z (mm)				f_z (mm)				f_z (mm)						
P.1.1	**28**	**0,01**	**0,015**	**0,018**	**22**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.1.2	**28**	**0,01**	**0,015**	**0,018**	**22**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.1.3	**28**	**0,01**	**0,015**	**0,018**	**22**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.1.4	**22**	**0,01**	**0,015**	**0,018**	**20**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.1.5	**22**	**0,01**	**0,015**	**0,018**	**20**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.2.1	**22**	**0,01**	**0,015**	**0,018**	**20**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.2.2	**28**	**0,01**	**0,015**	**0,018**	**22**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.2.3	**20**	**0,01**	**0,015**	**0,018**	**20**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.2.4	**20**	**0,01**	**0,015**	**0,018**	**20**	**0,01**	**0,01**	**0,015**	**0,02**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.3.1																
P.3.2																
P.3.3																
P.4.1	**10**	**0,007**	**0,01**	**0,012**	**10**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
P.4.2	**10**	**0,007**	**0,01**	**0,012**	**10**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
M.1.1	10	0,007	0,01	0,012	10	0,008	0,01	0,012	0,018	0,005	0,008	0,01	0,012	●		
M.2.1																
M.3.1																
K.1.1	**24**	**0,01**	**0,012**	**0,015**	**19**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
K.1.2					**12**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**			
K.2.1	**22**	**0,01**	**0,012**	**0,015**	**15**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
K.2.2	**20**	**0,01**	**0,012**	**0,015**	**12**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
K.3.1	**15**	**0,01**	**0,012**	**0,015**	**16**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
K.3.2	**15**	**0,01**	**0,012**	**0,015**	**13**	**0,008**	**0,01**	**0,012**	**0,018**	**0,005**	**0,008**	**0,01**	**0,012**	●		
N.1.1	90	0,01	0,015	0,02										●		
N.1.2	90	0,01	0,015	0,02	70	0,012	0,015	0,02	0,024	0,008	0,012	0,014	0,018	●		
N.2.1	80	0,01	0,015	0,02	60	0,012	0,015	0,02	0,024	0,008	0,012	0,014	0,018	●		
N.2.2	60	0,01	0,015	0,02	60	0,012	0,015	0,02	0,024	0,008	0,012	0,014	0,018	●		
N.2.3																
N.3.1	25	0,01	0,015	0,02	20	0,01	0,012	0,015	0,018	0,005	0,008	0,01	0,012	●		
N.3.2	25	0,01	0,015	0,02	20	0,01	0,012	0,015	0,018	0,005	0,008	0,01	0,012	●		
N.3.3	25	0,01	0,015	0,02	20	0,01	0,012	0,015	0,018	0,005	0,008	0,01	0,012	●		
N.4.1	70	0,01	0,015	0,0175	45	0,01	0,012	0,015	0,018	0,005	0,008	0,01	0,01	●		
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1	20	0,008	0,01	0,015	20	0,008	0,01	0,012	0,016	0,005	0,007	0,009	0,012	●		
S.3.2																
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1	65	0,018	0,02	0,025	60	0,015	0,02	0,025	0,03	0,008	0,012	0,018	0,022	●		
O.1.2	80	0,018	0,02	0,025	65	0,015	0,02	0,025	0,03	0,008	0,012	0,018	0,022	●		
O.2.1																
O.2.2																
O.3.1																

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – side and face milling cutters

Index	v_c (m/min)	50 340 ... / 50 349 ... Ø DC (mm) = 50	63	80	100	125	160	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
		f (mm)								
P.1.1	30	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060	●		
P.1.2	20	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060	●		
P.1.3	20	0,025–0,035	0,030–0,040	0,035–0,045	0,040–0,050	0,047–0,060	0,050–0,065	●		
P.1.4	15	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.1.5	15	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.2.1	20	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.2.2	20	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.2.3	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
P.2.4	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
P.3.1	15	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.3.2	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
P.3.3	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
P.4.1	10	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
P.4.2	10	0,020–0,030	0,025–0,035	0,030–0,040	0,035–0,045	0,040–0,050	0,045–0,100	●		
M.1.1	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
M.2.1	10	0,015–0,020	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	●		
M.3.1	8	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.1.1	20	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.1.2	18	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.2.1	18	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.2.2	15	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.3.1	18	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
K.3.2	18	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
N.1.1	150	0,030–0,037	0,037–0,045	0,045–0,050	0,050–0,060	0,060–0,067	0,067–0,075	●		
N.1.2	100	0,030–0,037	0,037–0,045	0,045–0,050	0,050–0,060	0,060–0,067	0,067–0,075	●		
N.2.1	80	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060	●		
N.2.2	40	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060	●		
N.2.3										
N.3.1	80	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
N.3.2	30	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060	●		
N.3.3	30	0,025–0,035	0,030–0,040	0,035–0,045	0,040–0,050	0,047–0,060	0,050–0,065	●		
N.4.1	90	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,047–0,055	0,050–0,060		●	
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1	10	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
S.3.2	10	0,020–0,025	0,025–0,030	0,030–0,035	0,035–0,040	0,040–0,045	0,045–0,050	●		
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	30	0,040–0,050	0,050–0,060	0,060–0,070	0,070–0,080	0,080–0,090	0,090–0,100	●		
O.1.2	20	0,040–0,050	0,050–0,060	0,060–0,070	0,070–0,080	0,080–0,090	0,090–0,100	●		
O.2.1										
O.2.2										
O.3.1										

Feed correction factor (Kf f_z) for side and face milling cutters in relation to the depth of cut (a_e)

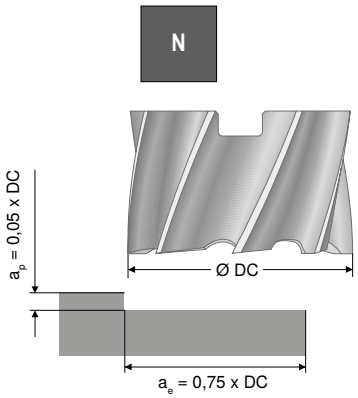
a_e	Kf f_z
0,05 x DC	1,4
0,1 x DC	1,0
0,15 x DC	0,8
0,2 x DC	0,7
0,25 x DC	0,6

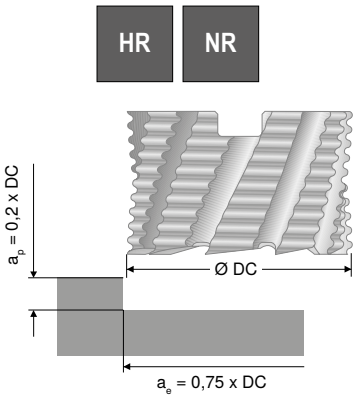
Cutting speed standard values – shell end mills

Index	Kf f_z	50 250 ... / 50 260 ... uncoated v_c (m/min)	54 035 ... / 54 037 ... Ti100 Pro v_c (m/min)	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
P.1.1	1,2	25	45	●		
P.1.2	1,2	20	40	●		
P.1.3	1,2	20	40	●		
P.1.4	1,0	15	30	●		
P.1.5	1,0	15	30	●		
P.2.1	1,2	20	40	●		
P.2.2	1,0	20	40	●		
P.2.3	0,8	10	20	●		
P.2.4	0,8	10	20	●		
P.3.1	1,0	15	30	●		
P.3.2	0,8	10	20	●		
P.3.3	0,8	10	20	●		
P.4.1	1,0	10	15	●		
P.4.2	1,0	10	15	●		
M.1.1	1,0	10	15	●		
M.2.1	0,9	7	15	●		
M.3.1	1,0	5	10	●		
K.1.1	1,0	20	30	●		
K.1.2	1,0	18	30	●		
K.2.1	1,0	18	30	●		
K.2.2	1,0	15	25	●		
K.3.1	1,0	18	30	●		
K.3.2	1,0	18	30	●		
N.1.1	1,5	150				
N.1.2	1,5	100				
N.2.1	1,3	80				
N.2.2	1,3	40				
N.2.3						
N.3.1	1,1	80	110	●		
N.3.2	1,2	30	60	●		
N.3.3	1,2	30	60	●		
N.4.1	1,3	90	120		●	
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1	1,0	10	15	●		
S.3.2	1,1	10	15	●		
S.3.3	0,8		10	●		
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1	2,0	30	50	●		
O.1.2	2,0	20	25	●		
O.2.1						
O.2.2						
O.3.1						

Feed per tooth for HSS shell end mills

Recommended values (in mm) for the feed per tooth (f_z)





	f_z in mm		f_z in mm	
Ø DC mm	uncoated	**Ti100 Pro**	uncoated	**Ti100 Pro**
40	0,049	0,054	0,064	0,070
50	0,055	0,060	0,071	0,078
63	0,061	0,067	0,079	0,087
80	0,065	0,071	0,084	0,092

→ **Feed correction:**
Please multiply the value f_z from the table above by the **corresponding correction factor Kf f_z**

Formula for cutting data calculation

Designation	Abbreviation	Unit	Formula
RPM	n	min^{-1}	$n = \frac{v_C \times 1000}{DC \times \pi}$
Cutting speed	v_c	ft/min	$v_c = \frac{DC \times \pi \times n}{1000}$
Feed per tooth	f_z	mm	$f_z = \frac{v_f}{ZEFP \times n}$ $f_z = h_m \times \sqrt{\frac{DC}{a_e}}$
Feed per revolution	f	mm	$f = f_z \times ZEFP$
Feed rate	v_f	in/min.	$v_f = f_z \times ZEFP \times n$
Average chip thickness	h_m	mm	$h_m = f_z \times \sqrt{\frac{a_e}{DC}}$

ZEFP = Number of teeth

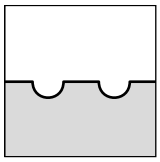
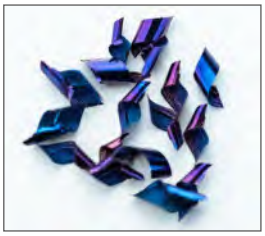
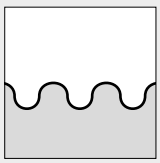
a_e = Cutting width (for side and face milling depth of cut)

DC = Cutting diameter

Version description

W	For soft materials and non-ferrous metals (aluminum, copper, brass)
N	For machining steel and cast materials, as well as stainless steels
H	For high-strength steels and tempered materials
NF	For machining steel and cast materials, as well as stainless steels – with flat cord profile
HF	For high-strength steels and tempered materials – with flat cord profile
NR	For machining steel and cast materials, as well as stainless steels – with round cord profile
HR	For high-strength steels and tempered materials – with round cord profile

Differences between the milling cutter types

Designation	Type	Shape of the chip breaker	Application description	Chip shape
Roughing-finishing milling cutters	**NF** **HF**		▲ High chip volume, even on less powerful machines ▲ Surface quality mostly sufficient ▲ Lower cutting pressure compared to smooth-edged milling cutters ▲ Finish machining not needed	
Rough milling cutters	**NR** **HR**		▲ Produces very small and short chips ▲ Problem-solver in unstable conditions ▲ High chip volume, even on the weakest machines ▲ Exceptionally well suited to full slot milling ▲ Additional finish machining needed ▲ High feeds possible	

Coating

Ti100 Pro

- ▲ Ti multilayer coating
- ▲ $HV_{0.05}$ = 3500
- ▲ Coefficient of friction (against steel) = 0.7
- ▲ Maximum application temperature: 900 °C



CERATIZIT GROUP

Solid carbide drilling



Contents

→ Explanation of symbols
→ Application recommendations
→ Toolfinder
→ Content overview
→ Product range
Technical information
→ Cutting data
→ Application notes
→ Recommendations for solid carbide drilling operations
→ Coatings

Explanation of symbols

Shank


Smooth cylindrical shank


Cylindrical shank with "Weldon" lateral driving face


Cylindrical shank with "Whistle Notch" angled clamping flat


Cylindrical shank with lateral driving face (similar to ISO 9766)

Tool types

UNI

For more information and videos, please visit the type overview online: **cutting.tools/en/type-overview-wtx**



Version


Internal coolant supply


Self-centering


▲ Pilot hole necessary
▲ Min. 2xD



Number of cutting edges

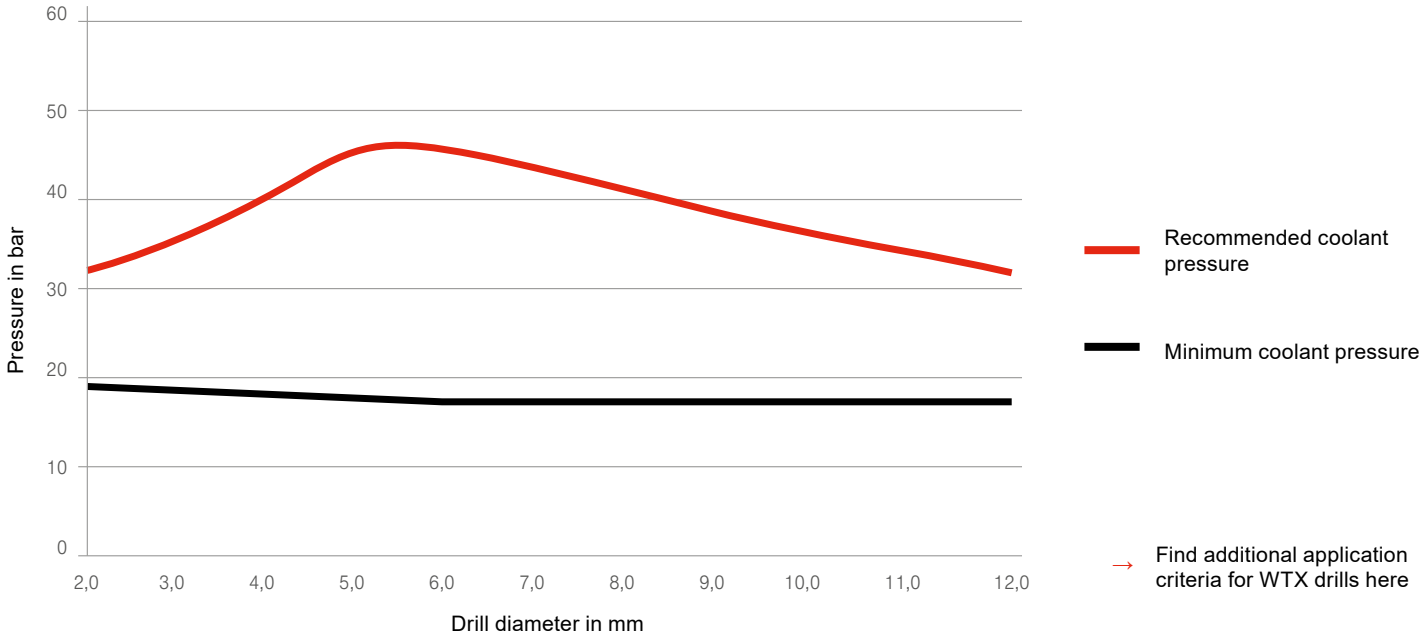
● = **Main application**
○ = Secondary application

Recommended application – WTX high-performance tools

● = Main application
○ = Secondary application

	WTX type	Solid drilling	Flat bottom hole	High feed machining	High-speed machining	Stack plate drilling	Drilling through a cross hole	Angled drill entrance	Angled drill exit	Drilling a precise fit	Deep hole drilling	Micro drilling
												
Monolithic	WTX – UNI	●				●	●					
	WTX – Quattro	●							○			
	WTX – Speed UNI	●			●	●						
	WTX – Speed VA	●			●							
	WTX – HFDS	●		●		●	●					
	WTX – ISO-S	●					●					
	WTX – AL	●										
	WTX – H	●										
	WTX – Deep	●									●	
	WTX – Finish BR	●								●		
	WTX – Feed BR	●		●		○	○	○	○	●		
	WTX – Micropilot	●						●				●
	WTX – Micro	●									●	●
Modular	WTX – Change Feed UNI	●		●				●	●			
	WTX – Change drill heads	●										

Coolant diagram



→ Find additional application criteria for WTX drills here

Toolfinder

	Product name	Tool type	Description	Internal coolant supply	Replaceable cutting heads	1xD	2,5xD	3xD	5xD	8xD	12xD
Steel / Universal	**Solid carbide drills**										
	WTX	UNI	▲ Unbeatable performance for all materials up to 1200 N/mm² ▲ Suitable for series production	✗ ✓				→ →	→ →		
	WTX	Quattro	▲ With additional guide lands for best alignment precision, concentricity, and positioning accuracy	✓					→	→	→
		WPC UNI	▲ Quality tool for standard applications ▲ Attractive price-performance ratio	✗ ✓				→ →	→ →	→ →	→ →
	WTX	Speed UNI	▲ High-performance drill for high cutting speeds ▲ Innovative DPX14S Dragonskin coating ▲ New cutting edge geometry	✓				→	→	→	
	WTX	HFDS	▲ High-feed drill with four cutting edges ▲ Innovative cutting edge geometry enables maximum positioning accuracy ▲ Optimal cooling with four spiral coolant holes	✓					→		
		Feed UNI	▲ High-feed drill with three cutting edges ▲ Suitable for difficult drilling applications ▲ High positioning accuracy	✓					→	→	→
		180	▲ For inclined surfaces up to 45° and flat bottomed holes	✓				→	→		
		N	▲ Uncoated solid carbide drills ▲ Universal application	✗				→	→		
	Micro drill										
		MINI	▲ Available from Ø 0.1 mm ▲ Standard shank Ø 3.0 mm for use in heat shrink adapters	✗					→		
	WTX	MICRO PILOT	▲ Specially designed pilot drill for WTX – Micro deep hole drill (8xD–30xD) ▲ For direct spot drilling on angled and curved surfaces up to a 50° angle of inclination ▲ 90° countersink can be achieved at the drill entrance on flat spot drilling surfaces	✗			→				
	WTX	MICRO	▲ Universal high-performance micro drill ▲ Specialised geometry and coating ▲ WTX - Micro (5xD) pilot drill for deep hole twist drill	✓					→	→	→
	Drill reamers										
	WTX	Finish BR/ BR100	▲ Solid carbide high-performance drill reamer ▲ Excellent surface quality ▲ Suitable for blind holes and through holes	✓				→	→		
	WTX	Feed BR/ BR100	▲ Solid carbide high-performance drill reamer ▲ Excellent surface quality ▲ Suitable for blind holes and through holes	✓				→	→		
	Stepped drills										
		WPC Step UNI	▲ Solid carbide short step drill for core hole plus countersink for thread cutting and thread forming	✗ ✓				→ →			
	NC spot drills										
		NC-A	▲ Spiral-fluted ▲ 90°, 120°, 142°	✗		→					
	Centre drills										
		ZB	▲ Spiral-fluted ▲ 120°	✗		→					

For more information and videos, please visit the type overview online: **cutting.tools/en/type-overview-wtx**

✗ =Without through coolant ✓ =with thru coolant

Toolfinder

	Product name	Tool type	Description	Internal coolant supply	Replaceable cutting heads	1xD	3xD	5xD	8xD	12xD
Steel / Universal	**Drill with replaceable cutting heads**									
	WTX	Change Feed UNI	▲ Three-edged exchangeable head drill with solid carbide drill head type Feed UNI from Ø 14.0 mm to 32.0 mm ▲ Universal application (steel, cast iron)	✓	→		→	→	→	
	WTX	Change UNI	▲ Exchangeable head drill with solid carbide drill head type UNI from Ø 12.0 mm to 41.0 mm ▲ For steels < 700 N/mm²	✓	→	→	→	→	→	→
	WTX	Change P	▲ Exchangeable head drill with solid carbide drill head type P from Ø 12.0 mm to 41.0 mm ▲ For steels > 700 N/mm²	✓	→	→	→	→	→	→
		WPC Change UNI	▲ Indexable insert drill with solid carbide indexable insert type UNI from Ø 14.0 to 30.0 mm ▲ Universal application on steel and cast iron materials	✓	→		→	→		
	MultiChange NC spot drill									
		MultiChange NC-A	▲ NC spot drill – exchangeable head system ▲ 90°, 120°, 142°	✗	→					
Stainless steel	**Solid carbide drills**									
		VA	▲ Outstanding performance with corrosion-resistant and acid-resistant steels and aluminum ▲ Suitable for series production	✗ ✓			→ →	→ →	 →	
		WPC VA	▲ High-quality tool for corrosion-resistant and acid-resistant steels and aluminum ▲ Attractive price-performance ratio	✗ ✓			→ →	 →		
	WTX	Speed VA	▲ For twice the cutting speed in corrosion-resistant and acid-resistant steels and aluminum	✓				→	→	→
	Drill with replaceable cutting heads									
	WTX	Change VA	▲ Exchangeable head drill with solid carbide drill head type VA from Ø 12.0 mm to 32.0 mm	✓	→	→	→	→	→	→
Cast iron	**Solid carbide drills**									
	WTX	UNI	▲ Unbeatable performance for all materials up to 1200 N/mm² ▲ Suitable for series production	✗ ✓			→ →	→ →		
	WTX	Quattro	▲ With additional guide lands for best alignment precision, concentricity, and positioning accuracy	✓				→	→	→
	Drill with replaceable cutting heads									
	WTX	Change GG	▲ Exchangeable head drill with solid carbide drill head type GG from Ø 12.0 mm to 32.0 mm	✓	→	→	→	→	→	→
Non-ferrous metals	**Solid carbide drills**									
	WTX	AL	▲ Solid carbide high-performance drill specifically for machining aluminum, copper, and brass ▲ Suitable for series production	✓				→	→	→
	Drill with replaceable cutting heads									
	WTX	Change AL	▲ Exchangeable head drill with solid carbide drill head type AL from Ø 12.0 mm to 32.0 mm	✓	→	→	→	→	→	→
Heat-resistant	**Solid carbide drills**									
	WTX	ISO-S	▲ Maximum performance in titanium, titanium alloys, stainless and acid-resistant steels and heat-resistant alloys	✓			→	→		
Hardened steel	**Solid carbide drills**									
	WTX	H	▲ Unbeatable performance in hardened steels from 46 to 70 HRC	✗			→			

For more information and videos, please visit the type overview online: **cutting.tools/en/type-overview-wtx**

✗ =Without through coolant ✓ =with thru coolant

Toolfinder

Deep hole drills

	Product name	Tool type	Description	Internal coolant supply	16xD	20xD	25xD	30xD	40xD	50xD
Steel / Universal	WTX	MICRO	▲ Available from Ø 0.8 mm ▲ Universal high-performance micro deep hole drill ▲ Specialized geometry and coating ▲ Hole depths up to 30xD possible	✓	→	→	→	→		
Steel / Universal	WTX	Deep UNI	▲ Universal solid carbide deep hole drills, up to 50xD without peck drilling ▲ Four-chamfer head geometry for excellent alignment accuracy	✓	→	→	→	→	→	→
Non-ferrous metals	WTX	Deep AL	▲ Solid carbide deep hole drills, up to 30xD without peck drilling ▲ Six-chamfer head geometry for excellent alignment accuracy	✓	→	→	→	→		

For more information and videos, please visit the type overview online: **cutting.tools/en/type-overview-wtx**

✗ =Without through coolant ✓ =with thru coolant

Solid carbide drills overview

	Product name	Tool type	Hole depth	Diameter in mm Ø DC	DC tolerance	Number of cutting edges NOF	Cooling	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	■ coated	□ uncoated
3xD without through coolant																
→ 	WTX	UNI	≤ 3xD	3,000 – 19,050	m7	NOF = 2		●	●			○			■	
→ 		VA	≤ 3xD	2 – 20	m7	NOF = 2		○	●	○	○	●			■	
→ 		WPC UNI	≤ 3xD	1 – 20	m7	NOF = 2		●		●					■	
→ 		WPC VA	≤ 3xD	1 – 20	m7	NOF = 2		○	●		○	○		○	■	
→ 	WTX	H	≤ 3xD	2,55 – 14,00	h7	NOF = 2		○		●			●		■	
→ 		N	≤ 3xD	0,5 – 20	h7	NOF = 2		○			●	●	○			□
3xD with through coolant																
→ 	WTX	UNI	≤ 3xD	3 – 20	m7	NOF = 2		●	●	●			○		■	
→ 		VA	≤ 3xD	3 – 20	m7	NOF = 2		○	●	○	○	●			■	
→ 	WTX	Speed UNI	≤ 3xD	3 – 20	h7	NOF = 2		●	●	●					■	
→ 		WPC UNI	≤ 3xD	1 – 20	m7	NOF = 2		●	●	●	○				■	
→ 		WPC VA	≤ 3xD	1 – 20	m7	NOF = 2		○	●	○		●		○	■	
→ 	WTX	ISO-S	≤ 3xD	3 – 20	m7	NOF = 2		○	●			●			■	
→ 		180	≤ 3xD	3 – 20	m7	NOF = 2		○	●			●			■	
5xD without through coolant																
→ 	WTX	UNI	≤ 5xD	3 – 18	m7	NOF = 2		●	●			○			■	
→ 		VA	≤ 5xD	3 – 20	m7	NOF = 2		○	●	○	○	●			■	
→ 		WPC UNI	≤ 5xD	3 – 20	m7	NOF = 2		●		●					■	

Solid carbide drills overview

	Product name	Tool type	Hole depth	Diameter in mm Ø DC	DC tolerance	Number of cutting edges NOF	Cooling	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	coated ■	uncoated □
5xD without through coolant																
→ 		N	≤ 5xD	0,5–16,0	h7	 NOF = 2		○		●	●	○				□
5xD with through coolant																
→ 	WTX	UNI	≤ 5xD	3–20	m7	 NOF = 2		●	●	●		○			■	
→ 	WTX	Quattro	≤ 5xD	3–18	m7	 NOF = 2		●	●	●		○			■	
→ 	WTX	Speed UNI	≤ 5xD	3–18	h7	 NOF = 2		●	●	●					■	
→ 	WTX	Speed VA	≤ 5xD	3–20	h7	 NOF = 2		●	●	●	○	●			■	
→ 		VA	≤ 5xD	3–20	m7	 NOF = 2		○	●	○	○	●			■	
→ 	WTX	AL	≤ 5xD	2,5–20	h7/p6	 NOF = 2				●					■	
→ 		WPC UNI	≤ 5xD	1–20	m7	 NOF = 2		●	●	●	○				■	
→ 		WPC VA	≤ 5xD	1–20	m7	 NOF = 2		○	●		●	○		○	■	
→ 	WTX	ISO-S	≤ 5xD	3–20	m7	 NOF = 2		○	●			●			■	
→ 		180	≤ 5xD	3–20	m7	 NOF = 2		●	●	●					■	
→ 		Feed UNI	≤ 5xD	4–20	m7	 NOF = 3		●	●	●	○				■	
→ 	WTX	HFDS	≤ 5xD	6–16	m7	 NOF = 4		●	○	●	○			○	■	
8xD with through coolant																
→ 	WTX	Quattro	≤ 8xD	3–20	h7	 NOF = 2		●	○	●					■	
→	WTX	Speed UNI	≤ 8xD	3–18	h7	NOF = 2		●	●	●					■	
→	WTX	Speed VA	≤ 8xD	3–18	h7	NOF = 2		●	●	●	○	●			■	

Solid carbide drills overview

	Product name	Tool type	Hole depth	Ø DC Diameter in mm	DC tolerance	NOF Number of cutting edges	Cooling	P Steel · M Stainless steel · K Cast iron · N Non-ferrous metals · S Heat-resistant · H Hardened steel · O Non-metal materials	■ coated □ uncoated
8xD with through coolant									
→ 		WPC UNI	≤ 8xD	3–20	h7	NOF = 2		● ● ●	■
→ 		VA	≤ 8xD	3–20	m7	NOF = 2		○ ● ○ ○ ●	■
→ 	WTX	AL	≤ 8xD	3–20	h7	NOF = 2		●	■
→ 		Feed UNI	≤ 8xD	4–20	m7	NOF = 3		● ● ● ○	■
12xD with through coolant									
→ 	WTX	Quattro	≤ 12xD	3–18	h7	NOF = 2		● ○ ●	■
→ 	WTX	Speed VA	≤ 12xD	3,0 – 17,5	h7	NOF = 2		● ● ● ○ ●	■
→ 	WTX	AL	≤ 12xD	3–18	h7	NOF = 2		●	■
→ 		WPC UNI	≤ 12xD	3–20	h7	NOF = 2		● ● ●	■
→ 		Feed UNI	≤ 12xD	4–20	m7	NOF = 3		● ● ● ○	■
Deep hole drills									
→ 	WTX	Deep UNI	≤ 16xD	3–14	h7	NOF = 2		● ● ● ○	■
→ 	WTX	Deep AL	≤ 16xD	2–12	h7	NOF = 2		●	■
→ 	WTX	Deep UNI	≤ 20xD	3–14	h7	NOF = 2		● ● ● ○	■
→ 	WTX	Deep AL	≤ 20xD	3–14	h7	NOF = 2		●	■
→ 	WTX	Deep UNI	≤ 25xD	3–14	h7	NOF = 2		● ● ●	■
→ 	WTX	Deep AL	≤ 25xD	3–14	h7	NOF = 2		●	■
→	WTX	Deep UNI	≤ 30xD	3–14	h7	NOF = 2		● ● ●	■

Solid carbide drills overview

	Product name	Tool type	Hole depth	Diameter in mm Ø DC	DC tolerance	Number of cutting edges NOF	Cooling	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	coated ■	uncoated □
Deep hole drills																
→	WTX	Deep AL	≤ 30xD	3 – 14	h7	NOF = 2				●					■	
→	WTX	Deep UNI	≤ 40xD	3 – 8	e7	NOF = 2		●	○	●					■	
→	WTX	Deep UNI	≤ 50xD	3 – 8	e7	NOF = 2		●	○	●					■	
Micro drill																
→	WTX	MICRO PILOT	≤ 2,5xD	0,8 – 3,0	m6	NOF = 2		●	○	●		●			■	
→		MINI	≤ 5xD	0,1 – 2,9	+0,004	NOF = 2		○		●	●	○			■	
→	WTX	MICRO	≤ 5xD	0,8 – 3,0	m6	NOF = 2		●	●	●		○			■	
→	WTX	MICRO	≤ 8xD	0,8 – 3,0	h6	NOF = 2		●	●	●		○			■	
→	WTX	MICRO	≤ 12xD	0,8 – 3,0	h6	NOF = 2		●	●	●		○			■	
→	WTX	MICRO	≤ 16xD	0,8 – 3,0	h6	NOF = 2		●	●	●					■	
→	WTX	MICRO	≤ 20xD	0,8 – 3,0	h6	NOF = 2		●	●	●					■	
→	WTX	MICRO	≤ 25xD	0,8 – 3,0	h6	NOF = 2		●	●	●					■	
→	WTX	MICRO	≤ 30xD	0,8 – 3,0	h6	NOF = 2		●	●	●					■	
Drill reamers																
→	WTX	Finish BR	≤ 3xD	4 – 16	H7	NOF = 2		●		●	○				■	
→	WTX	Finish BR100	≤ 3xD	3,97 – 12,02	+0,005	NOF = 2		●		●	○				■	
→	WTX	Finish BR	≤ 5xD	4 – 20	H7	NOF = 2		●		●	○				■	
→	WTX	Feed BR100	≤ 3xD	3,97 – 12,02	±0,003	NOF = 3		●		●					■	
→	WTX	Feed BR100	≤ 5xD	3,97 – 12,02	±0,003	NOF = 3		●		●					■	

Solid carbide drills overview

	Product name	Tool type	Hole depth	Diameter in mm Ø DC	DC tolerance	Number of cutting edges NOF	Features	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	coated ■	uncoated □
Drill reamers																
→ 	WTX	Feed BR	≤ 3xD	4–16	H7	NOF = 3		●		●					■	
→ 	WTX	Feed BR	≤ 5xD	4–20	H7	NOF = 3		●		●					■	
Stepped drills																
→ 		WPC Step UNI	≤ 3xD	2,5 –10,2	m7	NOF = 2		●		●					■	
→ 		WPC Step UNI	≤ 3xD	2,5 –10,2	m7	NOF = 2		●	○	●	○				■	
NC spot drills																
→ 		NC-A	≤ 3xD	2–10	js8	NOF = 2	90° 120° 142°	○		○	●					□
→ 		NC-A	≤ 3xD	2–10	js8	NOF = 2	90° 120° 142°	●		●	●		○		■	
→ 		NC-A	≤ 3xD	3–16	js8	NOF = 2	90° 120° 142°	●		●	●		○		■	
Centre drills																
→ 		ZB	≤ 3xD	0,5–6,3	k13	NOF = 2	120°	●		●	●					□
Drill with replaceable cutting heads																
Replaceable cutting heads																
→ 	WTX	Change UNI		12–41	m7	NOF = 2		●		●					■	
→ 	WTX	Change P		12–41	m7	NOF = 2		●		●					■	
→ 	WTX	Change VA		12–41	h7	NOF = 2		○	●	●		●			■	
→ 	WTX	Change GG		12–41	m7	NOF = 2				●					■	
→ 	WTX	Change AL		12–41	m7	NOF = 2					●				■	
→ 	WTX	Change Feed UNI		14–32	m7	NOF = 3		●		●					■	
→ 		WPC Change UNI		14–30	m7	NOF = 2		●		●					■	

Solid carbide drills overview

Drill with replaceable cutting heads

Holders

	Product name	Tool type	Hole depth	Ø DC	DC tolerance	NOF	Features	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	■ coated	□ uncoated
→ 	WTX	Change	≤ 1xD	12–41												
→ 	WTX	Change	≤ 3xD	12–41												
→ 	WTX	Change	≤ 5xD	12–41												
→ 	WTX	Change	≤ 8xD	12–41												
→ 	WTX	Change	≤ 12xD	12–41												
→ 	WTX	Change Feed	≤ 3xD	14,00–32,49												
→ 	WTX	Change Feed	≤ 5xD	14,00–32,49												
→ 	WTX	Change Feed	≤ 8xD	14,00–32,49												
→ 		WPC Change	≤ 3xD	14–30												
→ 		WPC Change	≤ 5xD	14–30												

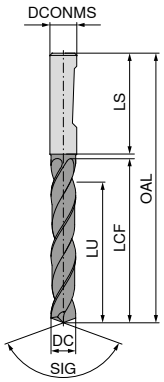
MultiChange NC spot drill

→ 		MultiChange NC-A		8–20		 NOF = 2	90° 120° 142°	●	●	●	●				■	

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 3xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 600 ...	SH 10 601 ...	SH 10 602 ...
3.000		6	62	20	14	36	03000	03000	03000
3.100		6	62	20	14	36	03100	03100	03100
3.150		6	62	20	14	36	03150	03150 [1]	03150 [1]
3.175	1/8	6	62	20	14	36	03175		
3.200		6	62	20	14	36	03200	03200 [1]	03200 [1]
3.250		6	62	20	14	36	03250	03250 [1]	03250 [1]
3.300		6	62	20	14	36	03300	03300 [1]	03300
3.400		6	62	20	14	36	03400	03400	03400 [1]
3.500		6	62	20	14	36	03500	03500 [1]	03500
3.600		6	62	20	14	36	03600	03600	03600 [1]
3.700		6	62	20	14	36	03700	03700 [1]	03700 [1]
3.800		6	66	24	17	36	03800	03800 [1]	03800 [1]
3.850		6	66	24	17	36	03850	03850 [1]	03850 [1]
3.900		6	66	24	17	36	03900	03900	03900 [1]
3.970	5/32	6	66	24	17	36	03970		
4.000		6	66	24	17	36	04000	04000	04000
4.100		6	66	24	17	36	04100	04100 [1]	04100 [1]
4.200		6	66	24	17	36	04200	04200 [1]	04200
4.250		6	66	24	17	36	04250	04250	04250 [1]
4.300		6	66	24	17	36	04300	04300	04300
4.350		6	66	24	17	36	04350	04350 [1]	04350 [1]
4.400		6	66	24	17	36	04400	04400 [1]	04400
4.450		6	66	24	17	36	04450	04450 [1]	04450 [1]
4.500		6	66	24	17	36	04500	04500 [1]	04500
4.600		6	66	24	17	36	04600	04600 [1]	04600
4.650		6	66	24	17	36	04650	04650 [1]	04650 [1]
4.700		6	66	24	17	36	04700	04700 [1]	04700 [1]
4.760	3/16	6	66	28	20	36	04760		
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

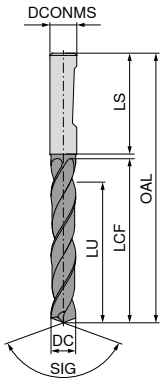
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 3xD | NOF = 2



UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140° Solid carbide

UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140° Solid carbide

UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140° Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 600 ...	SH 10 601 ...	SH 10 602 ...
4.800		6	66	28	20	36	04800	04800 [1]	04800 [1]
4.900		6	66	28	20	36	04900	04900 [1]	04900 [1]
4.950		6	66	28	20	36	04950	04950 [1]	04950 [1]
5.000		6	66	28	20	36	05000	05000	05000
5.050		6	66	28	20	36	05050	05050 [1]	05050
5.100		6	66	28	20	36	05100	05100	05100 [1]
5.200		6	66	28	20	36	05200	05200 [1]	05200
5.300		6	66	28	20	36	05300	05300	05300
5.400		6	66	28	20	36	05400	05400 [1]	05400 [1]
5.500		6	66	28	20	36	05500	05500 [1]	05500
5.550		6	66	28	20	36	05550	05550 [1]	05550 [1]
5.560	7/32	6	66	28	20	36	05560		
5.600		6	66	28	20	36	05600	05600	05600 [1]
5.700		6	66	28	20	36	05700	05700 [1]	05700 [1]
5.750		6	66	28	20	36	05750	05750 [1]	05750 [1]
5.800		6	66	28	20	36	05800	05800 [1]	05800
5.900		6	66	28	20	36	05900	05900 [1]	05900 [1]
5.950	15/64	6	66	28	20	36	05950	05950 [1]	05950 [1]
6.000		6	66	28	20	36	06000	06000	06000
6.100		8	79	34	24	36	06100	06100	06100
6.200		8	79	34	24	36	06200	06200 [1]	06200
6.300		8	79	34	24	36	06300	06300 [1]	06300 [1]
6.350	1/4	8	79	34	24	36	06350		
6.400		8	79	34	24	36	06400	06400 [1]	06400 [1]
6.500		8	79	34	24	36	06500	06500	06500
6.600		8	79	34	24	36	06600	06600 [1]	06600
6.700		8	79	34	24	36	06700	06700 [1]	06700 [1]
6.750	17/64	8	79	34	24	36	06750		
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

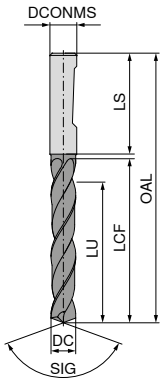
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 3xD | NOF = 2



UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140°
Solid carbide

UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140°
Solid carbide

UNI | DPA74S | upGRADE DRAGONSKIN



SIG 140°
Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 600 ...	SH 10 601 ...	SH 10 602 ...
6.800		8	79	34	24	36	06800	06800	06800
6.900		8	79	34	24	36	06900	06900	06900 1)
7.000		8	79	34	24	36	07000	07000 1)	07000
7.100		8	79	41	29	36	07100	07100 1)	07100 1)
7.140	9/32	8	79	41	29	36	07140		
7.200		8	79	41	29	36	07200	07200 1)	07200 1)
7.300		8	79	41	29	36	07300	07300 1)	07300 1)
7.400		8	79	41	29	36	07400	07400 1)	07400 1)
7.450		8	79	41	29	36	07450	07450 1)	07450 1)
7.500		8	79	41	29	36	07500	07500	07500 1)
7.700		8	79	41	29	36	07700	07700 1)	07700 1)
7.800		8	79	41	29	36	07800	07800 1)	07800
7.900		8	79	41	29	36	07900	07900 1)	07900 1)
7.940	5/16	8	79	41	29	36	07940		
8.000		8	79	41	29	36	08000	08000	08000
8.100		10	89	47	35	40	08100	08100 1)	08100 1)
8.200		10	89	47	35	40	08200	08200 1)	08200 1)
8.300		10	89	47	35	40	08300	08300 1)	08300 1)
8.400		10	89	47	35	40	08400	08400 1)	08400 1)
8.500		10	89	47	35	40	08500	08500	08500
8.600		10	89	47	35	40	08600	08600	08600 1)
8.700		10	89	47	35	40	08700	08700 1)	08700 1)
8.800		10	89	47	35	40	08800	08800 1)	08800 1)
9.000		10	89	47	35	40	09000	09000 1)	09000 1)
9.100		10	89	47	35	40	09100	09100 1)	09100 1)
9.200		10	89	47	35	40	09200	09200 1)	09200 1)
9.300		10	89	47	35	40	09300	09300 1)	09300 1)
9.350		10	89	47	35	40	09350	09350 1)	09350 1)
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

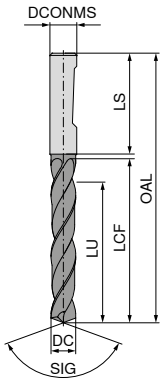
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 3xD | NOF = 2



UNI | DPA74S | upGRADE | DRAGONSKIN



SIG 140° Solid carbide

UNI | DPA74S | upGRADE | DRAGONSKIN



SIG 140° Solid carbide

UNI | DPA74S | upGRADE | DRAGONSKIN



SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 600 ...	SH 10 601 ...	SH 10 602 ...
9.400		10	89	47	35	40	09400	09400 [1]	09400 [1]
9.500		10	89	47	35	40	09500	09500 [1]	09500 [1]
9.525	3/8	10	89	47	35	40	09525		
9.600		10	89	47	35	40	09600	09600 [1]	09600 [1]
9.800		10	89	47	35	40	09800	09800 [1]	09800 [1]
9.900		10	89	47	35	40	09900	09900 [1]	09900 [1]
9.920	25/64	10	89	47	35	40	09920		
10.000		10	89	47	35	40	10000	10000	10000
10.100		12	102	55	40	45	10100	10100 [1]	10100 [1]
10.200		12	102	55	40	45	10200	10200	10200
10.300		12	102	55	40	45	10300	10300	10300 [1]
10.500		12	102	55	40	45	10500	10500	10500 [1]
10.550		12	102	55	40	45	10550	10550 [1]	10550 [1]
10.700		12	102	55	40	45	10700	10700 [1]	10700 [1]
10.800		12	102	55	40	45	10800	10800 [1]	10800 [1]
11.000		12	102	55	40	45	11000	11000 [1]	11000 [1]
11.100		12	102	55	40	45	11100	11100 [1]	11100 [1]
11.200		12	102	55	40	45	11200	11200 [1]	11200 [1]
11.300		12	102	55	40	45	11300	11300 [1]	11300 [1]
11.350		12	102	55	40	45	11350	11350 [1]	11350 [1]
11.450		12	102	55	40	45	11450	11450 [1]	11450 [1]
11.500		12	102	55	40	45	11500	11500 [1]	11500 [1]
11.800		12	102	55	40	45	11800	11800 [1]	11800 [1]
12.000		12	102	55	40	45	12000	12000	12000
12.150		14	107	60	43	45	12150	12150 [1]	12150 [1]
12.250		14	107	60	43	45	12250	12250 [1]	12250 [1]
12.500		14	107	60	43	45	12500	12500 [1]	12500 [1]
12.550		14	107	60	43	45	12550	12550 [1]	12550 [1]
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

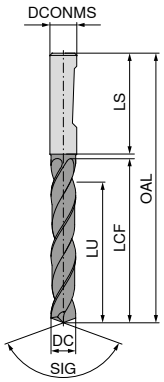
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 3xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

SH | SH | SH

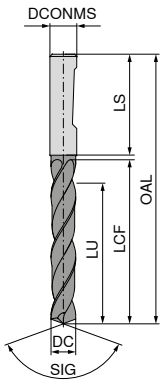
DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	10 600 ...	10 601 ...	10 602 ...
12.700	1/2	14	107	60	43	45	12700	12700 [1]	12700 [1]
12.800		14	107	60	43	45	12800	12800 [1]	12800 [1]
13.000		14	107	60	43	45	13000	13000	13000 [1]
13.100		14	107	60	43	45	13100	13100 [1]	13100 [1]
13.300		14	107	60	43	45	13300	13300 [1]	13300 [1]
13.350		14	107	60	43	45	13350	13350 [1]	13350 [1]
13.500		14	107	60	43	45	13500	13500 [1]	13500 [1]
13.800		14	107	60	43	45	13800	13800 [1]	13800 [1]
14.000		14	107	60	43	45	14000	14000	14000
14.200		16	115	65	45	48	14200	14200	14200 [1]
14.500		16	115	65	45	48	14500	14500 [1]	14500 [1]
14.800		16	115	65	45	48	14800	14800 [1]	14800 [1]
15.000		16	115	65	45	48	15000	15000 [1]	15000
15.100		16	115	65	45	48	15100	15100 [1]	15100 [1]
15.250		16	115	65	45	48	15250	15250	15250 [1]
15.300		16	115	65	45	48	15300	15300 [1]	15300 [1]
15.500		16	115	65	45	48	15500	15500 [1]	15500 [1]
15.800		16	115	65	45	48	15800	15800 [1]	15800 [1]
15.875	5/8	16	115	65	45	48	15875		
16.000		16	115	65	45	48	16000	16000 [1]	16000 [1]
16.500		18	123	73	51	48	16500	16500 [1]	16500 [1]
17.000		18	123	73	51	48	17000	17000 [1]	17000 [1]
17.500		18	123	73	51	48	17500	17500 [1]	17500 [1]
18.000		18	123	73	51	48	18000	18000 [1]	18000 [1]
19.050	3/4	20	131	79	55	50	19050		
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

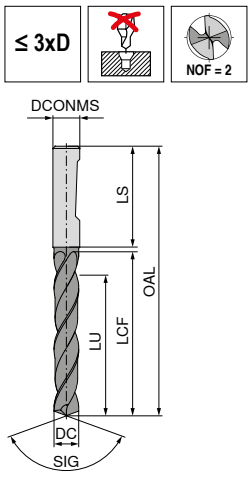
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 731 ...	SD 10 732 ...
2.00	6	58	16	11	36	020	020
2.10	6	58	16	11	36	021	021
2.20	6	58	16	11	36	022	022
2.30	6	58	16	11	36	023	023
2.33	6	58	16	11	36	823	
2.40	6	58	16	11	36	024	024
2.43	6	58	16	11	36	824	
2.50	6	58	16	11	36	025	025
2.55	6	58	16	11	36	825	
2.60	6	58	16	11	36	026	026
2.62	6	58	16	11	36	826	
2.70	6	58	16	11	36	027	027
2.80	6	58	16	11	36	028	028
2.90	6	58	16	11	36	029	029
3.00	6	62	20	14	36	030	030
3.10	6	62	20	14	36	031	031
3.15	6	62	20	14	36	831	
3.20	6	62	20	14	36	032	032
3.22	6	62	20	14	36	832	
3.25	6	62	20	14	36	890	
3.30	6	62	20	14	36	033	033
3.40	6	62	20	14	36	034	034
3.50	6	62	20	14	36	035	035
3.60	6	62	20	14	36	036	036
3.70	6	62	20	14	36	037	037
3.80	6	66	24	17	36	038	038
3.85	6	66	24	17	36	838	
3.90	6	66	24	17	36	039	039
4.00	6	66	24	17	36	040	040
4.10	6	66	24	17	36	041	041
4.20	6	66	24	17	36	042	042
4.30	6	66	24	17	36	043	043
4.35	6	66	24	17	36	843	
4.40	6	66	24	17	36	044	044
4.45	6	66	24	17	36	844	

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 731 ...	SD 10 732 ...
4.50	6	66	24	17	36	045	045
4.60	6	66	24	17	36	046	046
4.65	6	66	24	17	36	900	900
4.70	6	66	24	17	36	047	047
4.80	6	66	28	20	36	048	048
4.90	6	66	28	20	36	049	049
5.00	6	66	28	20	36	050	050
5.10	6	66	28	20	36	051	051
5.20	6	66	28	20	36	052	052
5.30	6	66	28	20	36	053	053
5.40	6	66	28	20	36	054	054
5.50	6	66	28	20	36	055	055
5.55	6	66	28	20	36	902	902
5.60	6	66	28	20	36	056	056
5.70	6	66	28	20	36	057	057
5.75	6	66	28	20	36	916	
5.80	6	66	28	20	36	058	058
5.90	6	66	28	20	36	059	059
5.95	6	66	28	20	36	959	
6.00	6	66	28	20	36	060	060
6.10	8	79	34	24	36	061	061
6.20	8	79	34	24	36	062	062
6.30	8	79	34	24	36	063	063
6.40	8	79	34	24	36	064	064
6.50	8	79	34	24	36	065	065
6.60	8	79	34	24	36	066	066
6.70	8	79	34	24	36	067	067
6.80	8	79	34	24	36	068	068
6.90	8	79	34	24	36	069	069
7.00	8	79	34	24	36	070	070
7.10	8	79	41	29	36	071	071
7.20	8	79	41	29	36	072	072
7.30	8	79	41	29	36	073	073
7.40	8	79	41	29	36	074	074
7.45	8	79	41	29	36	924	

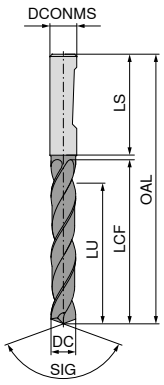
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

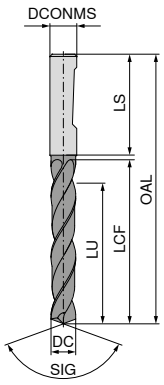
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 731 ...	SD 10 732 ...
7.50	8	79	41	29	36	075	075
7.60	8	79	41	29	36	076	076
7.70	8	79	41	29	36	077	077
7.80	8	79	41	29	36	078	078
7.90	8	79	41	29	36	079	079
8.00	8	79	41	29	36	080	080
8.10	10	89	47	35	40	081	081
8.20	10	89	47	35	40	082	082
8.30	10	89	47	35	40	083	083
8.40	10	89	47	35	40	084	084
8.50	10	89	47	35	40	085	085
8.60	10	89	47	35	40	086	086
8.70	10	89	47	35	40	087	087
8.80	10	89	47	35	40	088	088
8.90	10	89	47	35	40	089	089
9.00	10	89	47	35	40	090	090
9.10	10	89	47	35	40	091	091
9.20	10	89	47	35	40	092	092
9.30	10	89	47	35	40	093	093
9.35	10	89	47	35	40	930	
9.40	10	89	47	35	40	094	094
9.45	10	89	47	35	40	994	
9.50	10	89	47	35	40	095	095
9.60	10	89	47	35	40	096	096
9.70	10	89	47	35	40	097	097
9.80	10	89	47	35	40	098	098
9.90	10	89	47	35	40	099	099
10.00	10	89	47	35	40	100	100
10.10	12	102	55	40	45	101	101
10.20	12	102	55	40	45	102	102
10.30	12	102	55	40	45	103	103
10.40	12	102	55	40	45	104	104
10.50	12	102	55	40	45	105	105
10.55	12	102	55	40	45	932	
10.60	12	102	55	40	45	106	106
P						○	○
M						●	●
K						○	○
N						○	○
S						●	●
H							
O							

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

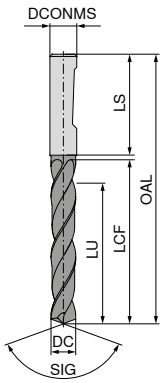
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 731 ...	SD 10 732 ...
10.70	12	102	55	40	45	107	107
10.80	12	102	55	40	45	108	108
10.90	12	102	55	40	45	109	109
11.00	12	102	55	40	45	110	110
11.10	12	102	55	40	45	111	111
11.20	12	102	55	40	45	112	112
11.25	12	102	55	40	45	912	
11.30	12	102	55	40	45	113	113
11.35	12	102	55	40	45	913	
11.40	12	102	55	40	45	114	114
11.45	12	102	55	40	45	914	
11.50	12	102	55	40	45	115	115
11.60	12	102	55	40	45	116	116
11.70	12	102	55	40	45	117	117
11.80	12	102	55	40	45	118	118
11.90	12	102	55	40	45	119	119
12.00	12	102	55	40	45	120	120
12.15	14	107	60	43	45	921	
12.50	14	107	60	43	45	125	125
12.55	14	107	60	43	45	925	
12.80	14	107	60	43	45	128	128
13.00	14	107	60	43	45	130	130
13.35	14	107	60	43	45	933	
13.50	14	107	60	43	45	135	135
13.80	14	107	60	43	45	138	138
14.00	14	107	60	43	45	140	140
14.50	16	115	65	45	48	145	145
14.80	16	115	65	45	48	148	148
15.00	16	115	65	45	48	150	150
15.35	16	115	65	45	48	953	
15.50	16	115	65	45	48	155	155
15.80	16	115	65	45	48	158	158
16.00	16	115	65	45	48	160	160
16.05	18	123	73	51	48	960	
16.50	18	123	73	51	48	165	165
P						○	○
M						●	●
K						○	○
N						○	○
S						●	●
H							
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→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537







SIG 140°
Solid carbide

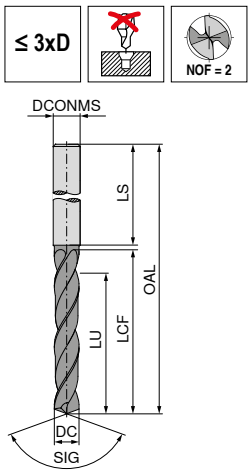
SIG 140°
Solid carbide

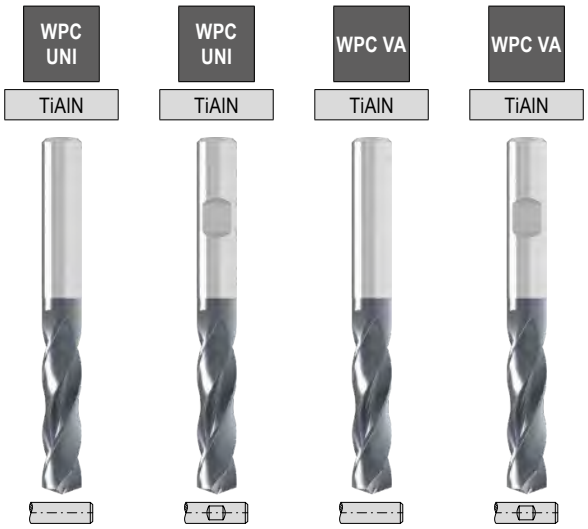
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 731 ...	SD 10 732 ...
16.80	18	123	73	51	48	**168**	**168**
17.00	18	123	73	51	48	**170**	**170**
17.50	18	123	73	51	48	**175**	**175**
17.80	18	123	73	51	48	**178**	**178**
18.00	18	123	73	51	48	**180**	**180**
18.50	20	131	79	55	50	**185**	**185**
18.80	20	131	79	55	50	**188**	**188**
19.00	20	131	79	55	50	**190**	**190**
19.35	20	131	79	55	50	**993**	
19.50	20	131	79	55	50	**195**	**195**
19.80	20	131	79	55	50	**198**	**198**
20.00	20	131	79	55	50	**200**	**200**

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

						CX	CX	CX	CX
DC $_{m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	11 706 ...	11 707 ...	11 711 ...	11 712 ...
mm	mm	mm	mm	mm	mm				
1.00	4	45	7	5.5	28	01000		01000	
1.10	4	45	7	5.3	28	01100		01100	
1.20	4	45	7	5.2	28	01200		01200	
1.30	4	45	7	5.0	28	01300		01300	
1.40	4	45	7	4.9	28	01400		01400	
1.50	4	55	14	11.7	28	01500		01500	
1.60	4	55	14	11.6	28	01600		01600	
1.70	4	55	14	11.4	28	01700		01700	
1.80	4	55	14	11.3	28	01800		01800	
1.90	4	55	14	11.1	28	01900		01900	
2.00	4	55	20	17.0	28	02000		02000	
2.10	4	55	20	16.8	28	02100		02100	
2.20	4	55	20	16.7	28	02200		02200	
2.30	4	55	20	16.5	28	02300		02300	
2.40	4	55	20	16.4	28	02400		02400	
2.50	4	55	20	16.2	28	02500		02500	
2.60	4	55	20	16.1	28	02600		02600	
2.70	4	55	20	15.9	28	02700		02700	
2.80	4	55	20	15.8	28	02800		02800	
2.90	4	55	20	15.6	28	02900		02900	
3.00	6	62	20	14.0	36	03000	03000	03000	03000
3.10	6	62	20	14.0	36	03100	03100	03100	03100
3.20	6	62	20	14.0	36	03200	03200	03200	03200
3.25	6	62	20	14.0	36	03250	03250	03250	03250
3.30	6	62	20	14.0	36	03300	03300	03300	03300
3.40	6	62	20	14.0	36	03400	03400	03400	03400
3.50	6	62	20	14.0	36	03500	03500	03500	03500
3.60	6	62	20	14.0	36	03600	03600	03600	03600
3.70	6	62	20	14.0	36	03700	03700	03700	03700
3.80	6	66	24	17.0	36	03800	03800	03800	03800
3.90	6	66	24	17.0	36	03900	03900	03900	03900
4.00	6	66	24	17.0	36	04000	04000	04000	04000
4.10	6	66	24	17.0	36	04100	04100	04100	04100
4.20	6	66	24	17.0	36	04200	04200	04200	04200
4.30	6	66	24	17.0	36	04300	04300	04300	04300
4.40	6	66	24	17.0	36	04400	04400	04400	04400
4.50	6	66	24	17.0	36	04500	04500	04500	04500
4.60	6	66	24	17.0	36	04600	04600	04600	04600
4.65	6	66	24	17.0	36	04650	04650	04650	04650
4.70	6	66	24	17.0	36	04700	04700	04700	04700
4.80	6	66	28	20.0	36	04800	04800	04800	04800

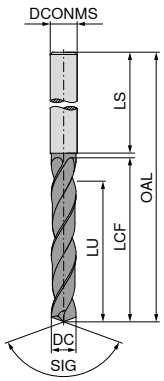
P	●	●	○	○
M			●	●
K	●	●		
N			○	○
S			○	○
H				
O			○	○

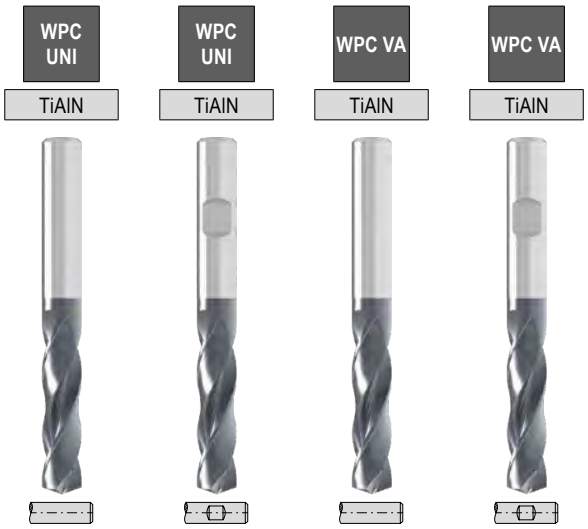
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

≤ 3xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 706 ...	CX 11 707 ...	CX 11 711 ...	CX 11 712 ...
4.90	6	66	28	20.0	36	04900	04900	04900	04900
5.00	6	66	28	20.0	36	05000	05000	05000	05000
5.10	6	66	28	20.0	36	05100	05100	05100	05100
5.20	6	66	28	20.0	36	05200	05200	05200	05200
5.30	6	66	28	20.0	36	05300	05300	05300	05300
5.40	6	66	28	20.0	36	05400	05400	05400	05400
5.50	6	66	28	20.0	36	05500	05500	05500	05500
5.55	6	66	28	20.0	36	05550	05550	05550	05550
5.60	6	66	28	20.0	36	05600	05600	05600	05600
5.65	6	66	28	20.0	36	05650	05650		
5.70	6	66	28	20.0	36	05700	05700	05700	05700
5.80	6	66	28	20.0	36	05800	05800	05800	05800
5.90	6	66	28	20.0	36	05900	05900	05900	05900
6.00	6	66	28	20.0	36	06000	06000	06000	06000
6.10	8	79	34	24.0	36	06100	06100	06100	06100
6.20	8	79	34	24.0	36	06200	06200	06200	06200
6.30	8	79	34	24.0	36	06300	06300	06300	06300
6.40	8	79	34	24.0	36	06400	06400	06400	06400
6.50	8	79	34	24.0	36	06500	06500	06500	06500
6.60	8	79	34	24.0	36	06600	06600	06600	06600
6.70	8	79	34	24.0	36	06700	06700	06700	06700
6.80	8	79	34	24.0	36	06800	06800	06800	06800
6.90	8	79	34	24.0	36	06900	06900	06900	06900
7.00	8	79	34	24.0	36	07000	07000	07000	07000
7.10	8	79	41	29.0	36	07100	07100	07100	07100
7.20	8	79	41	29.0	36	07200	07200	07200	07200
7.30	8	79	41	29.0	36	07300	07300	07300	07300
7.40	8	79	41	29.0	36	07400	07400	07400	07400
7.50	8	79	41	29.0	36	07500	07500	07500	07500
7.55	8	79	41	29.0	36	07550	07550		
7.60	8	79	41	29.0	36	07600	07600	07600	07600
7.65	8	79	41	29.0	36	07650	07650		
7.70	8	79	41	29.0	36	07700	07700	07700	07700
7.80	8	79	41	29.0	36	07800	07800	07800	07800
7.90	8	79	41	29.0	36	07900	07900	07900	07900
8.00	8	79	41	29.0	36	08000	08000	08000	08000
8.10	10	89	47	35.0	40	08100	08100	08100	08100
8.20	10	89	47	35.0	40	08200	08200	08200	08200
8.30	10	89	47	35.0	40	08300	08300	08300	08300
8.40	10	89	47	35.0	40	08400	08400	08400	08400
8.50	10	89	47	35.0	40	08500	08500	08500	08500

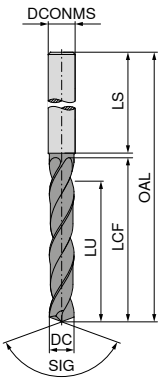
P	●	●	○	○
M			●	●
K	●	●		
N			○	○
S			○	○
H				
O			○	○

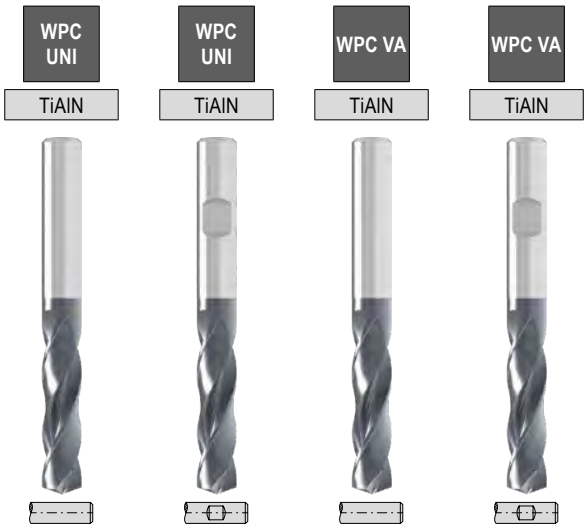
→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537

≤ 3xD | NOF = 2





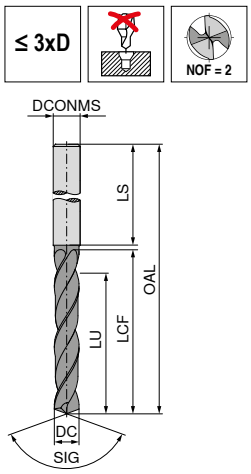
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

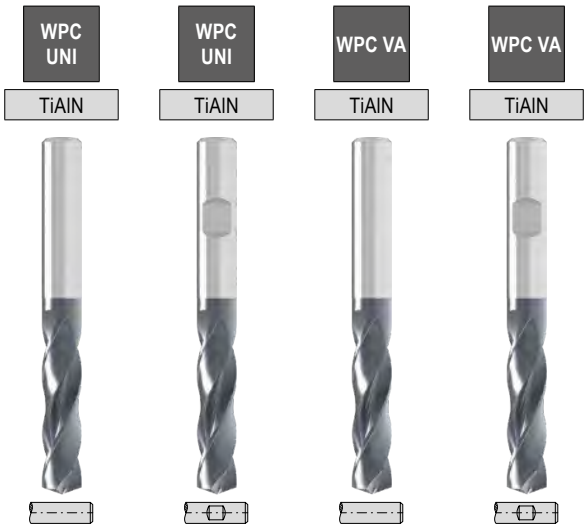
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 706 ...	CX 11 707 ...	CX 11 711 ...	CX 11 712 ...
8.60	10	89	47	35.0	40	08600	08600	08600	08600
8.70	10	89	47	35.0	40	08700	08700	08700	08700
8.80	10	89	47	35.0	40	08800	08800	08800	08800
8.90	10	89	47	35.0	40	08900	08900	08900	08900
9.00	10	89	47	35.0	40	09000	09000	09000	09000
9.10	10	89	47	35.0	40	09100	09100	09100	09100
9.20	10	89	47	35.0	40	09200	09200	09200	09200
9.30	10	89	47	35.0	40	09300	09300	09300	09300
9.40	10	89	47	35.0	40	09400	09400	09400	09400
9.50	10	89	47	35.0	40	09500	09500	09500	09500
9.60	10	89	47	35.0	40	09600	09600	09600	09600
9.70	10	89	47	35.0	40	09700	09700	09700	09700
9.80	10	89	47	35.0	40	09800	09800	09800	09800
9.90	10	89	47	35.0	40	09900	09900	09900	09900
10.00	10	89	47	35.0	40	10000	10000	10000	10000
10.10	12	102	55	40.0	45	10100	10100	10100	10100
10.20	12	102	55	40.0	45	10200	10200	10200	10200
10.30	12	102	55	40.0	45	10300	10300	10300	10300
10.40	12	102	55	40.0	45	10400	10400	10400	10400
10.50	12	102	55	40.0	45	10500	10500	10500	10500
10.60	12	102	55	40.0	45	10600	10600	10600	10600
10.70	12	102	55	40.0	45	10700	10700	10700	10700
10.80	12	102	55	40.0	45	10800	10800	10800	10800
10.90	12	102	55	40.0	45	10900	10900	10900	10900
11.00	12	102	55	40.0	45	11000	11000	11000	11000
11.10	12	102	55	40.0	45	11100	11100	11100	11100
11.20	12	102	55	40.0	45	11200	11200	11200	11200
11.30	12	102	55	40.0	45	11300	11300	11300	11300
11.40	12	102	55	40.0	45	11400	11400	11400	11400
11.50	12	102	55	40.0	45	11500	11500	11500	11500
11.60	12	102	55	40.0	45	11600	11600	11600	11600
11.70	12	102	55	40.0	45	11700	11700	11700	11700
11.80	12	102	55	40.0	45	11800	11800	11800	11800
11.90	12	102	55	40.0	45	11900	11900	11900	11900
12.00	12	102	55	40.0	45	12000	12000	12000	12000
12.20	14	107	60	43.0	45	12200	12200	12200	12200
12.50	14	107	60	43.0	45	12500	12500	12500	12500
12.70	14	107	60	43.0	45	12700	12700	12700	12700
12.80	14	107	60	43.0	45	12800	12800	12800	12800
13.00	14	107	60	43.0	45	13000	13000	13000	13000
13.10	14	107	60	43.0	45	13100	13100	13100	13100
P						●	●	○	○
M								●	●
K						●	●		
N								○	○
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

CX | CX | CX | CX

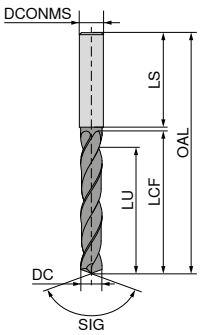
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	11 706 ...	11 707 ...	11 711 ...	11 712 ...
13.50	14	107	60	43.0	45	13500	13500	13500	13500
13.70	14	107	60	43.0	45			13700	13700
13.80	14	107	60	43.0	45	13800	13800	13800	13800
14.00	14	107	60	43.0	45	14000	14000	14000	14000
14.20	16	115	65	45.0	48	14200	14200	14200	14200
14.40	16	115	65	45.0	48	14400	14400	14400	14400
14.50	16	115	65	45.0	48	14500	14500	14500	14500
14.70	16	115	65	45.0	48			14700	14700
14.80	16	115	65	45.0	48	14800	14800	14800	14800
15.00	16	115	65	45.0	48	15000	15000	15000	15000
15.10	16	115	65	45.0	48	15100	15100	15100	15100
15.20	16	115	65	45.0	48	15200	15200	15200	15200
15.50	16	115	65	45.0	48	15500	15500	15500	15500
15.70	16	115	65	45.0	48			15700	15700
15.80	16	115	65	45.0	48	15800	15800	15800	15800
16.00	16	115	65	45.0	48	16000	16000	16000	16000
16.50	18	123	73	51.0	48	16500	16500	16500	16500
17.00	18	123	73	51.0	48	17000	17000	17000	17000
17.50	18	123	73	51.0	48	17500	17500	17500	17500
18.00	18	123	73	51.0	48	18000	18000	18000	18000
18.50	20	131	79	55.0	50	18500	18500	18500	18500
18.90	20	131	79	55.0	50	18900	18900	18900	18900
19.00	20	131	79	55.0	50	19000	19000	19000	19000
19.50	20	131	79	55.0	50	19500	19500	19500	19500
20.00	20	131	79	55.0	50	20000	20000	20000	20000
P						●	●	○	○
M								●	●
K						●	●		
N								○	○
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

WTX – High-performance drill, factory standard

- Tailored cutting edge geometry
- Special chip chamber geometry
- Optimized core thickness
- 46 to 70 HRC

≤ 3xD | NOF = 2



H

DPX64U

DRAGONSKIN



SIG 140°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 777 ...
2.55	4	55	20	16.1	28	02550
2.60	4	55	20	16.1	28	02600
2.70	4	55	20	15.9	28	02700
2.80	4	55	20	15.8	28	02800
2.90	4	55	20	15.6	28	02900
3.00	6	62	20	15.5	36	03000
3.10	6	62	20	15.3	36	03100
3.20	6	62	20	15.2	36	03200
3.30	6	62	20	15.0	36	03300
3.40	6	62	20	14.9	36	03400
3.50	6	62	20	14.7	36	03500
3.60	6	62	20	14.6	36	03600
3.70	6	62	20	14.4	36	03700
3.80	6	66	24	18.3	36	03800
3.90	6	66	24	18.1	36	03900
4.00	6	66	24	18.0	36	04000
4.10	6	66	24	17.8	36	04100
4.20	6	66	24	17.7	36	04200
4.30	6	66	24	17.5	36	04300
4.40	6	66	24	17.4	36	04400
4.50	6	66	24	17.2	36	04500
4.60	6	66	24	17.1	36	04600
4.70	6	66	24	16.9	36	04700
4.80	6	66	28	20.8	36	04800
4.90	6	66	28	20.6	36	04900
5.00	6	66	28	20.5	36	05000
5.10	6	66	28	20.3	36	05100
5.20	6	66	28	20.2	36	05200
5.30	6	66	28	20.0	36	05300
5.40	6	66	28	19.9	36	05400

P	○
K	●
S	
H.1.1	●
H.1.2	●
H.1.3	●
H.1.4	●

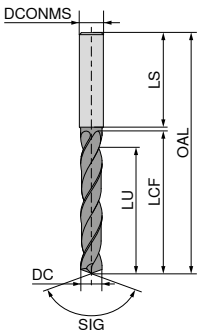
→ Find the cutting data standard values here.

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WTX – High-performance drill, factory standard

- ▲ Tailored cutting edge geometry
- ▲ Special chip chamber geometry
- ▲ Optimized core thickness
- ▲ 46 to 70 HRC

≤ 3xD | NOF = 2



H

DPX64U

DRAGONSKIN



SIG 140°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 777 ...
5.50	6	66	28	19.7	36	05500
5.60	6	66	28	19.6	36	05600
5.70	6	66	28	19.4	36	05700
5.80	6	66	28	19.3	36	05800
5.90	6	66	28	19.1	36	05900
6.00	6	66	28	19.0	36	06000
6.10	8	79	34	24.8	36	06100
6.20	8	79	34	24.7	36	06200
6.30	8	79	34	24.5	36	06300
6.40	8	79	34	24.4	36	06400
6.50	8	79	34	24.2	36	06500
6.60	8	79	34	24.1	36	06600
6.70	8	79	34	23.9	36	06700
6.80	8	79	34	23.8	36	06800
6.90	8	79	34	23.6	36	06900
7.00	8	79	34	23.5	36	07000
7.10	8	79	41	30.3	36	07100
7.20	8	79	41	30.2	36	07200
7.30	8	79	41	30.0	36	07300
7.40	8	79	41	29.9	36	07400
7.50	8	79	41	29.7	36	07500
7.60	8	79	41	29.6	36	07600
7.70	8	79	41	29.4	36	07700
7.80	8	79	41	29.3	36	07800
7.90	8	79	41	29.1	36	07900
8.00	8	79	41	29.0	36	08000
8.10	10	89	47	34.8	40	08100
8.20	10	89	47	34.7	40	08200
8.30	10	89	47	34.5	40	08300
8.40	10	89	47	34.4	40	08400

P	○
K	●
S	
H.1.1	●
H.1.2	●
H.1.3	●
H.1.4	●

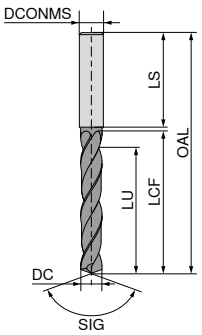
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- ▲ Tailored cutting edge geometry
- ▲ Special chip chamber geometry
- ▲ Optimized core thickness
- ▲ 46 to 70 HRC





H

DPX64U

DRAGONSKIN



SIG 140°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 777 ...
8.50	10	89	47	34.2	40	**08500**
8.60	10	89	47	34.1	40	**08600**
8.70	10	89	47	33.9	40	**08700**
8.80	10	89	47	33.8	40	**08800**
8.90	10	89	47	33.6	40	**08900**
9.00	10	89	47	33.5	40	**09000**
9.10	10	89	47	33.3	40	**09100**
9.20	10	89	47	33.2	40	**09200**
9.30	10	89	47	33.0	40	**09300**
9.40	10	89	47	32.9	40	**09400**
9.50	10	89	47	32.7	40	**09500**
9.60	10	89	47	32.6	40	**09600**
9.70	10	89	47	32.4	40	**09700**
9.80	10	89	47	32.3	40	**09800**
9.90	10	89	47	32.1	40	**09900**
10.00	10	89	47	32.0	40	**10000**
10.10	12	102	55	39.8	45	**10100**
10.20	12	102	55	39.7	45	**10200**
10.30	12	102	55	39.5	45	**10300**
10.40	12	102	55	39.4	45	**10400**
10.50	12	102	55	39.2	45	**10500**
10.60	12	102	55	39.1	45	**10600**
10.70	12	102	55	38.9	45	**10700**
10.80	12	102	55	38.8	45	**10800**
10.90	12	102	55	38.6	45	**10900**
11.00	12	102	55	38.5	45	**11000**
11.10	12	102	55	38.3	45	**11100**
11.20	12	102	55	38.2	45	**11200**
11.30	12	102	55	38.0	45	**11300**
11.40	12	102	55	37.9	45	**11400**

P	○
K	●
S	
H.1.1	●
H.1.2	●
H.1.3	●
H.1.4	●

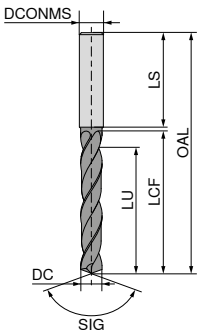
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- ▲ Tailored cutting edge geometry
- ▲ Special chip chamber geometry
- ▲ Optimized core thickness
- ▲ 46 to 70 HRC





H

DPX64U

DRAGONSKIN



SIG 140°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 777 ...
11.50	12	102	55	37.7	45	**11500**
11.60	12	102	55	37.6	45	**11600**
11.70	12	102	55	37.4	45	**11700**
11.80	12	102	55	37.3	45	**11800**
11.90	12	102	55	37.1	45	**11900**
12.00	12	102	55	37.0	45	**12000**
12.10	14	107	60	41.8	45	**12100**
12.20	14	107	60	41.7	45	**12200**
12.30	14	107	60	41.5	45	**12300**
12.40	14	107	60	41.4	45	**12400**
12.50	14	107	60	41.2	45	**12500**
12.60	14	107	60	41.1	45	**12600**
12.70	14	107	60	40.9	45	**12700**
12.80	14	107	60	40.8	45	**12800**
12.90	14	107	60	40.6	45	**12900**
13.00	14	107	60	40.5	45	**13000**
13.10	14	107	60	40.3	45	**13100**
13.20	14	107	60	40.2	45	**13200**
13.30	14	107	60	40.0	45	**13300**
13.40	14	107	60	39.9	45	**13400**
13.50	14	107	60	39.7	45	**13500**
13.60	14	107	60	39.6	45	**13600**
13.70	14	107	60	39.4	45	**13700**
13.80	14	107	60	39.3	45	**13800**
13.90	14	107	60	39.1	45	**13900**
14.00	14	107	60	39.0	45	**14000**

P	○
K	●
S	
H.1.1	●
H.1.2	●
H.1.3	●
H.1.4	●

→ Find the cutting data standard values here.

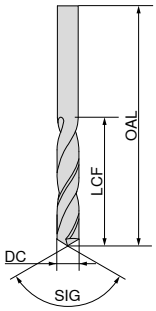
CoreLine – Twist drill similar to DIN 1897

▲ Helix angle 30°
▲ Shank Ø H7

≤ 3xD



N





SIG 118°
Solid carbide

DC h7 mm	OAL mm	LCF mm	CX 10 700 ...
0.5	20	3.0	005
0.6	21	3.5	006
0.7	23	4.5	007
0.8	24	5.0	008
0.9	25	5.5	009
1.0	26	6.0	010
1.2	30	8.0	012
1.3	30	8.0	013
1.4	32	9.0	014
1.5	32	9.0	015
1.6	34	10.0	016
1.7	34	10.0	017
1.8	36	11.0	018
1.9	36	11.0	019
2.0	38	12.0	020
2.1	38	12.0	021
2.2	40	13.0	022
2.3	40	13.0	023
2.4	43	14.0	024
2.5	43	14.0	025
2.6	43	14.0	026
2.7	46	16.0	027
2.8	46	16.0	028
2.9	46	16.0	029
3.0	46	16.0	030
3.1	49	18.0	031
3.2	49	18.0	032
3.3	49	18.0	033
3.4	52	20.0	034
3.5	52	20.0	035
3.6	52	20.0	036
3.7	52	20.0	037
3.8	55	22.0	038
3.9	55	22.0	039

P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

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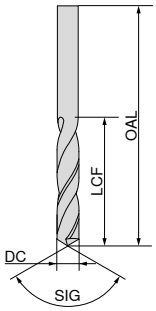
CoreLine – Twist drill similar to DIN 1897

▲ Helix angle 30°
▲ Shank Ø H7

≤ 3xD



N





SIG 118°
Solid carbide

DC h7 mm	OAL mm	LCF mm	CX 10 700 ...
4.0	55	22.0	040
4.1	55	22.0	041
4.2	55	22.0	042
4.3	58	24.0	043
4.4	58	24.0	044
4.5	58	24.0	045
4.6	58	24.0	046
4.7	58	24.0	047
4.8	62	26.0	048
4.9	62	26.0	049
5.0	62	26.0	050
5.1	62	26.0	051
5.2	62	26.0	052
5.3	62	26.0	053
5.4	66	28.0	054
5.5	66	28.0	055
5.6	66	28.0	056
5.7	66	28.0	057
5.8	66	28.0	058
5.9	66	28.0	059
6.0	66	28.0	060
6.1	70	31.0	061
6.2	70	31.0	062
6.3	70	31.0	063
6.4	70	31.0	064
6.5	70	31.0	065
6.6	70	31.0	066
6.7	70	31.0	067
6.8	74	34.0	068
6.9	74	34.0	069
7.0	74	34.0	070
7.1	74	34.0	071
7.2	74	34.0	072
7.3	74	34.0	073

P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

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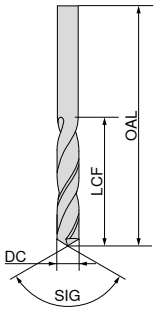
CoreLine – Twist drill similar to DIN 1897

- Helix angle 30°
- Shank Ø H7

≤ 3xD



N





SIG 118°
Solid carbide

DC h7 mm	OAL mm	LCF mm	CX 10 700 ...
7.4	74	34.0	074
7.5	74	34.0	075
7.6	79	37.0	076
7.7	79	37.0	077
7.8	79	37.0	078
7.9	79	37.0	079
8.0	79	37.0	080
8.1	79	37.0	081
8.2	79	37.0	082
8.3	79	37.0	083
8.4	79	37.0	084
8.5	79	37.0	085
8.6	84	40.0	086
8.7	84	40.0	087
8.8	84	40.0	088
8.9	84	40.0	089
9.0	84	40.0	090
9.1	84	40.0	091
9.2	84	40.0	092
9.3	84	40.0	093
9.4	84	40.0	094
9.5	84	40.0	095
9.6	89	43.0	096
9.7	89	43.0	097
9.8	89	43.0	098
9.9	89	43.0	099
10.0	89	43.0	100
10.2	89	43.0	102
10.5	89	43.0	105
10.8	95	47.0	108
11.0	95	47.0	110
11.2	95	47.0	112
11.5	95	47.0	115
11.8	95	47.0	118

P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

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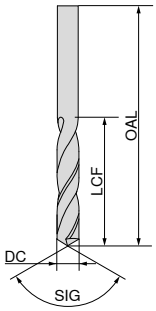
CoreLine – Twist drill similar to DIN 1897

- Helix angle 30°
- Shank Ø H7

≤ 3xD



N





SIG 118°
Solid carbide

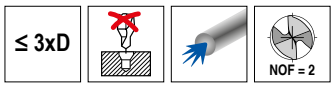
DC h7 mm	OAL mm	LCF mm	CX 10 700 ...
12.0	102	51.0	**120**
12.5	102	51.0	**125**
13.0	102	51.0	**130**
13.5	107	54.0	**135**
14.0	107	54.0	**140**
14.5	111	56.0	**145**
15.0	111	56.0	**150**
15.5	115	58.0	**155**
16.0	115	58.0	**160**
18.0	123	62.0	**180**
20.0	131	66.0	**200**

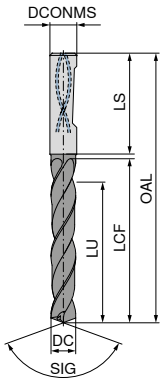
P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 603 ...	SH 10 604 ...	SH 10 605 ...
3.000		6	62	20	14	36	03000	03000	03000
3.100		6	62	20	14	36	03100	03100 1)	03100 1)
3.150		6	62	20	14	36	03150	03150 1)	03150 1)
3.175	1/8	6	62	20	14	36	03175		
3.200		6	62	20	14	36	03200	03200	03200 1)
3.250		6	62	20	14	36	03250	03250 1)	03250 1)
3.300		6	62	20	14	36	03300	03300	03300
3.400		6	62	20	14	36	03400	03400 1)	03400
3.500		6	62	20	14	36	03500	03500 1)	03500 1)
3.600		6	62	20	14	36	03600	03600 1)	03600 1)
3.700		6	62	20	14	36	03700	03700 1)	03700
3.800		6	66	24	17	36	03800	03800 1)	03800 1)
3.850		6	66	24	17	36	03850	03850 1)	03850 1)
3.900		6	66	24	17	36	03900	03900 1)	03900 1)
3.970	5/32	6	66	24	17	36	03970		
4.000		6	66	24	17	36	04000	04000	04000
4.100		6	66	24	17	36	04100	04100 1)	04100 1)
4.200		6	66	24	17	36	04200	04200	04200
4.250		6	66	24	17	36	04250	04250 1)	04250 1)
4.300		6	66	24	17	36	04300	04300 1)	04300
4.350		6	66	24	17	36	04350	04350 1)	04350 1)
4.400		6	66	24	17	36	04400	04400 1)	04400 1)
4.450		6	66	24	17	36	04450	04450 1)	04450 1)
4.500		6	66	24	17	36	04500	04500 1)	04500 1)
4.600		6	66	24	17	36	04600	04600 1)	04600 1)
4.650		6	66	24	17	36	04650	04650 1)	04650 1)
4.700		6	66	24	17	36	04700	04700 1)	04700
4.760	3/16	6	66	28	20	36	04760		
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

1) Not in stock

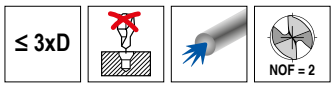


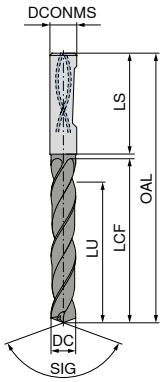
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 603 ...	SH 10 604 ...	SH 10 605 ...
4.800		6	66	28	20	36	04800	04800 1)	04800 1)
4.900		6	66	28	20	36	04900	04900	04900
4.950		6	66	28	20	36	04950	04950 1)	04950 1)
5.000		6	66	28	20	36	05000	05000	05000
5.050		6	66	28	20	36	05050	05050	05050 1)
5.100		6	66	28	20	36	05100	05100	05100 1)
5.200		6	66	28	20	36	05200	05200 1)	05200
5.300		6	66	28	20	36	05300	05300 1)	05300 1)
5.400		6	66	28	20	36	05400	05400 1)	05400 1)
5.500		6	66	28	20	36	05500	05500 1)	05500
5.550		6	66	28	20	36	05550	05550 1)	05550
5.560	7/32	6	66	28	20	36	05560		
5.600		6	66	28	20	36	05600	05600	05600 1)
5.700		6	66	28	20	36	05700	05700 1)	05700 1)
5.750		6	66	28	20	36	05750	05750 1)	05750 1)
5.800		6	66	28	20	36	05800	05800 1)	05800
5.900		6	66	28	20	36	05900	05900 1)	05900 1)
5.950	15/64	6	66	28	20	36	05950	05950 1)	05950 1)
6.000		6	66	28	20	36	06000	06000	06000
6.100		8	79	34	24	36	06100	06100 1)	06100 1)
6.200		8	79	34	24	36	06200	06200 1)	06200 1)
6.300		8	79	34	24	36	06300	06300 1)	06300 1)
6.350	1/4	8	79	34	24	36	06350		
6.400		8	79	34	24	36	06400	06400 1)	06400 1)
6.500		8	79	34	24	36	06500	06500 1)	06500
6.600		8	79	34	24	36	06600	06600	06600 1)
6.700		8	79	34	24	36	06700	06700 1)	06700 1)
6.750	17/64	8	79	34	24	36	06750		

P	●	●	●
M	●	●	●
K	●	●	●
N			
S			
H	○	○	○
O			

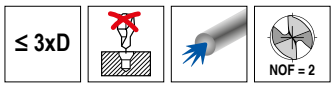
1) Not in stock

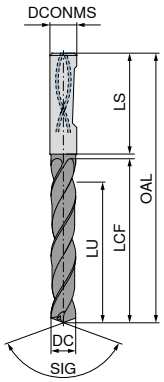
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide

SIG 140° Solid carbide

SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 603 ...	SH 10 604 ...	SH 10 605 ...
6.800		8	79	34	24	36	06800	06800	06800
6.900		8	79	34	24	36	06900	06900	06900 [1]
7.000		8	79	34	24	36	07000	07000 [1]	07000
7.100		8	79	41	29	36	07100	07100 [1]	07100 [1]
7.140	9/32	8	79	41	29	36	07140		
7.200		8	79	41	29	36	07200	07200 [1]	07200 [1]
7.300		8	79	41	29	36	07300	07300 [1]	07300 [1]
7.400		8	79	41	29	36	07400	07400	07400
7.450		8	79	41	29	36	07450	07450 [1]	07450 [1]
7.500		8	79	41	29	36	07500	07500 [1]	07500
7.600		8	79	41	29	36	07600	07600 [1]	07600 [1]
7.700		8	79	41	29	36	07700	07700 [1]	07700 [1]
7.800		8	79	41	29	36	07800	07800 [1]	07800
7.900		8	79	41	29	36	07900	07900 [1]	07900 [1]
7.940	5/16	8	79	41	29	36	07940		
8.000		8	79	41	29	36	08000	08000 [1]	08000
8.100		10	89	47	35	40	08100	08100 [1]	08100 [1]
8.200		10	89	47	35	40	08200	08200 [1]	08200 [1]
8.300		10	89	47	35	40	08300	08300	08300 [1]
8.400		10	89	47	35	40	08400	08400 [1]	08400 [1]
8.500		10	89	47	35	40	08500	08500	08500
8.600		10	89	47	35	40	08600	08600 [1]	08600 [1]
8.700		10	89	47	35	40	08700	08700 [1]	08700 [1]
8.800		10	89	47	35	40	08800	08800	08800 [1]
9.000		10	89	47	35	40	09000	09000	09000
9.100		10	89	47	35	40	09100	09100	09100 [1]
9.200		10	89	47	35	40	09200	09200 [1]	09200 [1]
9.300		10	89	47	35	40	09300	09300	09300 [1]
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

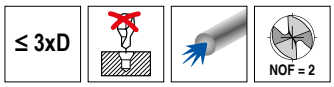
1) Not in stock

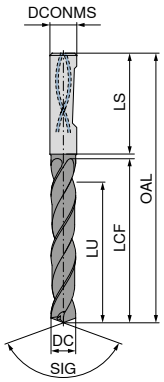
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 603 ...	SH 10 604 ...	SH 10 605 ...
9.350		10	89	47	35	40	09350	09350 1)	09350 1)
9.400		10	89	47	35	40	09400	09400	09400 1)
9.500		10	89	47	35	40	09500	09500 1)	09500
9.525	3/8	10	89	47	35	40	09525		
9.600		10	89	47	35	40	09600	09600 1)	09600 1)
9.700		10	89	47	35	40	09700	09700 1)	09700 1)
9.800		10	89	47	35	40	09800	09800	09800 1)
9.900		10	89	47	35	40	09900	09900 1)	09900 1)
9.920	25/64	10	89	47	35	40	09920		
10.000		10	89	47	35	40	10000	10000	10000
10.100		12	102	55	40	45	10100	10100 1)	10100 1)
10.200		12	102	55	40	45	10200	10200	10200
10.300		12	102	55	40	45	10300	10300	10300 1)
10.400		12	102	55	40	45	10400	10400	10400 1)
10.500		12	102	55	40	45	10500	10500	10500
10.550		12	102	55	40	45	10550	10550 1)	10550 1)
10.600		12	102	55	40	45	10600	10600	10600 1)
10.700		12	102	55	40	45	10700	10700 1)	10700 1)
10.800		12	102	55	40	45	10800	10800	10800 1)
10.900		12	102	55	40	45	10900	10900 1)	10900 1)
11.000		12	102	55	40	45	11000	11000	11000
11.100		12	102	55	40	45	11100	11100	11100 1)
11.200		12	102	55	40	45	11200	11200	11200 1)
11.250		12	102	55	40	45	11250	11250 1)	11250 1)
11.300		12	102	55	40	45	11300	11300	11300 1)
11.350		12	102	55	40	45	11350	11350 1)	11350 1)
11.400		12	102	55	40	45	11400	11400 1)	11400 1)
11.450		12	102	55	40	45	11450	11450 1)	11450 1)
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

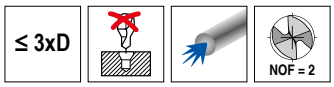
1) Not in stock

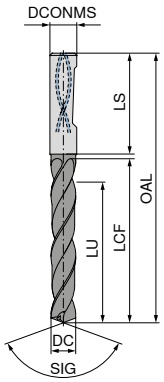
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide — SH — **10 603 ...**

SIG 140° Solid carbide — SH — **10 604 ...**

SIG 140° Solid carbide — SH — **10 605 ...**

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	10 603 ...	10 604 ...	10 605 ...
11.500		12	102	55	40	45	11500	11500	11500 1)
11.600		12	102	55	40	45	11600	11600	11600 1)
11.700		12	102	55	40	45	11700	11700	11700 1)
11.800		12	102	55	40	45	11800	11800	11800
12.000		12	102	55	40	45	12000	12000 1)	12000
12.150		14	107	60	43	45	12150	12150 1)	12150 1)
12.250		14	107	60	43	45	12250	12250 1)	12250 1)
12.500		14	107	60	43	45	12500	12500	12500
12.550		14	107	60	43	45	12550	12550 1)	12550 1)
12.700	1/2	14	107	60	43	45	12700	12700 1)	12700 1)
12.800		14	107	60	43	45	12800	12800 1)	12800 1)
12.900		14	107	60	43	45	12900	12900 1)	12900 1)
13.000		14	107	60	43	45	13000	13000	13000
13.100		14	107	60	43	45	13100	13100 1)	13100 1)
13.300		14	107	60	43	45	13300	13300 1)	13300 1)
13.350		14	107	60	43	45	13350	13350 1)	13350 1)
13.500		14	107	60	43	45	13500	13500	13500 1)
13.800		14	107	60	43	45	13800	13800 1)	13800 1)
14.000		14	107	60	43	45	14000	14000	14000
14.200		16	115	65	45	48	14200	14200 1)	14200 1)
14.500		16	115	65	45	48	14500	14500	14500 1)
14.800		16	115	65	45	48	14800	14800 1)	14800 1)
15.000		16	115	65	45	48	15000	15000	15000
15.100		16	115	65	45	48	15100	15100 1)	15100 1)
15.250		16	115	65	45	48	15250	15250 1)	15250 1)
15.300		16	115	65	45	48	15300	15300 1)	15300 1)
15.500		16	115	65	45	48	15500	15500	15500 1)
15.800		16	115	65	45	48	15800	15800 1)	15800 1)
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

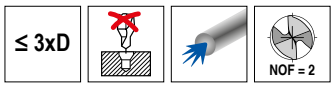
1) Not in stock

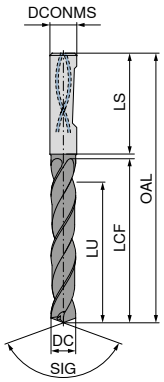
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140°
Solid carbide

SH

10 603 ...

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	10 603 ...
15.875	5/8	16	115	65	45	48	**15875**
16.000		16	115	65	45	48	**16000**
16.500		18	123	73	51	48	**16500**
16.800		18	123	73	51	48	**16800**
17.000		18	123	73	51	48	**17000**
17.500		18	123	73	51	48	**17500**
17.600		18	123	73	51	48	**17600**
17.800		18	123	73	51	48	**17800**
18.000		18	123	73	51	48	**18000**
18.500		20	131	79	55	50	**18500**
19.000		20	131	79	55	50	**19000**
19.050	3/4	20	131	79	55	50	**19050**
19.500		20	131	79	55	50	**19500**
19.800		20	131	79	55	50	**19800**
20.000		20	131	79	55	50	**20000**

SIG 140°
Solid carbide

SH

10 604 ...

10 604 ...
16000
16500 [1]
16800 [1]
17000 [1]
17500
17600 [1]
17800 [1]
18000 [1]
18500 [1]
19000 [1]
19500 [1]
19800 [1]
20000 [1]

SIG 140°
Solid carbide

SH

10 605 ...

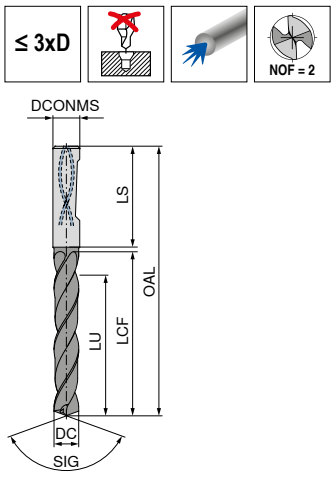
10 605 ...
16000 [1]
16500 [1]
16800 [1]
17000 [1]
17500 [1]
17600 [1]
17800 [1]
18000 [1]
18500 [1]
19000 [1]
19500 [1]
19800 [1]
20000 [1]

P	●	●	●
M	●	●	●
K	●	●	●
N			
S			
H	○	○	○
O			

1) Not in stock

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

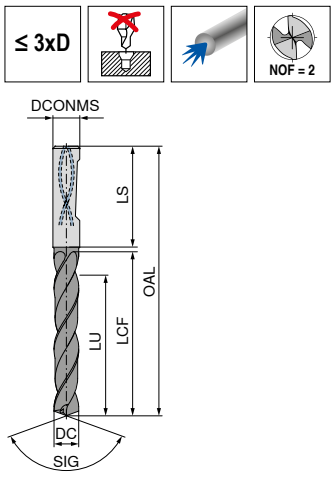
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 734 ...	SD 10 733 ...
3.00	6	62	20	14	36	030	030
3.10	6	62	20	14	36	031	031
3.15	6	62	20	14	36	831	
3.20	6	62	20	14	36	032	032
3.22	6	62	20	14	36	832	
3.25	6	62	20	14	36	890	
3.30	6	62	20	14	36	033	033
3.40	6	62	20	14	36	034	034
3.50	6	62	20	14	36	035	035
3.60	6	62	20	14	36	036	036
3.70	6	62	20	14	36	037	037
3.80	6	66	24	17	36	038	038
3.85	6	66	24	17	36	838	
3.90	6	66	24	17	36	039	039
4.00	6	66	24	17	36	040	040
4.10	6	66	24	17	36	041	041
4.20	6	66	24	17	36	042	042
4.30	6	66	24	17	36	043	043
4.35	6	66	24	17	36	843	
4.40	6	66	24	17	36	044	044
4.45	6	66	24	17	36	844	
4.50	6	66	24	17	36	045	045
4.60	6	66	24	17	36	046	046
4.65	6	66	24	17	36	900	900
4.70	6	66	24	17	36	047	047
4.80	6	66	28	20	36	048	048
4.90	6	66	28	20	36	049	049
5.00	6	66	28	20	36	050	050
5.10	6	66	28	20	36	051	051
5.20	6	66	28	20	36	052	052
5.30	6	66	28	20	36	053	053
5.40	6	66	28	20	36	054	054
5.50	6	66	28	20	36	055	055
5.55	6	66	28	20	36	902	902
5.60	6	66	28	20	36	056	056

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

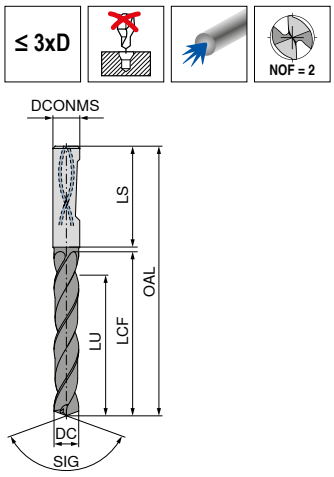
DC m7	DCONMS h6	OAL	LCF	LU	LS	SD	SD
mm	mm	mm	mm	mm	mm	10 734 ...	10 733 ...
5.70	6	66	28	20	36	057	057
5.75	6	66	28	20	36	916	
5.80	6	66	28	20	36	058	058
5.90	6	66	28	20	36	059	059
5.95	6	66	28	20	36	959	
6.00	6	66	28	20	36	060	060
6.10	8	79	34	24	36	061	061
6.20	8	79	34	24	36	062	062
6.30	8	79	34	24	36	063	063
6.40	8	79	34	24	36	064	064
6.50	8	79	34	24	36	065	065
6.60	8	79	34	24	36	066	066
6.70	8	79	34	24	36	067	067
6.80	8	79	34	24	36	068	068
6.90	8	79	34	24	36	069	069
7.00	8	79	34	24	36	070	070
7.10	8	79	41	29	36	071	071
7.20	8	79	41	29	36	072	072
7.30	8	79	41	29	36	073	073
7.40	8	79	41	29	36	074	074
7.45	8	79	41	29	36	924	
7.50	8	79	41	29	36	075	075
7.60	8	79	41	29	36	076	076
7.70	8	79	41	29	36	077	077
7.80	8	79	41	29	36	078	078
7.90	8	79	41	29	36	079	079
8.00	8	79	41	29	36	080	080
8.10	10	89	47	35	40	081	081
8.20	10	89	47	35	40	082	082
8.30	10	89	47	35	40	083	083
8.40	10	89	47	35	40	084	084
8.50	10	89	47	35	40	085	085
8.60	10	89	47	35	40	086	086
8.70	10	89	47	35	40	087	087
8.80	10	89	47	35	40	088	088

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

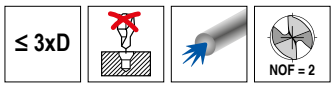
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 734 ...	SD 10 733 ...
8.90	10	89	47	35	40	089	089
9.00	10	89	47	35	40	090	090
9.10	10	89	47	35	40	091	091
9.20	10	89	47	35	40	092	092
9.30	10	89	47	35	40	093	093
9.35	10	89	47	35	40	930	
9.40	10	89	47	35	40	094	094
9.45	10	89	47	35	40	994	
9.50	10	89	47	35	40	095	095
9.60	10	89	47	35	40	096	096
9.70	10	89	47	35	40	097	097
9.80	10	89	47	35	40	098	098
9.90	10	89	47	35	40	099	099
10.00	10	89	47	35	40	100	100
10.10	12	102	55	40	45	101	101
10.20	12	102	55	40	45	102	102
10.30	12	102	55	40	45	103	103
10.40	12	102	55	40	45	104	104
10.50	12	102	55	40	45	105	105
10.55	12	102	55	40	45	932	
10.60	12	102	55	40	45	106	106
10.70	12	102	55	40	45	107	107
10.80	12	102	55	40	45	108	108
10.90	12	102	55	40	45	109	109
11.00	12	102	55	40	45	110	110
11.10	12	102	55	40	45	111	111
11.20	12	102	55	40	45	112	112
11.25	12	102	55	40	45	912	
11.30	12	102	55	40	45	113	113
11.35	12	102	55	40	45	913	
11.40	12	102	55	40	45	114	114
11.45	12	102	55	40	45	914	
11.50	12	102	55	40	45	115	115
11.60	12	102	55	40	45	116	116
11.70	12	102	55	40	45	117	117

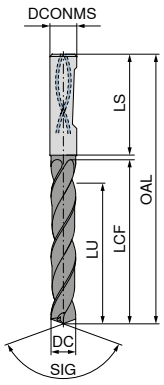
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537







SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 734 ...	SD 10 733 ...
11.80	12	102	55	40	45	**118**	**118**
11.90	12	102	55	40	45	**119**	**119**
12.00	12	102	55	40	45	**120**	**120**
12.15	14	107	60	43	45	**921**	
12.50	14	107	60	43	45	**125**	**125**
12.55	14	107	60	43	45	**925**	
12.80	14	107	60	43	45	**128**	**128**
13.00	14	107	60	43	45	**130**	**130**
13.35	14	107	60	43	45	**933**	
13.50	14	107	60	43	45	**135**	**135**
13.80	14	107	60	43	45	**138**	**138**
14.00	14	107	60	43	45	**140**	**140**
14.50	16	115	65	45	48	**145**	**145**
14.80	16	115	65	45	48	**148**	**148**
15.00	16	115	65	45	48	**150**	**150**
15.35	16	115	65	45	48	**953**	
15.50	16	115	65	45	48	**155**	**155**
15.80	16	115	65	45	48	**158**	**158**
16.00	16	115	65	45	48	**160**	**160**
16.05	18	123	73	51	48	**960**	
16.50	18	123	73	51	48	**165**	**165**
16.80	18	123	73	51	48	**168**	**168**
17.00	18	123	73	51	48	**170**	**170**
17.50	18	123	73	51	48	**175**	**175**
17.80	18	123	73	51	48	**178**	**178**
18.00	18	123	73	51	48	**180**	**180**
18.50	20	131	79	55	50	**185**	**185**
18.80	20	131	79	55	50	**188**	**188**
19.00	20	131	79	55	50	**190**	**190**
19.35	20	131	79	55	50	**993**	
19.50	20	131	79	55	50	**195**	**195**
19.80	20	131	79	55	50	**198**	**198**
20.00	20	131	79	55	50	**200**	**200**

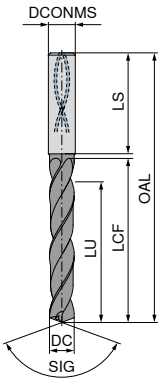
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction

≤ 3xD | NOF = 2



Speed UNI

DPX14S

DRAGONSKIN



SIG 145°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 781 ...
3.00	6	62	20	14	36	03000
3.10	6	62	20	14	36	03100
3.20	6	62	20	14	36	03200
3.30	6	62	20	14	36	03300
3.40	6	62	20	14	36	03400
3.50	6	62	20	14	36	03500
3.60	6	62	20	14	36	03600
3.70	6	62	20	14	36	03700
3.80	6	66	24	17	36	03800
3.90	6	66	24	17	36	03900
4.00	6	66	24	17	36	04000
4.10	6	66	24	17	36	04100
4.20	6	66	24	17	36	04200
4.30	6	66	24	17	36	04300
4.40	6	66	24	17	36	04400
4.50	6	66	24	17	36	04500
4.60	6	66	24	17	36	04600
4.65	6	66	24	17	36	04650
4.70	6	66	24	17	36	04700
4.80	6	66	28	20	36	04800
4.90	6	66	28	20	36	04900
5.00	6	66	28	20	36	05000
5.10	6	66	28	20	36	05100
5.20	6	66	28	20	36	05200
5.30	6	66	28	20	36	05300
5.40	6	66	28	20	36	05400
5.50	6	66	28	20	36	05500
5.55	6	66	28	20	36	05550
5.60	6	66	28	20	36	05600
5.70	6	66	28	20	36	05700
5.80	6	66	28	20	36	05800
5.90	6	66	28	20	36	05900

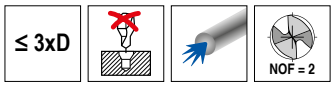
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M	●
K	●
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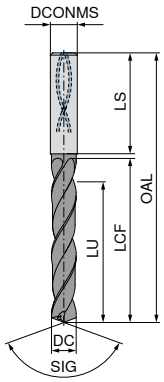
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI

DPX14S

DRAGONSKIN



SIG 145°

Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 781 ...
6.00	6	66	28	20	36	06000
6.10	8	79	34	24	36	06100
6.20	8	79	34	24	36	06200
6.30	8	79	34	24	36	06300
6.40	8	79	34	24	36	06400
6.50	8	79	34	24	36	06500
6.60	8	79	34	24	36	06600
6.70	8	79	34	24	36	06700
6.80	8	79	34	24	36	06800
6.90	8	79	34	24	36	06900
7.00	8	79	34	24	36	07000
7.10	8	79	41	29	36	07100
7.20	8	79	41	29	36	07200
7.30	8	79	41	29	36	07300
7.40	8	79	41	29	36	07400
7.50	8	79	41	29	36	07500
7.60	8	79	41	29	36	07600
7.70	8	79	41	29	36	07700
7.80	8	79	41	29	36	07800
7.90	8	79	41	29	36	07900
8.00	8	79	41	29	36	08000
8.10	10	89	47	35	40	08100
8.20	10	89	47	35	40	08200
8.30	10	89	47	35	40	08300
8.40	10	89	47	35	40	08400
8.50	10	89	47	35	40	08500
8.60	10	89	47	35	40	08600
8.70	10	89	47	35	40	08700
8.80	10	89	47	35	40	08800
8.90	10	89	47	35	40	08900
9.00	10	89	47	35	40	09000
9.10	10	89	47	35	40	09100

P	●
M	●
K	●
N	
S	
H	
O	

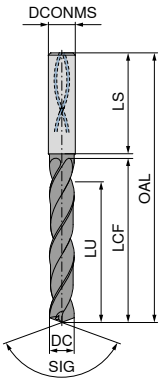
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction

≤ 3xD | NOF = 2



Speed UNI

DPX14S

DRAGONSKIN



SIG 145°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 781 ...
9.20	10	89	47	35	40	09200
9.30	10	89	47	35	40	09300
9.40	10	89	47	35	40	09400
9.50	10	89	47	35	40	09500
9.60	10	89	47	35	40	09600
9.70	10	89	47	35	40	09700
9.80	10	89	47	35	40	09800
9.90	10	89	47	35	40	09900
10.00	10	89	47	35	40	10000
10.10	12	102	55	40	45	10100
10.20	12	102	55	40	45	10200
10.30	12	102	55	40	45	10300
10.40	12	102	55	40	45	10400
10.50	12	102	55	40	45	10500
10.60	12	102	55	40	45	10600
10.70	12	102	55	40	45	10700
10.80	12	102	55	40	45	10800
10.90	12	102	55	40	45	10900
11.00	12	102	55	40	45	11000
11.10	12	102	55	40	45	11100
11.20	12	102	55	40	45	11200
11.30	12	102	55	40	45	11300
11.40	12	102	55	40	45	11400
11.50	12	102	55	40	45	11500
11.60	12	102	55	40	45	11600
11.70	12	102	55	40	45	11700
11.80	12	102	55	40	45	11800
11.90	12	102	55	40	45	11900
12.00	12	102	55	40	45	12000
12.50	14	107	60	43	45	12500
12.80	14	107	60	43	45	12800
13.00	14	107	60	43	45	13000

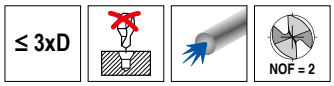
P	●
M	●
K	●
N	
S	
H	
O	

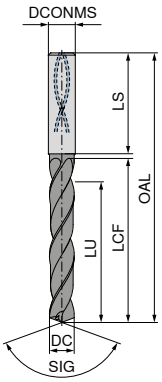
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI

DPX14S

DRAGONSKIN

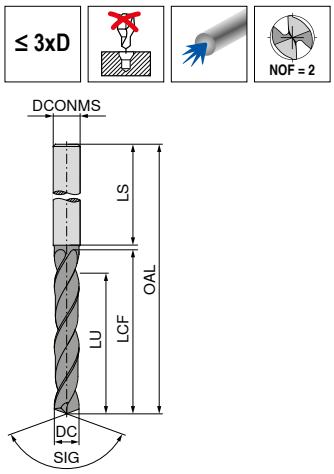


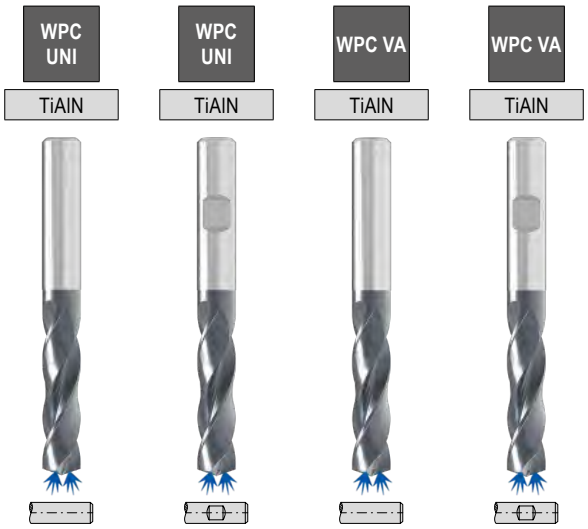
SIG 145°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 781 ...
13.50	14	107	60	43	45	**13500**
13.80	14	107	60	43	45	**13800**
14.00	14	107	60	43	45	**14000**
14.50	16	115	65	45	48	**14500**
14.80	16	115	65	45	48	**14800**
15.00	16	115	65	45	48	**15000**
15.50	16	115	65	45	48	**15500**
15.80	16	115	65	45	48	**15800**
16.00	16	115	65	45	48	**16000**
16.50	18	123	73	51	48	**16500**
16.80	18	123	73	51	48	**16800**
17.00	18	123	73	51	48	**17000**
17.50	18	123	73	51	48	**17500**
17.80	18	123	73	51	48	**17800**
18.00	18	123	73	51	48	**18000**
18.50	20	131	79	55	50	**18500**
18.80	20	131	79	55	50	**18800**
19.00	20	131	79	55	50	**19000**
19.50	20	131	79	55	50	**19500**
19.80	20	131	79	55	50	**19800**
20.00	20	131	79	55	50	**20000**
P						●
M						●
K						●
N						
S						
H						
O						

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





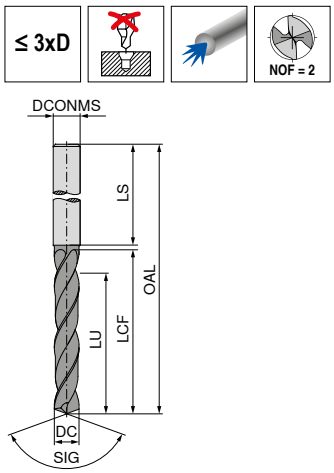
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

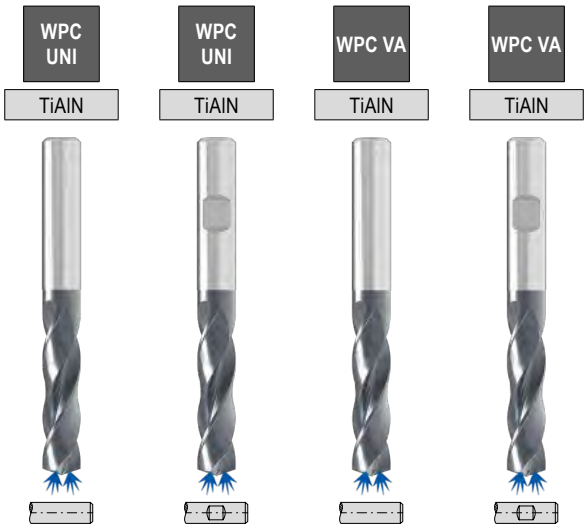
						CX	CX	CX	CX
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	11 700 ...	11 701 ...	11 713 ...	11 714 ...
1.00	4	45	7	5.5	28	01000		01000	
1.10	4	45	7	5.3	28	01100		01100	
1.20	4	45	7	5.2	28	01200		01200	
1.30	4	45	7	5.0	28	01300		01300	
1.40	4	45	7	4.9	28	01400		01400	
1.50	4	55	14	11.7	28	01500		01500	
1.60	4	55	14	11.6	28	01600		01600	
1.70	4	55	14	11.4	28	01700		01700	
1.80	4	55	14	11.3	28	01800		01800	
1.90	4	55	14	11.1	28	01900		01900	
2.00	4	55	20	17.0	28	02000		02000	
2.10	4	55	20	16.8	28	02100		02100	
2.20	4	55	20	16.7	28	02200		02200	
2.30	4	55	20	16.5	28	02300		02300	
2.40	4	55	20	16.4	28	02400		02400	
2.50	4	55	20	16.2	28	02500		02500	
2.60	4	55	20	16.1	28	02600		02600	
2.70	4	55	20	15.9	28	02700		02700	
2.80	4	55	20	15.8	28	02800		02800	
2.90	4	55	20	15.6	28	02900		02900	
3.00	6	62	20	14.0	36	03000	03000	03000	03000
3.10	6	62	20	14.0	36	03100	03100	03100	03100
3.20	6	62	20	14.0	36	03200	03200	03200	03200
3.25	6	62	20	14.0	36	03250	03250	03250	03250
3.30	6	62	20	14.0	36	03300	03300	03300	03300
3.40	6	62	20	14.0	36	03400	03400	03400	03400
3.50	6	62	20	14.0	36	03500	03500	03500	03500
3.60	6	62	20	14.0	36	03600	03600	03600	03600
3.70	6	62	20	14.0	36	03700	03700	03700	03700
3.80	6	66	24	17.0	36	03800	03800	03800	03800
3.90	6	66	24	17.0	36	03900	03900	03900	03900
4.00	6	66	24	17.0	36	04000	04000	04000	04000
4.10	6	66	24	17.0	36	04100	04100	04100	04100
4.20	6	66	24	17.0	36	04200	04200	04200	04200
4.30	6	66	24	17.0	36	04300	04300	04300	04300
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





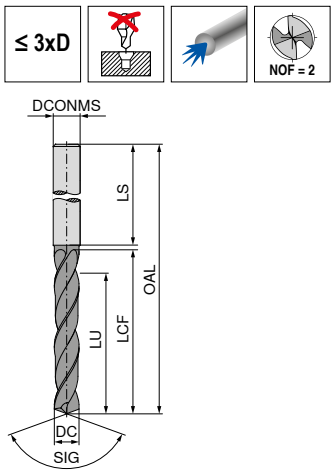
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

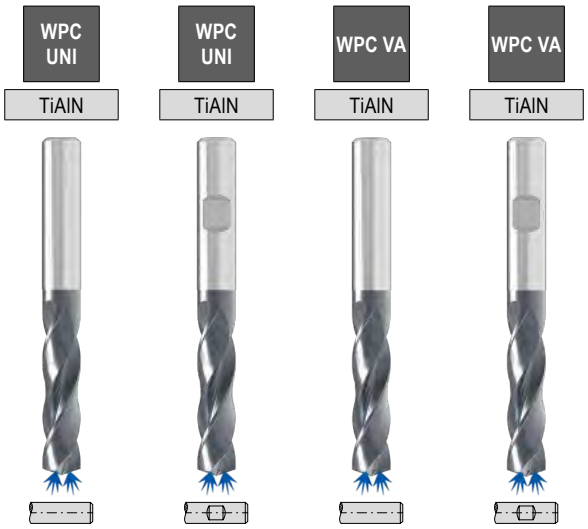
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 700 ...	CX 11 701 ...	CX 11 713 ...	CX 11 714 ...
4.40	6	66	24	17.0	36	04400	04400	04400	04400
4.50	6	66	24	17.0	36	04500	04500	04500	04500
4.60	6	66	24	17.0	36	04600	04600	04600	04600
4.65	6	66	24	17.0	36	04650	04650	04650	04650
4.70	6	66	24	17.0	36	04700	04700	04700	04700
4.80	6	66	28	20.0	36	04800	04800	04800	04800
4.90	6	66	28	20.0	36	04900	04900	04900	04900
5.00	6	66	28	20.0	36	05000	05000	05000	05000
5.10	6	66	28	20.0	36	05100	05100	05100	05100
5.20	6	66	28	20.0	36	05200	05200	05200	05200
5.30	6	66	28	20.0	36	05300	05300	05300	05300
5.40	6	66	28	20.0	36	05400	05400	05400	05400
5.50	6	66	28	20.0	36	05500	05500	05500	05500
5.55	6	66	28	20.0	36	05550	05550	05550	05550
5.60	6	66	28	20.0	36	05600	05600	05600	05600
5.65	6	66	28	20.0	36	05650	05650		
5.70	6	66	28	20.0	36	05700	05700	05700	05700
5.80	6	66	28	20.0	36	05800	05800	05800	05800
5.90	6	66	28	20.0	36	05900	05900	05900	05900
6.00	6	66	28	20.0	36	06000	06000	06000	06000
6.10	8	79	34	24.0	36	06100	06100	06100	06100
6.20	8	79	34	24.0	36	06200	06200	06200	06200
6.30	8	79	34	24.0	36	06300	06300	06300	06300
6.40	8	79	34	24.0	36	06400	06400	06400	06400
6.50	8	79	34	24.0	36	06500	06500	06500	06500
6.60	8	79	34	24.0	36	06600	06600	06600	06600
6.70	8	79	34	24.0	36	06700	06700	06700	06700
6.80	8	79	34	24.0	36	06800	06800	06800	06800
6.90	8	79	34	24.0	36	06900	06900	06900	06900
7.00	8	79	34	24.0	36	07000	07000	07000	07000
7.10	8	79	41	29.0	36	07100	07100	07100	07100
7.20	8	79	41	29.0	36	07200	07200	07200	07200
7.30	8	79	41	29.0	36	07300	07300	07300	07300
7.40	8	79	41	29.0	36	07400	07400	07400	07400
7.50	8	79	41	29.0	36	07500	07500	07500	07500
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





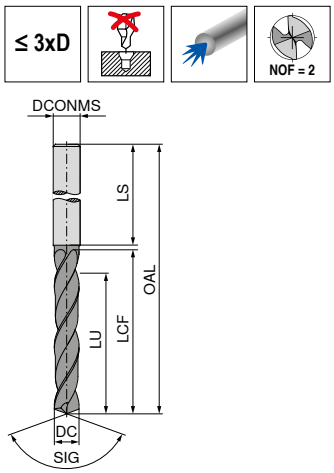
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

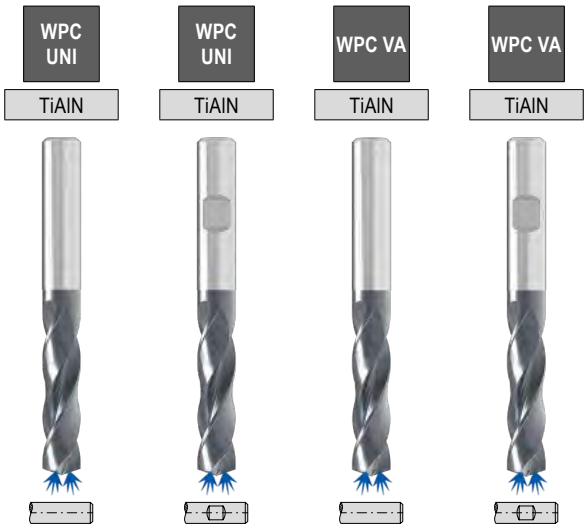
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 700 ...	CX 11 701 ...	CX 11 713 ...	CX 11 714 ...
7.55	8	79	41	29.0	36	07550	07550		
7.60	8	79	41	29.0	36	07600	07600	07600	07600
7.65	8	79	41	29.0	36	07650	07650		
7.70	8	79	41	29.0	36	07700	07700	07700	07700
7.80	8	79	41	29.0	36	07800	07800	07800	07800
7.90	8	79	41	29.0	36	07900	07900	07900	07900
8.00	8	79	41	29.0	36	08000	08000	08000	08000
8.10	10	89	47	35.0	40	08100	08100	08100	08100
8.20	10	89	47	35.0	40	08200	08200	08200	08200
8.30	10	89	47	35.0	40	08300	08300	08300	08300
8.40	10	89	47	35.0	40	08400	08400	08400	08400
8.50	10	89	47	35.0	40	08500	08500	08500	08500
8.60	10	89	47	35.0	40	08600	08600	08600	08600
8.70	10	89	47	35.0	40	08700	08700	08700	08700
8.80	10	89	47	35.0	40	08800	08800	08800	08800
8.90	10	89	47	35.0	40	08900	08900	08900	08900
9.00	10	89	47	35.0	40	09000	09000	09000	09000
9.10	10	89	47	35.0	40	09100	09100	09100	09100
9.20	10	89	47	35.0	40	09200	09200	09200	09200
9.30	10	89	47	35.0	40	09300	09300	09300	09300
9.40	10	89	47	35.0	40	09400	09400	09400	09400
9.50	10	89	47	35.0	40	09500	09500	09500	09500
9.60	10	89	47	35.0	40	09600	09600	09600	09600
9.70	10	89	47	35.0	40	09700	09700	09700	09700
9.80	10	89	47	35.0	40	09800	09800	09800	09800
9.90	10	89	47	35.0	40	09900	09900	09900	09900
10.00	10	89	47	35.0	40	10000	10000	10000	10000
10.10	12	102	55	40.0	45	10100	10100	10100	10100
10.20	12	102	55	40.0	45	10200	10200	10200	10200
10.30	12	102	55	40.0	45	10300	10300	10300	10300
10.40	12	102	55	40.0	45	10400	10400	10400	10400
10.50	12	102	55	40.0	45	10500	10500	10500	10500
10.60	12	102	55	40.0	45	10600	10600	10600	10600
10.70	12	102	55	40.0	45	10700	10700	10700	10700
10.80	12	102	55	40.0	45	10800	10800	10800	10800
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





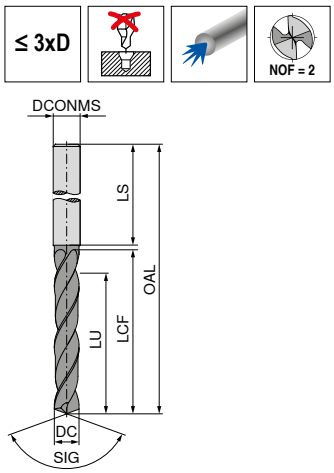
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

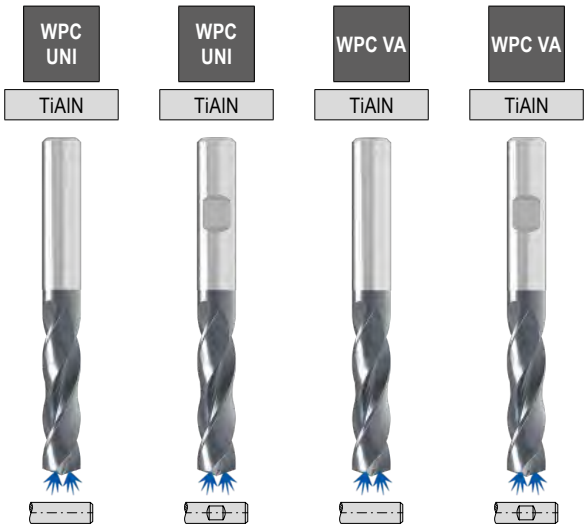
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 700 ...	CX 11 701 ...	CX 11 713 ...	CX 11 714 ...
10.90	12	102	55	40.0	45	10900	10900	10900	10900
11.00	12	102	55	40.0	45	11000	11000	11000	11000
11.10	12	102	55	40.0	45	11100	11100	11100	11100
11.20	12	102	55	40.0	45	11200	11200	11200	11200
11.30	12	102	55	40.0	45	11300	11300	11300	11300
11.40	12	102	55	40.0	45	11400	11400	11400	11400
11.50	12	102	55	40.0	45	11500	11500	11500	11500
11.60	12	102	55	40.0	45	11600	11600	11600	11600
11.70	12	102	55	40.0	45	11700	11700	11700	11700
11.80	12	102	55	40.0	45	11800	11800	11800	11800
11.90	12	102	55	40.0	45	11900	11900	11900	11900
12.00	12	102	55	40.0	45	12000	12000	12000	12000
12.20	14	107	60	43.0	45	12200	12200	12200	12200
12.30	14	107	60	43.0	45	12300	12300	12300	12300
12.50	14	107	60	43.0	45	12500	12500	12500	12500
12.70	14	107	60	43.0	45	12700	12700	12700	12700
12.80	14	107	60	43.0	45	12800	12800	12800	12800
12.90	14	107	60	43.0	45	12900	12900	12900	12900
13.00	14	107	60	43.0	45	13000	13000	13000	13000
13.50	14	107	60	43.0	45	13500	13500	13500	13500
13.70	14	107	60	43.0	45			13700	13700
13.80	14	107	60	43.0	45	13800	13800	13800	13800
14.00	14	107	60	43.0	45	14000	14000	14000	14000
14.20	16	115	65	45.0	48	14200	14200	14200	14200
14.40	16	115	65	45.0	48	14400	14400	14400	14400
14.50	16	115	65	45.0	48	14500	14500	14500	14500
14.70	16	115	65	45.0	48			14700	14700
14.80	16	115	65	45.0	48	14800	14800	14800	14800
15.00	16	115	65	45.0	48	15000	15000	15000	15000
15.10	16	115	65	45.0	48	15100	15100	15100	15100
15.20	16	115	65	45.0	48	15200	15200	15200	15200
15.50	16	115	65	45.0	48	15500	15500	15500	15500
15.70	16	115	65	45.0	48			15700	15700
15.80	16	115	65	45.0	48	15800	15800	15800	15800
16.00	16	115	65	45.0	48	16000	16000	16000	16000
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





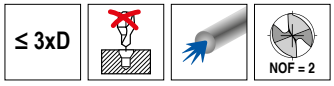
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

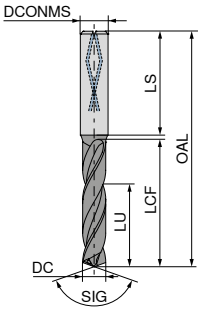
DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 700 ...	CX 11 701 ...	CX 11 713 ...	CX 11 714 ...
16.50	18	123	73	51.0	48	**16500**	**16500**	**16500**	**16500**
17.00	18	123	73	51.0	48	**17000**	**17000**	**17000**	**17000**
17.50	18	123	73	51.0	48	**17500**	**17500**	**17500**	**17500**
18.00	18	123	73	51.0	48	**18000**	**18000**	**18000**	**18000**
18.50	20	131	79	55.0	50	**18500**	**18500**	**18500**	**18500**
18.90	20	131	79	55.0	50	**18900**	**18900**	**18900**	**18900**
19.00	20	131	79	55.0	50	**19000**	**19000**	**19000**	**19000**
19.30	20	131	79	55.0	50	**19300**	**19300**	**19300**	**19300**
19.50	20	131	79	55.0	50	**19500**	**19500**	**19500**	**19500**
20.00	20	131	79	55.0	50	**20000**	**20000**	**20000**	**20000**
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

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DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
3.00		6	62	20	14	36	030
3.10		6	62	20	14	36	031
3.20		6	62	20	14	36	032
3.30		6	62	20	14	36	033
3.40		6	62	20	14	36	034
3.50		6	62	20	14	36	035
3.60		6	62	20	14	36	036
3.70		6	62	20	14	36	037
3.80		6	66	24	17	36	038
3.90		6	66	24	17	36	039
3.97	5/32	6	66	24	17	36	900
4.00		6	66	24	17	36	040
4.10		6	66	24	17	36	041
4.20		6	66	24	17	36	042
4.23	1/6	6	66	24	17	36	901
4.30		6	66	24	17	36	043
4.40		6	66	24	17	36	044
4.50		6	66	24	17	36	045
4.60		6	66	24	17	36	046
4.70		6	66	24	17	36	047
4.80		6	66	28	20	36	048
4.90		6	66	28	20	36	049
5.00		6	66	28	20	36	050
5.10		6	66	28	20	36	051
5.20		6	66	28	20	36	052
5.30		6	66	28	20	36	053
5.40		6	66	28	20	36	054
5.50		6	66	28	20	36	055
5.56	7/32	6	66	28	20	36	902
5.60		6	66	28	20	36	056
5.70		6	66	28	20	36	057
5.80		6	66	28	20	36	058
5.90		6	66	28	20	36	059

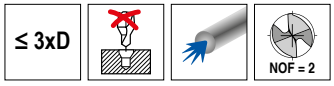
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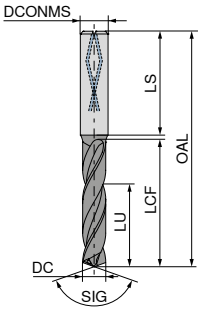
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





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DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
6.00		6	66	28	20	36	060
6.10		8	79	34	24	36	061
6.20		8	79	34	24	36	062
6.30		8	79	34	24	36	063
6.35	1/4	8	79	34	24	36	903
6.40		8	79	34	24	36	064
6.50		8	79	34	24	36	065
6.60		8	79	34	24	36	066
6.70		8	79	34	24	36	067
6.80		8	79	34	24	36	068
6.90		8	79	34	24	36	069
7.00		8	79	34	24	36	070
7.10		8	79	41	29	36	071
7.20		8	79	41	29	36	072
7.30		8	79	41	29	36	073
7.40		8	79	41	29	36	074
7.50		8	79	41	29	36	075
7.60		8	79	41	29	36	076
7.70		8	79	41	29	36	077
7.80		8	79	41	29	36	078
7.90		8	79	41	29	36	079
7.94	5/16	8	79	41	29	36	904
8.00		8	79	41	29	36	080
8.10		10	89	47	35	40	081
8.20		10	89	47	35	40	082
8.30		10	89	47	35	40	083
8.40		10	89	47	35	40	084
8.50		10	89	47	35	40	085
8.60		10	89	47	35	40	086
8.70		10	89	47	35	40	087
8.80		10	89	47	35	40	088
8.90		10	89	47	35	40	089
9.00		10	89	47	35	40	090

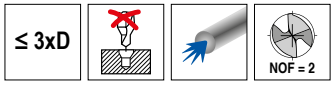
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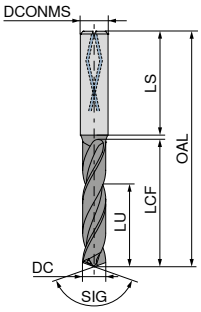
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

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DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
9.10		10	89	47	35	40	091
9.20		10	89	47	35	40	092
9.30		10	89	47	35	40	093
9.40		10	89	47	35	40	094
9.50		10	89	47	35	40	095
9.53	3/8	10	89	47	35	40	905
9.60		10	89	47	35	40	096
9.70		10	89	47	35	40	097
9.80		10	89	47	35	40	098
9.90		10	89	47	35	40	099
10.00		10	89	47	35	40	100
10.10		12	102	55	40	45	101
10.20		12	102	55	40	45	102
10.30		12	102	55	40	45	103
10.40		12	102	55	40	45	104
10.50		12	102	55	40	45	105
10.60		12	102	55	40	45	106
10.70		12	102	55	40	45	107
10.80		12	102	55	40	45	108
10.90		12	102	55	40	45	109
11.00		12	102	55	40	45	110
11.10		12	102	55	40	45	111
11.11	7/16	12	102	55	40	45	906
11.20		12	102	55	40	45	112
11.30		12	102	55	40	45	113
11.40		12	102	55	40	45	114
11.50		12	102	55	40	45	115
11.60		12	102	55	40	45	116
11.70		12	102	55	40	45	117
11.80		12	102	55	40	45	118
11.90		12	102	55	40	45	119
12.00		12	102	55	40	45	120
12.10		14	107	60	43	45	121

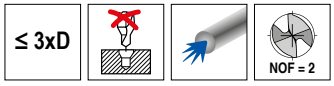
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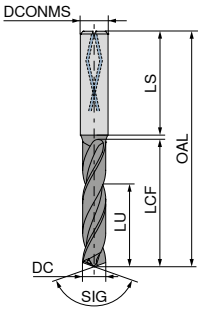
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





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DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
12.20		14	107	60	43	45	122
12.30		14	107	60	43	45	123
12.40		14	107	60	43	45	124
12.50		14	107	60	43	45	125
12.60		14	107	60	43	45	126
12.70	1/2	14	107	60	43	45	907
12.80		14	107	60	43	45	128
12.90		14	107	60	43	45	129
13.00		14	107	60	43	45	130
13.10		14	107	60	43	45	131
13.20		14	107	60	43	45	132
13.30		14	107	60	43	45	133
13.40		14	107	60	43	45	134
13.50		14	107	60	43	45	135
13.60		14	107	60	43	45	136
13.70		14	107	60	43	45	137
13.80		14	107	60	43	45	138
13.90		14	107	60	43	45	139
14.00		14	107	60	43	45	140
14.10		16	115	65	45	48	141
14.20		16	115	65	45	48	142
14.30		16	115	65	45	48	143
14.40		16	115	65	45	48	144
14.50		16	115	65	45	48	145
14.60		16	115	65	45	48	146
14.70		16	115	65	45	48	147
14.80		16	115	65	45	48	148
14.90		16	115	65	45	48	149
15.00		16	115	65	45	48	150
15.10		16	115	65	45	48	151
15.20		16	115	65	45	48	152
15.30		16	115	65	45	48	153
15.40		16	115	65	45	48	154

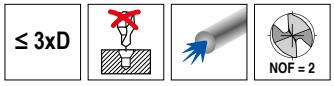
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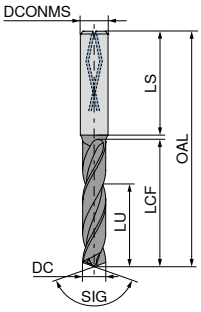
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WTX – High-performance drill, DIN 6537

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DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
15.50		16	115	65	45	48	155
15.60		16	115	65	45	48	156
15.70		16	115	65	45	48	157
15.80		16	115	65	45	48	158
15.90		16	115	65	45	48	159
16.00		16	115	65	45	48	160
16.10		18	123	73	51	48	161
16.20		18	123	73	51	48	162
16.30		18	123	73	51	48	163
16.40		18	123	73	51	48	164
16.50		18	123	73	51	48	165
16.60		18	123	73	51	48	166
16.70		18	123	73	51	48	167
16.80		18	123	73	51	48	168
16.90		18	123	73	51	48	169
17.00		18	123	73	51	48	170
17.10		18	123	73	51	48	171
17.20		18	123	73	51	48	172
17.30		18	123	73	51	48	173
17.40		18	123	73	51	48	174
17.50		18	123	73	51	48	175
17.60		18	123	73	51	48	176
17.70		18	123	73	51	48	177
17.80		18	123	73	51	48	178
17.90		18	123	73	51	48	179
18.00		18	123	73	51	48	180
18.10		20	131	79	55	50	181
18.20		20	131	79	55	50	182
18.30		20	131	79	55	50	183
18.40		20	131	79	55	50	184
18.50		20	131	79	55	50	185
18.60		20	131	79	55	50	186
18.70		20	131	79	55	50	187

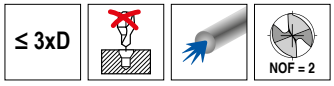
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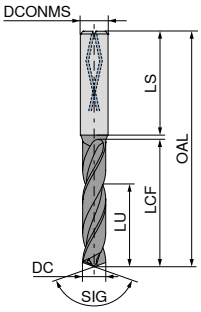
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





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DRAGONSKIN



SIG 140°
Solid carbide

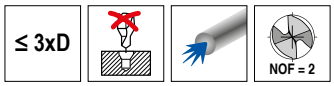
DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 786 ...
18.80		20	131	79	55	50	188
18.90		20	131	79	55	50	189
19.00		20	131	79	55	50	190
19.10		20	131	79	55	50	191
19.20		20	131	79	55	50	192
19.30		20	131	79	55	50	193
19.40		20	131	79	55	50	194
19.50		20	131	79	55	50	195
19.60		20	131	79	55	50	196
19.70		20	131	79	55	50	197
19.80		20	131	79	55	50	198
19.90		20	131	79	55	50	199
20.00		20	131	79	55	50	200

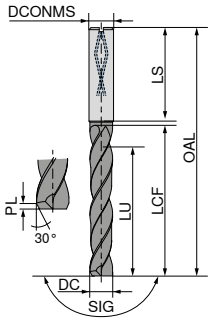
P	○
M	●
K	
N	
S	●
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→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 3xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 720 ...
3.00	6	62	20	14	36	0.15	030
3.10	6	62	20	14	36	0.16	031
3.20	6	62	20	14	36	0.16	032
3.30	6	62	20	14	36	0.17	033
3.40	6	62	20	14	36	0.17	034
3.50	6	62	20	14	36	0.18	035
3.60	6	62	20	14	36	0.18	036
3.70	6	62	20	14	36	0.19	037
3.80	6	66	24	17	36	0.19	038
3.90	6	66	24	17	36	0.20	039
4.00	6	66	24	17	36	0.20	040
4.10	6	66	24	17	36	0.21	041
4.20	6	66	24	17	36	0.21	042
4.30	6	66	24	17	36	0.22	043
4.40	6	66	24	17	36	0.22	044
4.50	6	66	24	17	36	0.23	045
4.60	6	66	24	17	36	0.23	046
4.65	6	66	24	17	36	0.23	900
4.70	6	66	24	17	36	0.24	047
4.80	6	66	28	20	36	0.24	048
4.90	6	66	28	20	36	0.25	049
5.00	6	66	28	20	36	0.25	050
5.10	6	66	28	20	36	0.26	051
5.20	6	66	28	20	36	0.26	052
5.30	6	66	28	20	36	0.27	053
5.40	6	66	28	20	36	0.27	054
5.50	6	66	28	20	36	0.28	055
5.55	6	66	28	20	36	0.28	902
5.60	6	66	28	20	36	0.28	056
5.70	6	66	28	20	36	0.29	057
5.80	6	66	28	20	36	0.29	058

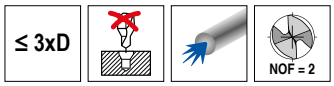
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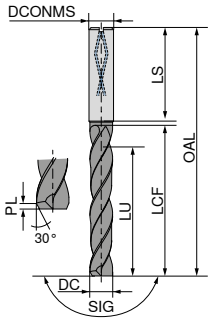
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 3xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 720 ...
5.90	6	66	28	20	36	0.30	059
6.00	6	66	28	20	36	0.30	060
6.10	8	79	34	24	36	0.31	061
6.20	8	79	34	24	36	0.31	062
6.30	8	79	34	24	36	0.32	063
6.40	8	79	34	24	36	0.32	064
6.50	8	79	34	24	36	0.33	065
6.60	8	79	34	24	36	0.33	066
6.70	8	79	34	24	36	0.34	067
6.80	8	79	34	24	36	0.34	068
6.90	8	79	34	24	36	0.35	069
7.00	8	79	34	24	36	0.35	070
7.10	8	79	41	29	36	0.36	071
7.20	8	79	41	29	36	0.36	072
7.30	8	79	41	29	36	0.37	073
7.40	8	79	41	29	36	0.37	074
7.50	8	79	41	29	36	0.38	075
7.60	8	79	41	29	36	0.38	076
7.70	8	79	41	29	36	0.39	077
7.80	8	79	41	29	36	0.39	078
7.90	8	79	41	29	36	0.40	079
8.00	8	79	41	29	36	0.40	080
8.10	10	89	47	35	40	0.41	081
8.20	10	89	47	35	40	0.41	082
8.30	10	89	47	35	40	0.42	083
8.40	10	89	47	35	40	0.42	084
8.50	10	89	47	35	40	0.43	085
8.60	10	89	47	35	40	0.43	086
8.70	10	89	47	35	40	0.44	087
8.80	10	89	47	35	40	0.44	088
8.90	10	89	47	35	40	0.45	089

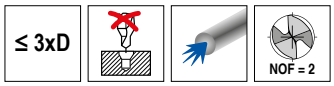
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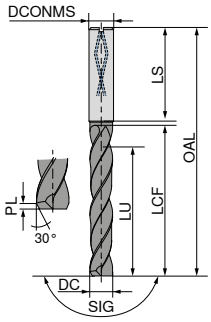
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 3xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 720 ...
9.00	10	89	47	35	40	0.45	090
9.10	10	89	47	35	40	0.46	091
9.20	10	89	47	35	40	0.46	092
9.30	10	89	47	35	40	0.47	093
9.40	10	89	47	35	40	0.47	094
9.50	10	89	47	35	40	0.48	095
9.60	10	89	47	35	40	0.48	096
9.70	10	89	47	35	40	0.49	097
9.80	10	89	47	35	40	0.49	098
9.90	10	89	47	35	40	0.50	099
10.00	10	89	47	35	40	0.50	100
10.10	12	100	53	38	45	0.51	101
10.20	12	100	53	38	45	0.51	102
10.30	12	100	53	38	45	0.52	103
10.40	12	100	53	38	45	0.52	104
10.50	12	100	53	38	45	0.53	105
10.60	12	100	53	38	45	0.53	106
10.70	12	100	53	38	45	0.54	107
10.80	12	100	53	38	45	0.54	108
10.90	12	100	53	38	45	0.55	109
11.00	12	100	53	38	45	0.55	110
11.10	12	100	53	38	45	0.56	111
11.20	12	100	53	38	45	0.56	112
11.30	12	100	53	38	45	0.57	113
11.40	12	100	53	38	45	0.57	114
11.50	12	100	53	38	45	0.58	115
11.60	12	100	53	38	45	0.58	116
11.70	12	100	53	38	45	0.59	117
11.80	12	100	53	38	45	0.59	118
11.90	12	100	53	38	45	0.60	119
12.00	12	100	53	38	45	0.60	120

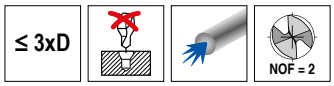
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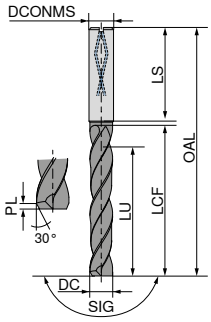
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 3xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 720 ...
12.50	14	105	58	41	45	0.63	**125**
12.80	14	105	58	41	45	0.64	**128**
13.00	14	105	58	41	45	0.65	**130**
13.50	14	105	58	41	45	0.68	**135**
13.80	14	105	58	41	45	0.69	**138**
14.00	14	105	58	41	45	0.70	**140**
14.50	16	113	63	43	48	0.73	**145**
14.80	16	113	63	43	48	0.74	**148**
15.00	16	113	63	43	48	0.75	**150**
15.50	16	113	63	43	48	0.78	**155**
15.80	16	113	63	43	48	0.79	**158**
16.00	16	113	63	43	48	0.80	**160**
16.50	18	121	71	49	48	0.83	**165**
16.80	18	121	71	49	48	0.84	**168**
17.00	18	121	71	49	48	0.85	**170**
17.50	18	121	71	49	48	0.88	**175**
17.80	18	121	71	49	48	0.89	**178**
18.00	18	121	71	49	48	0.90	**180**
18.50	20	129	77	53	50	0.93	**185**
18.80	20	129	77	53	50	0.94	**188**
19.00	20	129	77	53	50	0.95	**190**
19.50	20	129	77	53	50	0.98	**195**
19.80	20	129	77	53	50	0.99	**198**
20.00	20	129	77	53	50	1.00	**200**

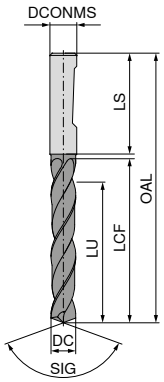
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→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 5xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 606 ...	SH 10 607 ...	SH 10 608 ...
3.00		6	66	28	23	36	03000	03000	03000
3.10		6	66	28	23	36	03100	03100	03100
3.15		6	66	28	23	36	03150	03150	03150
3.20		6	66	28	23	36	03200	03200	03200
3.25		6	66	28	23	36	03250	03250	03250
3.30		6	66	28	23	36	03300	03300	03300
3.40		6	66	28	23	36	03400	03400	03400
3.50		6	66	28	23	36	03500	03500	03500
3.60		6	66	28	23	36	03600	03600	03600
3.70		6	66	28	23	36	03700	03700	03700
3.80		6	74	36	29	36	03800	03800	03800
3.90		6	74	36	29	36	03900	03900	03900
4.00		6	74	36	29	36	04000	04000	04000
4.10		6	74	36	29	36	04100	04100	04100
4.20		6	74	36	29	36	04200	04200	04200
4.25		6	74	36	29	36	04250	04250	04250
4.30		6	74	36	29	36	04300	04300	04300
4.40		6	74	36	29	36	04400	04400	04400
4.50		6	74	36	29	36	04500	04500	04500
4.60		6	74	36	29	36	04600	04600	04600
4.65		6	74	36	29	36	04650	04650	04650
4.70		6	74	36	29	36	04700	04700	04700
4.80		6	82	44	35	36	04800	04800	04800
4.90		6	82	44	35	36	04900	04900	04900
5.00		6	82	44	35	36	05000	05000	05000
5.05		6	82	44	35	36	05050	05050	05050
5.10		6	82	44	35	36	05100	05100	05100
5.20		6	82	44	35	36	05200	05200	05200
5.30		6	82	44	35	36	05300	05300	05300

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K	●	●	●
N			
S			
H	○	○	○
O			

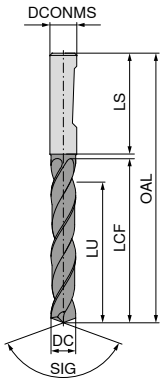
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 5xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 606 ...	SH 10 607 ...	SH 10 608 ...
5.40		6	82	44	35	36	05400	05400	05400
5.50		6	82	44	35	36	05500	05500	05500
5.55		6	82	44	35	36	05550	05550	05550
5.60		6	82	44	35	36	05600	05600	05600
5.70		6	82	44	35	36	05700	05700	05700
5.75		6	82	44	35	36	05750	05750	05750
5.80		6	82	44	35	36	05800	05800	05800
5.90		6	82	44	35	36	05900	05900	05900
5.95	15/64	6	82	44	35	36	05950	05950	05950
6.00		6	82	44	35	36	06000	06000	06000
6.10		8	91	53	43	36	06100	06100	06100
6.20		8	91	53	43	36	06200	06200	06200
6.40		8	91	53	43	36	06400	06400	06400
6.50		8	91	53	43	36	06500	06500	06500
6.60		8	91	53	43	36	06600	06600	06600
6.80		8	91	53	43	36	06800	06800	06800
6.90		8	91	53	43	36	06900	06900	06900
7.00		8	91	53	43	36	07000	07000	07000
7.20		8	91	53	43	36	07200	07200	07200
7.40		8	91	53	43	36	07400	07400	07400
7.50		8	91	53	43	36	07500	07500	07500
7.70		8	91	53	43	36	07700	07700	07700
7.80		8	91	53	43	36	07800	07800	07800
8.00		8	91	53	43	36	08000	08000	08000
8.10		10	103	61	49	40	08100	08100	08100
8.20		10	103	61	49	40	08200	08200	08200
8.40		10	103	61	49	40	08400	08400	08400
8.50		10	103	61	49	40	08500	08500	08500
8.60		10	103	61	49	40	08600	08600	08600
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

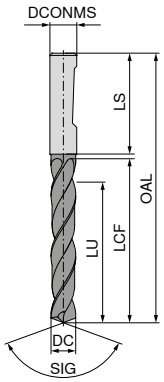
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 5xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 606 ...	SH 10 607 ...	SH 10 608 ...
8.70		10	103	61	49	40	08700	08700	08700
8.80		10	103	61	49	40	08800	08800	08800
9.00		10	103	61	49	40	09000	09000	09000
9.10		10	103	61	49	40	09100	09100	09100
9.30		10	103	61	49	40	09300	09300	09300
9.35		10	103	61	49	40	09350	09350	09350
9.40		10	103	61	49	40	09400	09400	09400
9.50		10	103	61	49	40	09500	09500	09500
9.80		10	103	61	49	40	09800	09800	09800
10.00		10	103	61	49	40	10000	10000	10000
10.20		12	118	71	56	45	10200	10200	10200
10.30		12	118	71	56	45	10300	10300	10300
10.50		12	118	71	56	45	10500	10500	10500
10.80		12	118	71	56	45	10800	10800	10800
11.00		12	118	71	56	45	11000	11000	11000
11.20		12	118	71	56	45	11200	11200	11200
11.30		12	118	71	56	45	11300	11300	11300
11.50		12	118	71	56	45	11500	11500	11500
11.80		12	118	71	56	45	11800	11800	11800
12.00		12	118	71	56	45	12000	12000	12000
12.15		14	124	77	60	45	12150	12150	12150
12.25		14	124	77	60	45	12250	12250	12250
12.50		14	124	77	60	45	12500	12500	12500
12.55		14	124	77	60	45	12550	12550	12550
12.70	1/2	14	124	77	60	45	12700	12700	12700
12.80		14	124	77	60	45	12800	12800	12800
13.00		14	124	77	60	45	13000	13000	13000
13.50		14	124	77	60	45	13500	13500	13500
13.80		14	124	77	60	45	13800	13800	13800
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

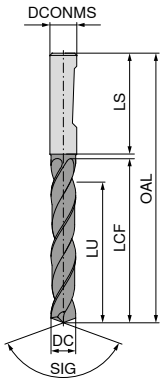
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application

≤ 5xD | NOF = 2





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

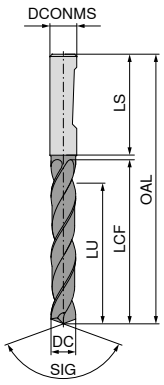
DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 606 ...	SH 10 607 ...	SH 10 608 ...
14.00		14	124	77	60	45	14000	14000	14000
14.20		16	133	83	63	48	14200	14200	14200
14.50		16	133	83	63	48	14500	14500	14500
15.00		16	133	83	63	48	15000	15000	15000
15.50		16	133	83	63	48	15500	15500	15500
16.00		16	133	83	63	48	16000	16000	16000
16.50		18	143	93	71	48	16500	16500	16500
17.00		18	143	93	71	48	17000	17000	17000
17.50		18	143	93	71	48	17500	17500	17500
18.00		18	143	93	71	48	18000	18000	18000
P							●	●	●
M									
K							●	●	●
N									
S									
H							○	○	○
O									

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537

≤ 5xD

NOF = 2



VA
Ti700



SIG 140°
Solid carbide

VA
Ti700



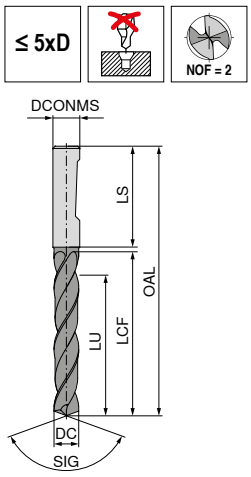
SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 740 ...	SD 10 741 ...
3.0	6	66	28	23	36	030	030
3.1	6	66	28	23	36	031	031
3.2	6	66	28	23	36	032	032
3.3	6	66	28	23	36	033	033
3.4	6	66	28	23	36	034	034
3.5	6	66	28	23	36	035	035
3.6	6	66	28	23	36	036	036
3.7	6	66	28	23	36	037	037
3.8	6	74	36	29	36	038	038
3.9	6	74	36	29	36	039	039
4.0	6	74	36	29	36	040	040
4.1	6	74	36	29	36	041	041
4.2	6	74	36	29	36	042	042
4.3	6	74	36	29	36	043	043
4.4	6	74	36	29	36	044	044
4.5	6	74	36	29	36	045	045
4.6	6	74	36	29	36	046	046
4.7	6	74	36	29	36	047	047
4.8	6	82	44	35	36	048	048
4.9	6	82	44	35	36	049	049
5.0	6	82	44	35	36	050	050
5.1	6	82	44	35	36	051	051
5.2	6	82	44	35	36	052	052
5.3	6	82	44	35	36	053	053
5.4	6	82	44	35	36	054	054
5.5	6	82	44	35	36	055	055
5.6	6	82	44	35	36	056	056
5.7	6	82	44	35	36	057	057
5.8	6	82	44	35	36	058	058
5.9	6	82	44	35	36	059	059
6.0	6	82	44	35	36	060	060
6.1	8	91	53	43	36	061	061
6.2	8	91	53	43	36	062	062
6.3	8	91	53	43	36	063	063
6.4	8	91	53	43	36	064	064
P						○	○
M						●	●
K						○	○
N						○	○
S						●	●
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→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

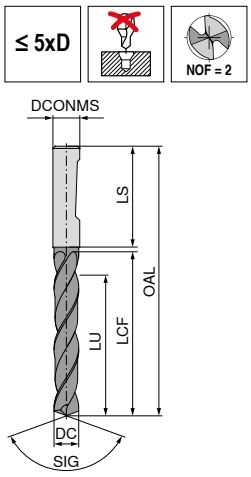
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 740 ...	SD 10 741 ...
6.5	8	91	53	43	36	065	065
6.6	8	91	53	43	36	066	066
6.7	8	91	53	43	36	067	067
6.8	8	91	53	43	36	068	068
6.9	8	91	53	43	36	069	069
7.0	8	91	53	43	36	070	070
7.1	8	91	53	43	36	071	071
7.2	8	91	53	43	36	072	072
7.3	8	91	53	43	36	073	073
7.4	8	91	53	43	36	074	074
7.5	8	91	53	43	36	075	075
7.6	8	91	53	43	36	076	076
7.7	8	91	53	43	36	077	077
7.8	8	91	53	43	36	078	078
7.9	8	91	53	43	36	079	079
8.0	8	91	53	43	36	080	080
8.1	10	103	61	49	40	081	081
8.2	10	103	61	49	40	082	082
8.3	10	103	61	49	40	083	083
8.4	10	103	61	49	40	084	084
8.5	10	103	61	49	40	085	085
8.6	10	103	61	49	40	086	086
8.7	10	103	61	49	40	087	087
8.8	10	103	61	49	40	088	088
8.9	10	103	61	49	40	089	089
9.0	10	103	61	49	40	090	090
9.1	10	103	61	49	40	091	091
9.2	10	103	61	49	40	092	092
9.3	10	103	61	49	40	093	093
9.4	10	103	61	49	40	094	094
9.5	10	103	61	49	40	095	095
9.6	10	103	61	49	40	096	096
9.7	10	103	61	49	40	097	097
9.8	10	103	61	49	40	098	098
9.9	10	103	61	49	40	099	099

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 740 ...	SD 10 741 ...
10.0	10	103	61	49	40	100	100
10.1	12	118	71	56	45	101	101
10.2	12	118	71	56	45	102	102
10.3	12	118	71	56	45	103	103
10.4	12	118	71	56	45	104	104
10.5	12	118	71	56	45	105	105
10.6	12	118	71	56	45	106	106
10.7	12	118	71	56	45	107	107
10.8	12	118	71	56	45	108	108
10.9	12	118	71	56	45	109	109
11.0	12	118	71	56	45	110	110
11.1	12	118	71	56	45	111	111
11.2	12	118	71	56	45	112	112
11.3	12	118	71	56	45	113	113
11.4	12	118	71	56	45	114	114
11.5	12	118	71	56	45	115	115
11.6	12	118	71	56	45	116	116
11.7	12	118	71	56	45	117	117
11.8	12	118	71	56	45	118	118
11.9	12	118	71	56	45	119	119
12.0	12	118	71	56	45	120	120
12.5	14	124	77	60	45	125	125
12.8	14	124	77	60	45	128	128
13.0	14	124	77	60	45	130	130
13.5	14	124	77	60	45	135	135
13.8	14	124	77	60	45	138	138
14.0	14	124	77	60	45	140	140
14.5	16	133	83	63	48	145	145
14.8	16	133	83	63	48	148	148
15.0	16	133	83	63	48	150	150
15.5	16	133	83	63	48	155	155
15.8	16	133	83	63	48	158	158
16.0	16	133	83	63	48	160	160
16.5	18	143	93	71	48	165	165
16.8	18	143	93	71	48	168	168

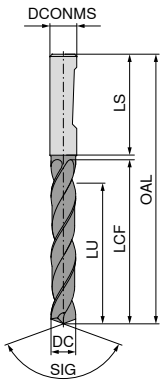
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
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O		

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537







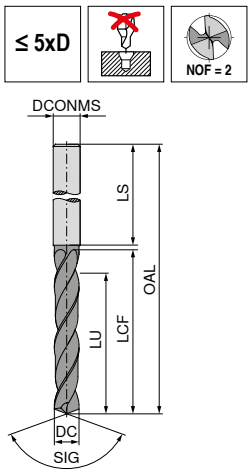
SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 740 ...	SD 10 741 ...
17.0	18	143	93	71	48	**170**	**170**
17.5	18	143	93	71	48	**175**	**175**
17.8	18	143	93	71	48	**178**	**178**
18.0	18	143	93	71	48	**180**	**180**
18.5	20	153	101	77	50	**185**	**185**
18.8	20	153	101	77	50	**188**	**188**
19.0	20	153	101	77	50	**190**	**190**
19.5	20	153	101	77	50	**195**	**195**
19.8	20	153	101	77	50	**198**	**198**
20.0	20	153	101	77	50	**200**	**200**
P						○	○
M						●	●
K						○	○
N						○	○
S						●	●
H							
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→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

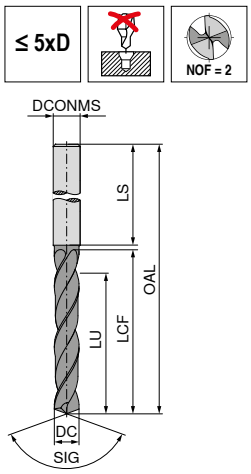
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 710 ...	CX 11 709 ...
3.00	6	66	28	23	36	03000	03000
3.10	6	66	28	23	36	03100	03100
3.20	6	66	28	23	36	03200	03200
3.25	6	66	28	23	36	03250	03250
3.30	6	66	28	23	36	03300	03300
3.40	6	66	28	23	36	03400	03400
3.50	6	66	28	23	36	03500	03500
3.60	6	66	28	23	36	03600	03600
3.70	6	66	28	23	36	03700	03700
3.80	6	74	36	29	36	03800	03800
3.90	6	74	36	29	36	03900	03900
4.00	6	74	36	29	36	04000	04000
4.10	6	74	36	29	36	04100	04100
4.20	6	74	36	29	36	04200	04200
4.30	6	74	36	29	36	04300	04300
4.40	6	74	36	29	36	04400	04400
4.50	6	74	36	29	36	04500	04500
4.60	6	74	36	29	36	04600	04600
4.65	6	74	36	29	36	04650	04650
4.70	6	74	36	29	36	04700	04700
4.80	6	82	44	35	36	04800	04800
4.90	6	82	44	35	36	04900	04900
5.00	6	82	44	35	36	05000	05000
5.10	6	82	44	35	36	05100	05100
5.20	6	82	44	35	36	05200	05200
5.30	6	82	44	35	36	05300	05300
5.40	6	82	44	35	36	05400	05400
5.50	6	82	44	35	36	05500	05500
5.55	6	82	44	35	36	05550	05550
5.60	6	82	44	35	36	05600	05600
5.65	6	82	44	35	36	05650	05650
5.70	6	82	44	35	36	05700	05700
5.80	6	82	44	35	36	05800	05800
5.90	6	82	44	35	36	05900	05900
6.00	6	82	44	35	36	06000	06000

P	●	●
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K	●	●
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→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

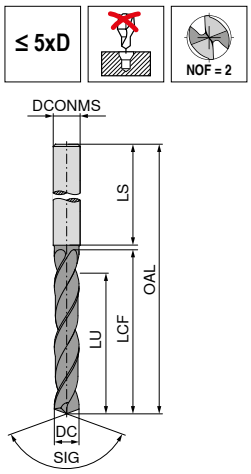
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 710 ...	CX 11 709 ...
6.10	8	91	53	43	36	06100	06100
6.20	8	91	53	43	36	06200	06200
6.30	8	91	53	43	36	06300	06300
6.40	8	91	53	43	36	06400	06400
6.50	8	91	53	43	36	06500	06500
6.60	8	91	53	43	36	06600	06600
6.70	8	91	53	43	36	06700	06700
6.80	8	91	53	43	36	06800	06800
6.90	8	91	53	43	36	06900	06900
7.00	8	91	53	43	36	07000	07000
7.10	8	91	53	43	36	07100	07100
7.20	8	91	53	43	36	07200	07200
7.30	8	91	53	43	36	07300	07300
7.40	8	91	53	43	36	07400	07400
7.50	8	91	53	43	36	07500	07500
7.55	8	91	53	43	36	07550	07550
7.60	8	91	53	43	36	07600	07600
7.65	8	91	53	43	36	07650	07650
7.70	8	91	53	43	36	07700	07700
7.80	8	91	53	43	36	07800	07800
7.90	8	91	53	43	36	07900	07900
8.00	8	91	53	43	36	08000	08000
8.10	10	103	61	49	40	08100	08100
8.20	10	103	61	49	40	08200	08200
8.30	10	103	61	49	40	08300	08300
8.40	10	103	61	49	40	08400	08400
8.50	10	103	61	49	40	08500	08500
8.60	10	103	61	49	40	08600	08600
8.70	10	103	61	49	40	08700	08700
8.80	10	103	61	49	40	08800	08800
8.90	10	103	61	49	40	08900	08900
9.00	10	103	61	49	40	09000	09000
9.10	10	103	61	49	40	09100	09100
9.20	10	103	61	49	40	09200	09200
9.30	10	103	61	49	40	09300	09300

P	●	●
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→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

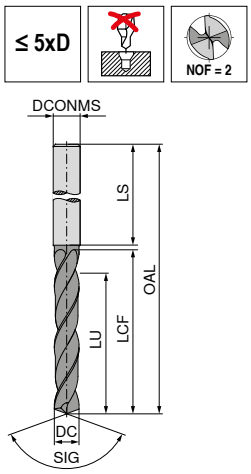
SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 710 ...	CX 11 709 ...
9.40	10	103	61	49	40	09400	09400
9.50	10	103	61	49	40	09500	09500
9.60	10	103	61	49	40	09600	09600
9.70	10	103	61	49	40	09700	09700
9.80	10	103	61	49	40	09800	09800
9.90	10	103	61	49	40	09900	09900
10.00	10	103	61	49	40	10000	10000
10.10	12	118	71	56	45	10100	10100
10.20	12	118	71	56	45	10200	10200
10.30	12	118	71	56	45	10300	10300
10.40	12	118	71	56	45	10400	10400
10.50	12	118	71	56	45	10500	10500
10.60	12	118	71	56	45	10600	10600
10.70	12	118	71	56	45	10700	10700
10.80	12	118	71	56	45	10800	10800
10.90	12	118	71	56	45	10900	10900
11.00	12	118	71	56	45	11000	11000
11.10	12	118	71	56	45	11100	11100
11.20	12	118	71	56	45	11200	11200
11.30	12	118	71	56	45	11300	11300
11.40	12	118	71	56	45	11400	11400
11.50	12	118	71	56	45	11500	11500
11.60	12	118	71	56	45	11600	11600
11.70	12	118	71	56	45	11700	11700
11.80	12	118	71	56	45	11800	11800
11.90	12	118	71	56	45	11900	11900
12.00	12	118	71	56	45	12000	12000
12.10	14	124	77	60	45	12100	12100
12.20	14	124	77	60	45	12200	12200
12.25	14	124	77	60	45	12250	12250
12.50	14	124	77	60	45	12500	12500
12.70	14	124	77	60	45	12700	12700
12.80	14	124	77	60	45	12800	12800
13.00	14	124	77	60	45	13000	13000
13.20	14	124	77	60	45	13200	13200
P						●	●
M							
K						●	●
N							
S							
H							
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→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 710 ...	CX 11 709 ...
13.50	14	124	77	60	45	**13500**	**13500**
13.80	14	124	77	60	45	**13800**	**13800**
14.00	14	124	77	60	45	**14000**	**14000**
14.20	16	133	83	63	48	**14200**	**14200**
14.40	16	133	83	63	48	**14400**	**14400**
14.50	16	133	83	63	48	**14500**	**14500**
14.80	16	133	83	63	48	**14800**	**14800**
15.00	16	133	83	63	48	**15000**	**15000**
15.20	16	133	83	63	48	**15200**	**15200**
15.50	16	133	83	63	48	**15500**	**15500**
15.80	16	133	83	63	48	**15800**	**15800**
16.00	16	133	83	63	48	**16000**	**16000**
16.50	18	143	93	71	48	**16500**	**16500**
17.00	18	143	93	71	48	**17000**	**17000**
17.50	18	143	93	71	48	**17500**	**17500**
18.00	18	143	93	71	48	**18000**	**18000**
18.50	20	153	101	77	50	**18500**	**18500**
18.90	20	153	101	77	50	**18900**	**18900**
19.00	20	153	101	77	50	**19000**	**19000**
19.50	20	153	101	77	50	**19500**	**19500**
20.00	20	153	101	77	50	**20000**	**20000**
P						●	●
M							
K						●	●
N							
S							
H							
O							

→ Find the cutting data standard values here.

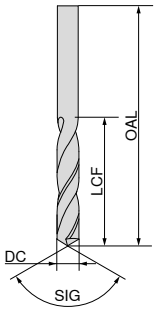
CoreLine – Twist drill similar to DIN 338

- Helix angle 30°
- Shank Ø H7

≤ 5xD



N





SIG 118°
Solid carbide

DC h7 mm	OAL mm	LCF mm	CX 10 710 ...
0.5	22	6	005
0.6	24	7	006
0.7	28	9	007
0.8	30	10	008
0.9	32	11	009
1.0	34	12	010
1.1	36	14	011
1.2	38	16	012
1.3	38	16	013
1.4	40	18	014
1.5	40	18	015
1.6	43	20	016
1.7	43	20	017
1.8	46	22	018
1.9	46	22	019
2.0	49	24	020
2.1	49	24	021
2.2	53	27	022
2.3	53	27	023
2.4	57	30	024
2.5	57	30	025
2.6	57	30	026
2.7	61	33	027
2.8	61	33	028
2.9	61	33	029
3.0	61	33	030
3.1	65	36	031
3.2	65	36	032
3.3	65	36	033
3.4	70	39	034
3.5	70	39	035
3.6	70	39	036
3.7	70	39	037
3.8	75	43	038

P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

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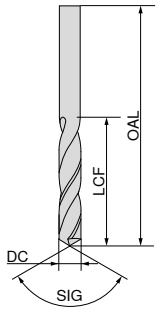
CoreLine – Twist drill similar to DIN 338

▲ Helix angle 30°
▲ Shank Ø H7

≤ 5xD



N





SIG 118°
Solid carbide

DC h7 mm	OAL mm	LCF mm	CX 10 710 ...
3.9	75	43	039
4.0	75	43	040
4.1	75	43	041
4.2	75	43	042
4.3	80	47	043
4.4	80	47	044
4.5	80	47	045
4.6	80	47	046
4.7	80	47	047
4.8	86	52	048
4.9	86	52	049
5.0	86	52	050
5.1	86	52	051
5.2	86	52	052
5.3	86	52	053
5.4	93	57	054
5.5	93	57	055
5.6	93	57	056
5.7	93	57	057
5.8	93	57	058
5.9	93	57	059
6.0	93	57	060
6.1	101	63	061
6.2	101	63	062
6.3	101	63	063
6.4	101	63	064
6.5	101	63	065
6.6	109	69	066
6.8	109	69	068
7.0	109	69	070
7.5	109	69	075
7.8	117	75	078
8.0	117	75	080
8.5	117	75	085

P	○
M	
K	●
N	●
S	○
H	
O	

→ Find the cutting data standard values here.

Continued on next page

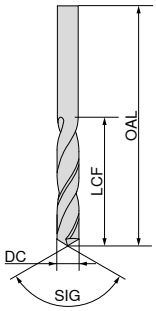
CoreLine – Twist drill similar to DIN 338

- Helix angle 30°
- Shank Ø H7

≤ 5xD



N





SIG 118°
Solid carbide

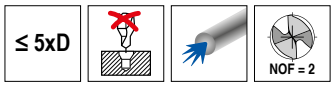
DC h7 mm	OAL mm	LCF mm	CX 10 710 ...
8.8	125	81	088
9.0	125	81	090
9.5	125	81	095
9.8	133	87	098
10.0	133	87	100
10.2	133	87	102
10.5	133	87	105
11.0	142	94	110
11.5	142	94	115
12.0	151	101	120
13.0	151	101	130
14.0	160	108	140
16.0	178	120	160

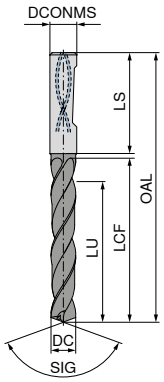
P	○
M	
K	●
N	●
S	○
H	
O	

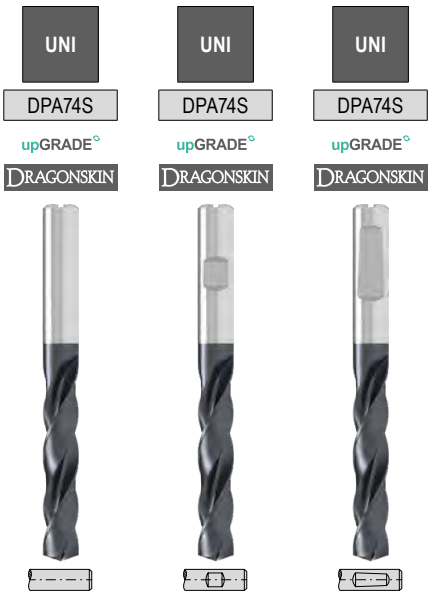
→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

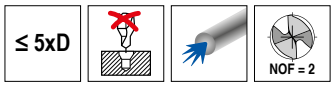
DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
3.000		6	66	28	23	36	03000	03000	03000
3.100		6	66	28	23	36	03100	03100	03100
3.150		6	66	28	23	36	03150	03150	03150
3.175	1/8	6	66	28	23	36	03175		
3.200		6	66	28	23	36	03200	03200	03200
3.250		6	66	28	23	36	03250	03250	03250
3.300		6	66	28	23	36	03300	03300	03300
3.400		6	66	28	23	36	03400	03400	03400
3.500		6	66	28	23	36	03500	03500	03500
3.600		6	66	28	23	36	03600	03600	03600
3.700		6	66	28	23	36	03700	03700	03700
3.800		6	74	36	29	36	03800	03800	03800
3.850		6	74	36	29	36	03850	03850	03850
3.900		6	74	36	29	36	03900	03900	03900
3.970	5/32	6	74	36	29	36	03970		
4.000		6	74	36	29	36	04000	04000	04000
4.100		6	74	36	29	36	04100	04100	04100
4.200		6	74	36	29	36	04200	04200	04200
4.250		6	74	36	29	36	04250	04250	04250
4.300		6	74	36	29	36	04300	04300	04300
4.350		6	74	36	29	36	04350	04350	04350
4.400		6	74	36	29	36	04400	04400	04400
4.450		6	74	36	29	36	04450	04450	04450
4.500		6	74	36	29	36	04500	04500	04500
4.600		6	74	36	29	36	04600	04600	04600
4.650		6	74	36	29	36	04650	04650	04650
4.700		6	74	36	29	36	04700	04700	04700
4.760	3/16	6	82	44	35	36	04760		
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

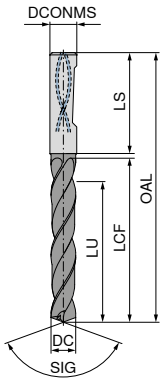
→ Find the cutting data standard values here.

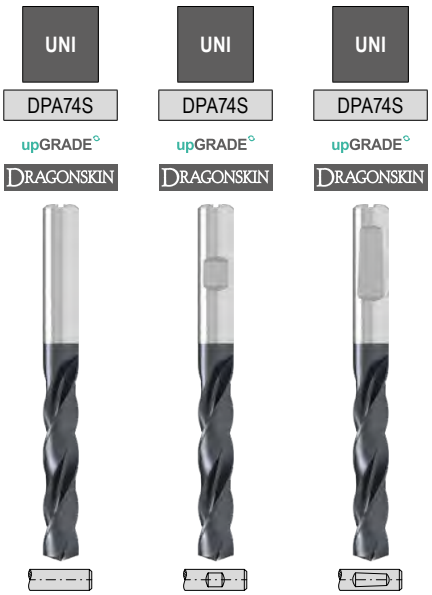
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WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application







SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
4.800		6	82	44	35	36	04800	04800	04800
4.900		6	82	44	35	36	04900	04900	04900
4.950		6	82	44	35	36	04950	04950	04950
5.000		6	82	44	35	36	05000	05000	05000
5.050		6	82	44	35	36	05050	05050	05050
5.100		6	82	44	35	36	05100	05100	05100
5.200		6	82	44	35	36	05200	05200	05200
5.300		6	82	44	35	36	05300	05300	05300
5.400		6	82	44	35	36	05400	05400	05400
5.500		6	82	44	35	36	05500	05500	05500
5.550		6	82	44	35	36	05550	05550	05550
5.560	7/32	6	82	44	35	36	05560		
5.600		6	82	44	35	36	05600	05600	05600
5.700		6	82	44	35	36	05700	05700	05700
5.750		6	82	44	35	36	05750	05750	05750
5.800		6	82	44	35	36	05800	05800	05800
5.900		6	82	44	35	36	05900	05900	05900
5.950	15/64	6	82	44	35	36	05950	05950	05950
6.000		6	82	44	35	36	06000	06000	06000
6.100		8	91	53	43	36	06100	06100	06100
6.200		8	91	53	43	36	06200	06200	06200
6.300		8	91	53	43	36	06300	06300	06300
6.350	1/4	8	91	53	43	36	06350		
6.400		8	91	53	43	36	06400	06400	06400
6.500		8	91	53	43	36	06500	06500	06500
6.600		8	91	53	43	36	06600	06600	06600
6.700		8	91	53	43	36	06700	06700	06700
6.750	17/64	8	91	53	43	36	06750		

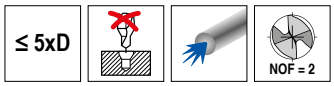
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M	●	●	●
K	●	●	●
N			
S			
H	○	○	○
O			

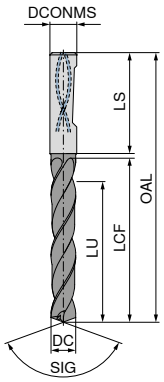
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

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SIG 140°
Solid carbide

SIG 140°
Solid carbide

SIG 140°
Solid carbide

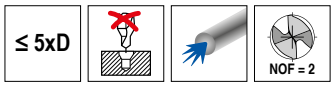
DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
6.800		8	91	53	43	36	06800	06800	06800
6.900		8	91	53	43	36	06900	06900	06900
7.000		8	91	53	43	36	07000	07000	07000
7.100		8	91	53	43	36	07100	07100	07100
7.140	9/32	8	91	53	43	36	07140		
7.200		8	91	53	43	36	07200	07200	07200
7.300		8	91	53	43	36	07300	07300	07300
7.400		8	91	53	43	36	07400	07400	07400
7.450		8	91	53	43	36	07450	07450	07450
7.500		8	91	53	43	36	07500	07500	07500
7.600		8	91	53	43	36	07600	07600	07600
7.700		8	91	53	43	36	07700	07700	07700
7.800		8	91	53	43	36	07800	07800	07800
7.900		8	91	53	43	36	07900	07900	07900
7.940	5/16	8	91	53	43	36	07940		
8.000		8	91	53	43	36	08000	08000	08000
8.100		10	103	61	49	40	08100	08100	08100
8.200		10	103	61	49	40	08200	08200	08200
8.300		10	103	61	49	40	08300	08300	08300
8.400		10	103	61	49	40	08400	08400	08400
8.500		10	103	61	49	40	08500	08500	08500
8.600		10	103	61	49	40	08600	08600	08600
8.700		10	103	61	49	40	08700	08700	08700
8.800		10	103	61	49	40	08800	08800	08800
8.900		10	103	61	49	40	08900	08900	08900
9.000		10	103	61	49	40	09000	09000	09000
9.100		10	103	61	49	40	09100	09100	09100
9.200		10	103	61	49	40	09200	09200	09200
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
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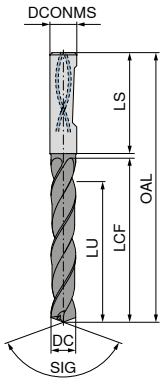
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

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SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

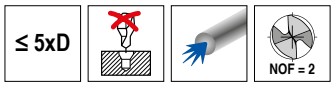
DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
9.300		10	103	61	49	40	09300	09300	09300
9.350		10	103	61	49	40	09350	09350	09350
9.400		10	103	61	49	40	09400	09400	09400
9.450		10	103	61	49	40	09450	09450	09450
9.500		10	103	61	49	40	09500	09500	09500
9.525	3/8	10	103	61	49	40	09525		
9.600		10	103	61	49	40	09600	09600	09600
9.700		10	103	61	49	40	09700	09700	09700
9.800		10	103	61	49	40	09800	09800	09800
9.900		10	103	61	49	40	09900	09900	09900
9.920	25/64	10	103	61	49	40	09920		
10.000		10	103	61	49	40	10000	10000	10000
10.100		12	118	71	56	45	10100	10100	10100
10.200		12	118	71	56	45	10200	10200	10200
10.300		12	118	71	56	45	10300	10300	10300
10.400		12	118	71	56	45	10400	10400	10400
10.500		12	118	71	56	45	10500	10500	10500
10.550		12	118	71	56	45	10550	10550	10550
10.600		12	118	71	56	45	10600	10600	10600
10.700		12	118	71	56	45	10700	10700	10700
10.750		12	118	71	56	45	10750	10750	10750
10.800		12	118	71	56	45	10800	10800	10800
10.900		12	118	71	56	45	10900	10900	10900
11.000		12	118	71	56	45	11000	11000	11000
11.100		12	118	71	56	45	11100	11100	11100
11.200		12	118	71	56	45	11200	11200	11200
11.250		12	118	71	56	45	11250	11250	11250
11.300		12	118	71	56	45	11300	11300	11300
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

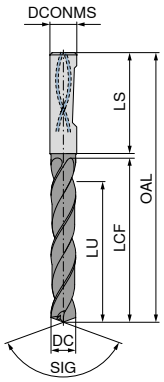
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

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SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

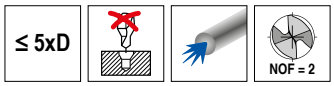
DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
11.350		12	118	71	56	45	11350	11350	11350
11.400		12	118	71	56	45	11400	11400	11400
11.450		12	118	71	56	45	11450	11450	11450
11.500		12	118	71	56	45	11500	11500	11500
11.600		12	118	71	56	45	11600	11600	11600
11.700		12	118	71	56	45	11700	11700	11700
11.800		12	118	71	56	45	11800	11800	11800
11.900		12	118	71	56	45	11900	11900	11900
12.000		12	118	71	56	45	12000	12000	12000
12.150		14	124	77	60	45	12150	12150	12150
12.250		14	124	77	60	45	12250	12250	12250
12.500		14	124	77	60	45	12500	12500	12500
12.550		14	124	77	60	45	12550	12550	12550
12.700	1/2	14	124	77	60	45	12700	12700	12700
12.800		14	124	77	60	45	12800	12800	12800
12.900		14	124	77	60	45	12900	12900	12900
13.000		14	124	77	60	45	13000	13000	13000
13.100		14	124	77	60	45	13100	13100	13100
13.300		14	124	77	60	45	13300	13300	13300
13.350		14	124	77	60	45	13350	13350	13350
13.500		14	124	77	60	45	13500	13500	13500
13.700		14	124	77	60	45	13700	13700	13700
13.800		14	124	77	60	45	13800	13800	13800
14.000		14	124	77	60	45	14000	14000	14000
14.200		16	133	83	63	48	14200	14200	14200
14.500		16	133	83	63	48	14500	14500	14500
14.800		16	133	83	63	48	14800	14800	14800
15.000		16	133	83	63	48	15000	15000	15000
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

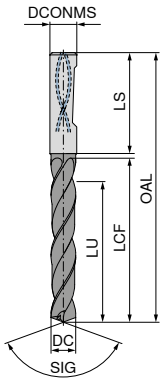
→ Find the cutting data standard values here.

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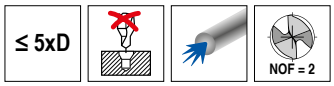
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

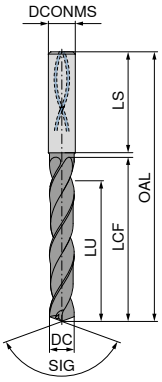
DC m7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 609 ...	SH 10 610 ...	SH 10 611 ...
15.100		16	133	83	63	48	15100	15100	15100
15.250		16	133	83	63	48	15250	15250	15250
15.300		16	133	83	63	48	15300	15300	15300
15.350		16	133	83	63	48	15350	15350	15350
15.500		16	133	83	63	48	15500	15500	15500
15.600		16	133	83	63	48	15600	15600	15600
15.800		16	133	83	63	48	15800	15800	15800
15.875	5/8	16	133	83	63	48	15875		
16.000		16	133	83	63	48	16000	16000	16000
16.050		18	143	93	71	48	16050	16050	16050
16.500		18	143	93	71	48	16500	16500	16500
16.800		18	143	93	71	48	16800	16800	16800
16.900		18	143	93	71	48	16900	16900	16900
17.000		18	143	93	71	48	17000	17000	17000
17.500		18	143	93	71	48	17500	17500	17500
17.600		18	143	93	71	48	17600	17600	17600
17.800		18	143	93	71	48	17800	17800	17800
18.000		18	143	93	71	48	18000	18000	18000
18.500		20	155	101	77	50	18500	18500	18500
18.800		20	155	101	77	50	18800	18800	18800
18.900		20	155	101	77	50	18900	18900	18900
19.000		20	155	101	77	50	19000	19000	19000
19.050	3/4	20	155	101	77	50	19050		
19.500		20	155	101	77	50	19500	19500	19500
19.800		20	155	101	77	50	19800	19800	19800
20.000		20	155	101	77	50	20000	20000	20000
P							●	●	●
M							●	●	●
K							●	●	●
N									
S									
H							○	○	○
O									

→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 140°

Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 612 ...
3.0	6	66	28	23	36	03000
3.1	6	66	28	23	36	03100
3.2	6	66	28	23	36	03200
3.3	6	66	28	23	36	03300
3.4	6	66	28	23	36	03400
3.5	6	66	28	23	36	03500
3.6	6	66	28	23	36	03600
3.7	6	66	28	23	36	03700
3.8	6	74	36	29	36	03800
3.9	6	74	36	29	36	03900
4.0	6	74	36	29	36	04000
4.1	6	74	36	29	36	04100
4.2	6	74	36	29	36	04200
4.3	6	74	36	29	36	04300
4.4	6	74	36	29	36	04400
4.5	6	74	36	29	36	04500
4.6	6	74	36	29	36	04600
4.7	6	74	36	29	36	04700
4.8	6	82	44	35	36	04800
4.9	6	82	44	35	36	04900
5.0	6	82	44	35	36	05000
5.1	6	82	44	35	36	05100
5.2	6	82	44	35	36	05200
5.3	6	82	44	35	36	05300
5.4	6	82	44	35	36	05400
5.5	6	82	44	35	36	05500
5.6	6	82	44	35	36	05600
5.7	6	82	44	35	36	05700

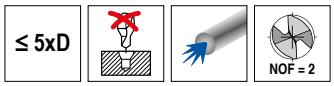
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M	●
K	●
N	
S	
H	○
O	

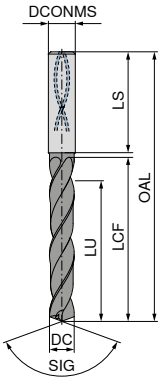
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 140°

Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 612 ...
5.8	6	82	44	35	36	05800
5.9	6	82	44	35	36	05900
6.0	6	82	44	35	36	06000
6.1	8	91	53	43	36	06100
6.2	8	91	53	43	36	06200
6.3	8	91	53	43	36	06300
6.4	8	91	53	43	36	06400
6.5	8	91	53	43	36	06500
6.6	8	91	53	43	36	06600
6.7	8	91	53	43	36	06700
6.8	8	91	53	43	36	06800
6.9	8	91	53	43	36	06900
7.0	8	91	53	43	36	07000
7.1	8	91	53	43	36	07100
7.2	8	91	53	43	36	07200
7.4	8	91	53	43	36	07400
7.5	8	91	53	43	36	07500
7.6	8	91	53	43	36	07600
7.7	8	91	53	43	36	07700
7.8	8	91	53	43	36	07800
7.9	8	91	53	43	36	07900
8.0	8	91	53	43	36	08000
8.1	10	103	61	49	40	08100
8.2	10	103	61	49	40	08200
8.4	10	103	61	49	40	08400
8.5	10	103	61	49	40	08500
8.6	10	103	61	49	40	08600
8.7	10	103	61	49	40	08700

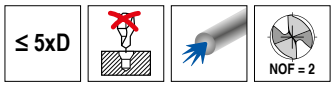
P	●
M	●
K	●
N	
S	
H	○
O	

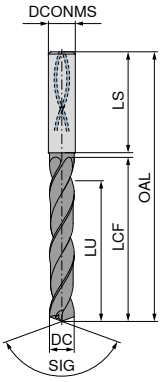
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 612 ...
8.8	10	103	61	49	40	08800
8.9	10	103	61	49	40	08900
9.0	10	103	61	49	40	09000
9.1	10	103	61	49	40	09100
9.2	10	103	61	49	40	09200
9.3	10	103	61	49	40	09300
9.4	10	103	61	49	40	09400
9.5	10	103	61	49	40	09500
9.6	10	103	61	49	40	09600
9.7	10	103	61	49	40	09700
9.8	10	103	61	49	40	09800
9.9	10	103	61	49	40	09900
10.0	10	103	61	49	40	10000
10.1	12	118	71	56	45	10100
10.2	12	118	71	56	45	10200
10.3	12	118	71	56	45	10300
10.4	12	118	71	56	45	10400
10.5	12	118	71	56	45	10500
10.8	12	118	71	56	45	10800
10.9	12	118	71	56	45	10900
11.0	12	118	71	56	45	11000
11.1	12	118	71	56	45	11100
11.2	12	118	71	56	45	11200
11.5	12	118	71	56	45	11500
11.8	12	118	71	56	45	11800
12.0	12	118	71	56	45	12000
12.5	14	124	77	60	45	12500
12.8	14	124	77	60	45	12800

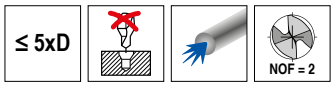
P	●
M	●
K	●
N	
S	
H	○
O	

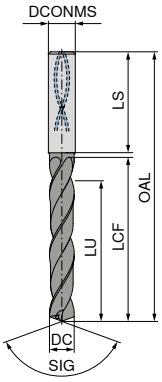
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 140°

Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 612 ...
13.0	14	124	77	60	45	13000
13.5	14	124	77	60	45	13500
13.8	14	124	77	60	45	13800
14.0	14	124	77	60	45	14000
14.5	16	133	83	63	48	14500
14.8	16	133	83	63	48	14800
15.0	16	133	83	63	48	15000
15.5	16	133	83	63	48	15500
15.8	16	133	83	63	48	15800
16.0	16	133	83	63	48	16000
16.5	18	143	93	71	48	16500
17.0	18	143	93	71	48	17000
17.5	18	143	93	71	48	17500
18.0	18	143	93	71	48	18000

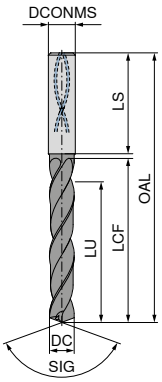
P	●
M	●
K	●
N	
S	
H	○
O	

→ Find the cutting data standard values here.

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction

≤ 5xD | NOF = 2



Speed UNI | Speed VA

DPX14S | Ti800

DRAGONSKIN



SIG 145°
Solid carbide



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 771 ...	SH 10 773 ...
3.00	6	66	28	23	36	03000	030
3.10	6	66	28	23	36	03100	031
3.20	6	66	28	23	36	03200	032
3.30	6	66	28	23	36	03300	033
3.40	6	66	28	23	36	03400	034
3.50	6	66	28	23	36	03500	035
3.60	6	66	28	23	36	03600	036
3.70	6	66	28	23	36	03700	037
3.80	6	74	36	29	36	03800	038
3.90	6	74	36	29	36	03900	039
4.00	6	74	36	29	36	04000	040
4.10	6	74	36	29	36	04100	041
4.20	6	74	36	29	36	04200	042
4.30	6	74	36	29	36	04300	043
4.40	6	74	36	29	36	04400	044
4.50	6	74	36	29	36	04500	045
4.60	6	74	36	29	36	04600	046
4.65	6	74	36	29	36	04650	900
4.70	6	74	36	29	36	04700	047
4.80	6	82	44	35	36	04800	048
4.90	6	82	44	35	36	04900	049
5.00	6	82	44	35	36	05000	050
5.10	6	82	44	35	36	05100	051
5.20	6	82	44	35	36	05200	052
5.30	6	82	44	35	36	05300	053
5.40	6	82	44	35	36	05400	054
5.50	6	82	44	35	36	05500	055
5.55	6	82	44	35	36	05550	902
5.60	6	82	44	35	36	05600	056
5.70	6	82	44	35	36	05700	057
5.80	6	82	44	35	36	05800	058
5.90	6	82	44	35	36	05900	059

P	●	●
M	●	●
K	●	●
N		○
S		●
H		
O		

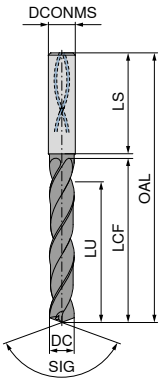
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction

≤ 5xD | NOF = 2



Speed UNI | DPX14S | DRAGONSKIN



SIG 145°
Solid carbide

Speed VA | Ti800



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 771 ...	SH 10 773 ...
6.00	6	82	44	35	36	06000	060
6.10	8	91	53	43	36	06100	061
6.20	8	91	53	43	36	06200	062
6.30	8	91	53	43	36	06300	063
6.40	8	91	53	43	36	06400	064
6.50	8	91	53	43	36	06500	065
6.60	8	91	53	43	36	06600	066
6.70	8	91	53	43	36	06700	067
6.80	8	91	53	43	36	06800	068
6.90	8	91	53	43	36	06900	069
7.00	8	91	53	43	36	07000	070
7.10	8	91	53	43	36	07100	071
7.20	8	91	53	43	36	07200	072
7.30	8	91	53	43	36	07300	073
7.40	8	91	53	43	36	07400	074
7.50	8	91	53	43	36	07500	075
7.60	8	91	53	43	36	07600	076
7.70	8	91	53	43	36	07700	077
7.80	8	91	53	43	36	07800	078
7.90	8	91	53	43	36	07900	079
8.00	8	91	53	43	36	08000	080
8.10	10	103	61	49	40	08100	081
8.20	10	103	61	49	40	08200	082
8.30	10	103	61	49	40	08300	083
8.40	10	103	61	49	40	08400	084
8.50	10	103	61	49	40	08500	085
8.60	10	103	61	49	40	08600	086
8.70	10	103	61	49	40	08700	087
8.80	10	103	61	49	40	08800	088
8.90	10	103	61	49	40	08900	089
9.00	10	103	61	49	40	09000	090
9.10	10	103	61	49	40	09100	091

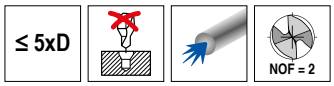
P	●	●
M	●	●
K	●	●
N		○
S		●
H		
O		

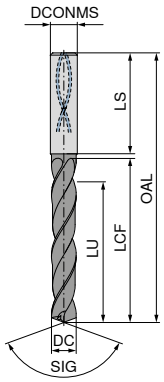
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI | Speed VA

DPX14S | Ti800

DRAGONSKIN





SIG 145° Solid carbide | SIG 135° Solid carbide

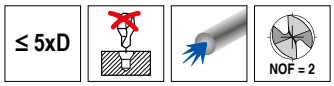
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 771 ...	SH 10 773 ...
9.20	10	103	61	49	40	09200	092
9.30	10	103	61	49	40	09300	093
9.40	10	103	61	49	40	09400	094
9.50	10	103	61	49	40	09500	095
9.60	10	103	61	49	40	09600	096
9.70	10	103	61	49	40	09700	097
9.80	10	103	61	49	40	09800	098
9.90	10	103	61	49	40	09900	099
10.00	10	103	61	49	40	10000	100
10.10	12	118	71	56	45	10100	101
10.20	12	118	71	56	45	10200	102
10.30	12	118	71	56	45	10300	103
10.40	12	118	71	56	45	10400	104
10.50	12	118	71	56	45	10500	105
10.60	12	118	71	56	45	10600	106
10.70	12	118	71	56	45	10700	107
10.80	12	118	71	56	45	10800	108
10.90	12	118	71	56	45	10900	109
11.00	12	118	71	56	45	11000	110
11.10	12	118	71	56	45	11100	111
11.20	12	118	71	56	45	11200	112
11.30	12	118	71	56	45	11300	113
11.40	12	118	71	56	45	11400	114
11.50	12	118	71	56	45	11500	115
11.60	12	118	71	56	45	11600	116
11.70	12	118	71	56	45	11700	117
11.80	12	118	71	56	45	11800	118
11.90	12	118	71	56	45	11900	119
12.00	12	118	71	56	45	12000	120
12.20	14	124	77	60	45	12200	12200
12.50	14	124	77	60	45	12500	125
12.80	14	124	77	60	45	12800	128
P						●	●
M						●	●
K						●	●
N							○
S							●
H							
O							

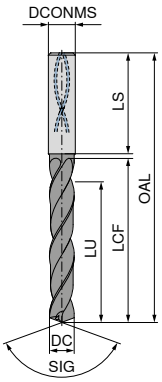
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, DIN 6537

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI | Speed VA

DPX14S | Ti800

DRAGONSKIN



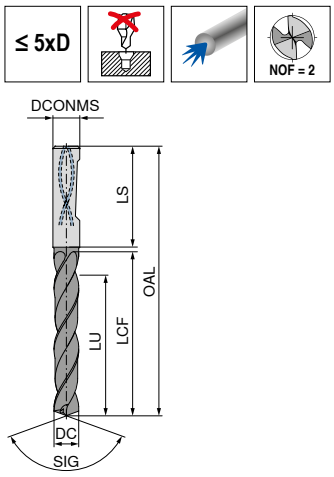


SIG 145° Solid carbide | SIG 135° Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 771 ...	SH 10 773 ...
13.00	14	124	77	60	45	13000	130
13.50	14	124	77	60	45	13500	135
13.80	14	124	77	60	45	13800	138
14.00	14	124	77	60	45	14000	140
14.20	16	133	83	63	48	14200	
14.50	16	133	83	63	48	14500	145
14.80	16	133	83	63	48	14800	148
15.00	16	133	83	63	48	15000	150
15.20	16	133	83	63	48	15200	
15.50	16	133	83	63	48	15500	155
15.80	16	133	83	63	48	15800	158
16.00	16	133	83	63	48	16000	160
16.50	18	143	93	71	48	16500	165
16.80	18	143	93	71	48	16800	168
17.00	18	143	93	71	48	17000	170
17.50	18	143	93	71	48	17500	175
17.80	18	143	93	71	48	17800	178
18.00	18	143	93	71	48	18000	180
18.50	20	153	101	77	50		185
18.80	20	153	101	77	50		188
19.00	20	153	101	77	50		190
19.50	20	153	101	77	50		195
19.80	20	153	101	77	50		198
20.00	20	153	101	77	50		200
P						●	●
M						●	●
K						●	●
N							○
S							●
H							
O							

→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

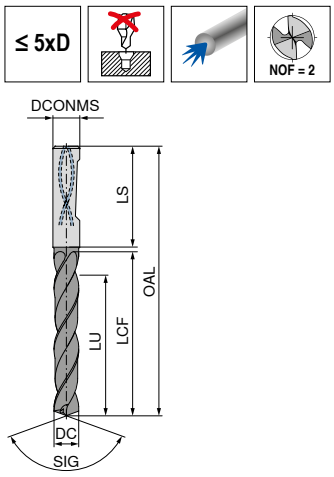
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 745 ...	SD 10 746 ...
3.00	6	66	28	23	36	030	030
3.10	6	66	28	23	36	031	031
3.15	6	66	28	23	36	831	
3.20	6	66	28	23	36	032	032
3.22	6	66	28	23	36	832	
3.25	6	66	28	23	36	890	
3.30	6	66	28	23	36	033	033
3.40	6	66	28	23	36	034	034
3.50	6	66	28	23	36	035	035
3.60	6	66	28	23	36	036	036
3.70	6	66	28	23	36	037	037
3.80	6	74	36	29	36	038	038
3.85	6	74	36	29	36	838	
3.90	6	74	36	29	36	039	039
4.00	6	74	36	29	36	040	040
4.10	6	74	36	29	36	041	041
4.20	6	74	36	29	36	042	042
4.30	6	74	36	29	36	043	043
4.35	6	74	36	29	36	843	
4.40	6	74	36	29	36	044	044
4.45	6	74	36	29	36	844	
4.50	6	74	36	29	36	045	045
4.60	6	74	36	29	36	046	046
4.65	6	74	36	29	36	900	
4.70	6	74	36	29	36	047	047
4.80	6	82	44	35	36	048	048
4.90	6	82	44	35	36	049	049
5.00	6	82	44	35	36	050	050
5.10	6	82	44	35	36	051	051
5.20	6	82	44	35	36	052	052
5.30	6	82	44	35	36	053	053
5.40	6	82	44	35	36	054	054
5.50	6	82	44	35	36	055	055
5.60	6	82	44	35	36	056	056
5.70	6	82	44	35	36	057	057

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

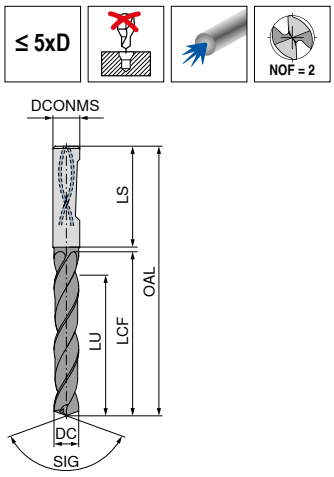
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 745 ...	SD 10 746 ...
5.75	6	82	44	35	36	916	
5.80	6	82	44	35	36	058	058
5.90	6	82	44	35	36	059	059
5.95	6	82	44	35	36	959	
6.00	6	82	44	35	36	060	060
6.10	8	91	53	43	36	061	061
6.20	8	91	53	43	36	062	062
6.30	8	91	53	43	36	063	063
6.40	8	91	53	43	36	064	064
6.50	8	91	53	43	36	065	065
6.60	8	91	53	43	36	066	066
6.70	8	91	53	43	36	067	067
6.80	8	91	53	43	36	068	068
6.90	8	91	53	43	36	069	069
7.00	8	91	53	43	36	070	070
7.10	8	91	53	43	36	071	071
7.20	8	91	53	43	36	072	072
7.30	8	91	53	43	36	073	073
7.40	8	91	53	43	36	074	074
7.45	8	91	53	43	36	924	
7.50	8	91	53	43	36	075	075
7.60	8	91	53	43	36	076	076
7.70	8	91	53	43	36	077	077
7.80	8	91	53	43	36	078	078
7.90	8	91	53	43	36	079	079
8.00	8	91	53	43	36	080	080
8.10	10	103	61	49	40	081	081
8.20	10	103	61	49	40	082	082
8.30	10	103	61	49	40	083	083
8.40	10	103	61	49	40	084	084
8.50	10	103	61	49	40	085	085
8.60	10	103	61	49	40	086	086
8.70	10	103	61	49	40	087	087
8.80	10	103	61	49	40	088	088
8.90	10	103	61	49	40	089	089

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

SIG 140°
Solid carbide

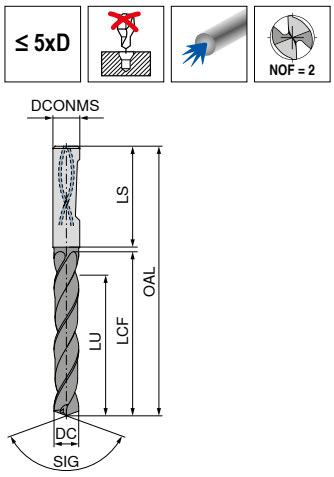
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 745 ...	SD 10 746 ...
9.00	10	103	61	49	40	090	090
9.10	10	103	61	49	40	091	091
9.20	10	103	61	49	40	092	092
9.30	10	103	61	49	40	093	093
9.35	10	103	61	49	40	930	
9.40	10	103	61	49	40	094	094
9.45	10	103	61	49	40	994	
9.50	10	103	61	49	40	095	095
9.60	10	103	61	49	40	096	096
9.70	10	103	61	49	40	097	097
9.80	10	103	61	49	40	098	098
9.90	10	103	61	49	40	099	099
10.00	10	103	61	49	40	100	100
10.10	12	118	71	56	45	101	101
10.20	12	118	71	56	45	102	102
10.30	12	118	71	56	45	103	103
10.40	12	118	71	56	45	104	104
10.50	12	118	71	56	45	105	105
10.55	12	118	71	56	45	932	
10.60	12	118	71	56	45	106	106
10.70	12	118	71	56	45	107	107
10.80	12	118	71	56	45	108	108
10.90	12	118	71	56	45	109	109
11.00	12	118	71	56	45	110	110
11.10	12	118	71	56	45	111	111
11.20	12	118	71	56	45	112	112
11.25	12	118	71	56	45	912	
11.30	12	118	71	56	45	113	113
11.35	12	118	71	56	45	913	
11.40	12	118	71	56	45	114	114
11.45	12	118	71	56	45	914	
11.50	12	118	71	56	45	115	115
11.60	12	118	71	56	45	116	116
11.70	12	118	71	56	45	117	117
11.80	12	118	71	56	45	118	118

P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H		
O		

→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537





SIG 140°
Solid carbide

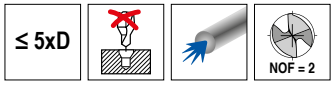
SIG 140°
Solid carbide

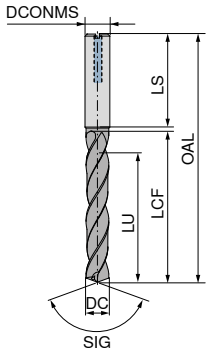
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 745 ...	SD 10 746 ...
11.90	12	118	71	56	45	119	119
12.00	12	118	71	56	45	120	120
12.15	14	124	77	60	45	921	
12.50	14	124	77	60	45	125	125
12.55	14	124	77	60	45	925	
12.80	14	124	77	60	45	128	128
13.00	14	124	77	60	45	130	130
13.35	14	124	77	60	45	933	
13.50	14	124	77	60	45	135	135
13.80	14	124	77	60	45	138	138
14.00	14	124	77	60	45	140	140
14.50	16	133	83	63	48	145	145
14.80	16	133	83	63	48	148	148
15.00	16	133	83	63	48	150	150
15.35	16	133	83	63	48	953	
15.50	16	133	83	63	48	155	155
15.80	16	133	83	63	48	158	158
16.00	16	133	83	63	48	160	160
16.05	18	143	93	71	48	960	
16.50	18	143	93	71	48	165	165
16.80	18	143	93	71	48	168	168
17.00	18	143	93	71	48	170	170
17.50	18	143	93	71	48	175	175
17.80	18	143	93	71	48	178	178
18.00	18	143	93	71	48	180	180
18.50	20	153	101	77	50	185	185
18.80	20	153	101	77	50	188	188
19.00	20	153	101	77	50	190	190
19.35	20	153	101	77	50	993	
19.50	20	153	101	77	50	195	195
19.80	20	153	101	77	50	198	198
20.00	20	153	101	77	50	200	200
P						○	○
M						●	●
K						○	○
N						○	○
S						●	●
H							
O							

→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 791 ...
2.5	4	57	21	17	28	**02500**
2.6	4	57	21	17	28	**02600**
2.7	4	57	21	17	28	**02700**
2.8	4	57	21	17	28	**02800**
2.9	4	57	21	17	28	**02900**
3.0	6	66	28	23	36	**03000**
3.1	6	66	28	23	36	**03100**
3.2	6	66	28	23	36	**03200**
3.3	6	66	28	23	36	**03300**
3.4	6	66	28	23	36	**03400**
3.5	6	66	28	23	36	**03500**
3.6	6	66	28	23	36	**03600**
3.7	6	66	28	23	36	**03700**
3.8	6	74	36	29	36	**03800**
3.9	6	74	36	29	36	**03900**
4.0	6	74	36	29	36	**04000**
4.1	6	74	36	29	36	**04100**
4.2	6	74	36	29	36	**04200**
4.3	6	74	36	29	36	**04300**
4.4	6	74	36	29	36	**04400**
4.5	6	74	36	29	36	**04500**
4.6	6	74	36	29	36	**04600**
4.7	6	74	36	29	36	**04700**
4.8	6	82	44	35	36	**04800**
4.9	6	82	44	35	36	**04900**
5.0	6	82	44	35	36	**05000**
5.1	6	82	44	35	36	**05100**
5.2	6	82	44	35	36	**05200**
5.3	6	82	44	35	36	**05300**
5.4	6	82	44	35	36	**05400**
5.5	6	82	44	35	36	**05500**
5.6	6	82	44	35	36	**05600**
5.7	6	82	44	35	36	**05700**

P	
M	
K	
N	●
S	
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O	

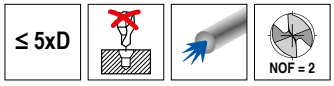


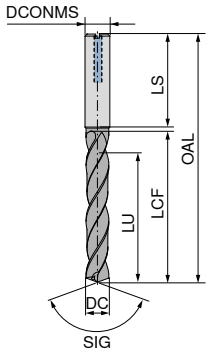
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

▲ Aluminum drill with six guide lands







SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 791 ...
5.8	6	82	44	35	36	05800
5.9	6	82	44	35	36	05900
6.0	6	82	44	35	36	06000
6.1	8	91	53	43	36	06100
6.2	8	91	53	43	36	06200
6.3	8	91	53	43	36	06300
6.4	8	91	53	43	36	06400
6.5	8	91	53	43	36	06500
6.6	8	91	53	43	36	06600
6.7	8	91	53	43	36	06700
6.8	8	91	53	43	36	06800
6.9	8	91	53	43	36	06900
7.0	8	91	53	43	36	07000
7.1	8	91	53	43	36	07100
7.2	8	91	53	43	36	07200
7.3	8	91	53	43	36	07300
7.4	8	91	53	43	36	07400
7.5	8	91	53	43	36	07500
7.6	8	91	53	43	36	07600
7.7	8	91	53	43	36	07700
7.8	8	91	53	43	36	07800
7.9	8	91	53	43	36	07900
8.0	8	91	53	43	36	08000
8.1	10	103	61	49	40	08100
8.2	10	103	61	49	40	08200
8.3	10	103	61	49	40	08300
8.4	10	103	61	49	40	08400
8.5	10	103	61	49	40	08500
8.6	10	103	61	49	40	08600
8.7	10	103	61	49	40	08700
8.8	10	103	61	49	40	08800
8.9	10	103	61	49	40	08900
9.0	10	103	61	49	40	09000

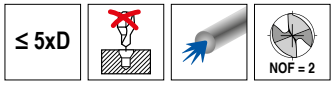
P	
M	
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N	●
S	
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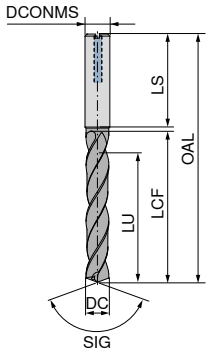
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

▲ Aluminum drill with six guide lands







SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 791 ...
9.1	10	103	61	49	40	09100
9.2	10	103	61	49	40	09200
9.3	10	103	61	49	40	09300
9.4	10	103	61	49	40	09400
9.5	10	103	61	49	40	09500
9.6	10	103	61	49	40	09600
9.7	10	103	61	49	40	09700
9.8	10	103	61	49	40	09800
9.9	10	103	61	49	40	09900
10.0	10	103	61	49	40	10000
10.1	12	118	71	56	45	10100
10.2	12	118	71	56	45	10200
10.3	12	118	71	56	45	10300
10.4	12	118	71	56	45	10400
10.5	12	118	71	56	45	10500
10.6	12	118	71	56	45	10600
10.7	12	118	71	56	45	10700
10.8	12	118	71	56	45	10800
11.0	12	118	71	56	45	11000
11.1	12	118	71	56	45	11100
11.2	12	118	71	56	45	11200
11.3	12	118	71	56	45	11300
11.4	12	118	71	56	45	11400
11.5	12	118	71	56	45	11500
11.7	12	118	71	56	45	11700
11.8	12	118	71	56	45	11800
12.0	12	118	71	56	45	12000
12.2	14	124	77	60	45	12200
12.5	14	124	77	60	45	12500
12.6	14	124	77	60	45	12600
12.8	14	124	77	60	45	12800
13.0	14	124	77	60	45	13000
13.5	14	124	77	60	45	13500

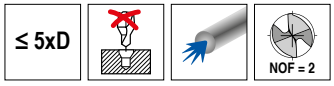
P	
M	
K	
N	●
S	
H	
O	

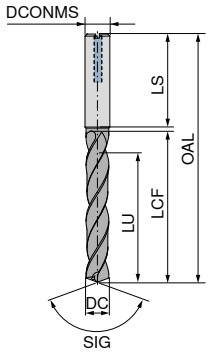
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

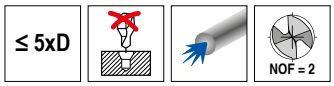
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 791 ...
13.8	14	124	77	60	45	13800
14.0	14	124	77	60	45	14000
14.2	16	133	83	63	48	14200
14.5	16	133	83	63	48	14500
14.8	16	133	83	63	48	14800
15.0	16	133	83	63	48	15000
15.2	16	133	83	63	48	15200
15.5	16	133	83	63	48	15500
15.8	16	133	83	63	48	15800
16.0	16	133	83	63	48	16000
16.5	18	143	93	71	48	16500
17.0	18	143	93	71	48	17000
17.5	18	143	93	71	48	17500
18.0	18	143	93	71	48	18000
18.5	20	153	101	77	50	18500
19.0	20	153	101	77	50	19000
19.5	20	153	101	77	50	19500
20.0	20	153	101	77	50	20000

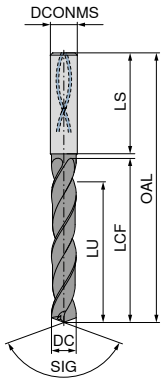
P	
M	
K	
N	●
S	
H	
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→ Find the cutting data standard values here.

WTX – Pilot drill, sim. DIN 6537

- Aluminum drill
- Cutting edge tolerance p6





AL

DLC

DRAGONSKIN



SIG 140°
Solid carbide

DC p6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 799 ...
2.0	4	57	21	17	28	02000
2.2	4	57	21	17	28	02200
2.3	4	57	21	17	28	02300
2.4	4	57	21	17	28	02400
2.5	4	57	21	17	28	02500
2.7	4	57	21	17	28	02700
2.8	4	57	21	17	28	02800
3.0	6	66	28	23	36	03000
3.2	6	66	28	23	36	03200
3.3	6	66	28	23	36	03300
3.5	6	66	28	23	36	03500
3.8	6	74	36	29	36	03800
4.0	6	74	36	29	36	04000
4.2	6	74	36	29	36	04200
4.5	6	74	36	29	36	04500
4.8	6	82	44	35	36	04800
5.0	6	82	44	35	36	05000
5.5	6	82	44	35	36	05500
5.8	6	82	44	35	36	05800
6.0	6	82	44	35	36	06000
6.5	8	91	53	43	36	06500
6.8	8	91	53	43	36	06800
7.0	8	91	53	43	36	07000
7.5	8	91	53	43	36	07500
7.8	8	91	53	43	36	07800
8.0	8	91	53	43	36	08000
8.5	10	103	61	49	40	08500
8.8	10	103	61	49	40	08800
9.0	10	103	61	49	40	09000
9.8	10	103	61	49	40	09800
10.0	10	103	61	49	40	10000
10.2	12	118	71	56	45	10200

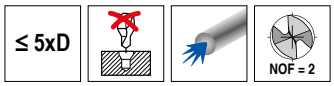
P	
M	
K	
N	●
S	
H	
O	

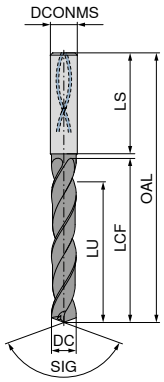
→ Find the cutting data standard values here.

Continued on next page

WTX – Pilot drill, sim. DIN 6537

- Aluminum drill
- Cutting edge tolerance p6





AL

DLC

DRAGONSKIN



SIG 140°
Solid carbide

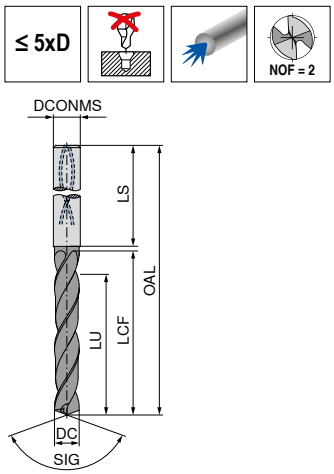
DC p6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 799 ...
10.8	12	118	71	56	45	**10800**
11.8	12	118	71	56	45	**11800**
12.0	12	118	71	56	45	**12000**

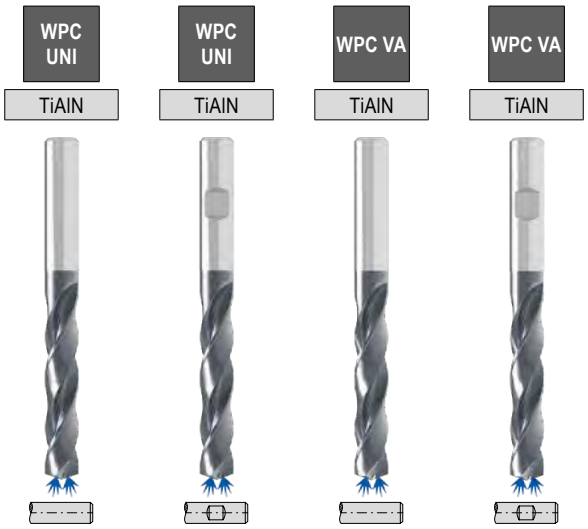
P	
M	
K	
N	●
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H	
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→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537





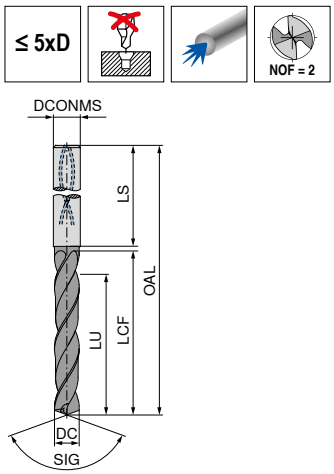
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

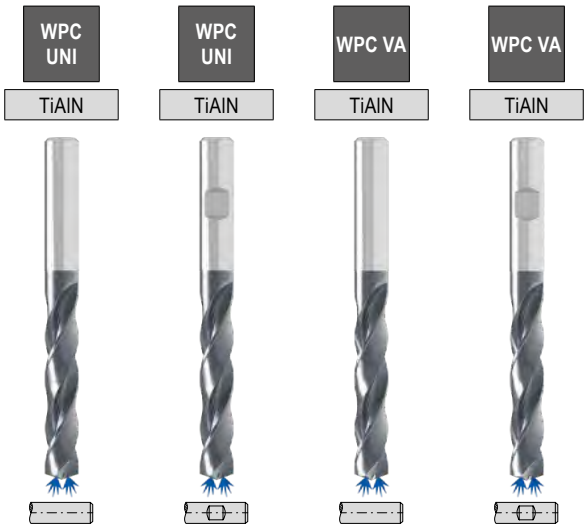
						CX	CX	CX	CX
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	11 702 ...	11 703 ...	11 715 ...	11 716 ...
1.00	4	55	8	6.5	28	01000		01000	
1.10	4	55	12	10.3	28	01100		01100	
1.20	4	55	12	10.2	28	01200		01200	
1.30	4	55	12	10.0	28	01300		01300	
1.40	4	55	12	9.9	28	01400		01400	
1.50	4	55	12	9.7	28	01500		01500	
1.60	4	55	16	13.6	28	01600		01600	
1.70	4	55	16	13.4	28	01700		01700	
1.80	4	55	16	13.3	28	01800		01800	
1.90	4	55	16	13.1	28	01900		01900	
2.00	4	57	21	18.0	28	02000		02000	
2.10	4	57	21	17.8	28	02100		02100	
2.20	4	57	21	17.7	28	02200		02200	
2.30	4	57	21	17.5	28	02300		02300	
2.40	4	57	21	17.4	28	02400		02400	
2.50	4	57	21	17.2	28	02500		02500	
2.60	4	57	21	17.1	28	02600		02600	
2.70	4	57	21	16.9	28	02700		02700	
2.80	4	57	21	16.8	28	02800		02800	
2.90	4	57	21	16.6	28	02900		02900	
3.00	6	66	28	23.0	36	03000	03000	03000	03000
3.10	6	66	28	23.0	36	03100	03100	03100	03100
3.20	6	66	28	23.0	36	03200	03200	03200	03200
3.25	6	66	28	23.0	36	03250	03250	03250	03250
3.30	6	66	28	23.0	36	03300	03300	03300	03300
3.40	6	66	28	23.0	36	03400	03400	03400	03400
3.50	6	66	28	23.0	36	03500	03500	03500	03500
3.60	6	66	28	23.0	36	03600	03600	03600	03600
3.70	6	66	28	23.0	36	03700	03700	03700	03700
3.80	6	74	36	29.0	36	03800	03800	03800	03800
3.85	6	74	36	29.0	36	03850	03850		
3.90	6	74	36	29.0	36	03900	03900	03900	03900
4.00	6	74	36	29.0	36	04000	04000	04000	04000
4.10	6	74	36	29.0	36	04100	04100	04100	04100
4.20	6	74	36	29.0	36	04200	04200	04200	04200
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





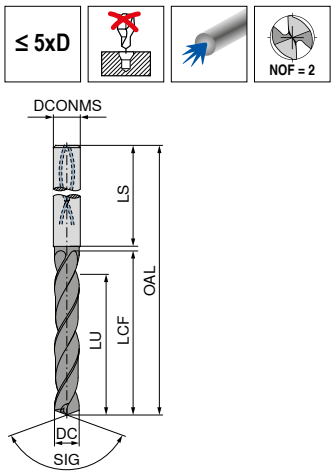
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

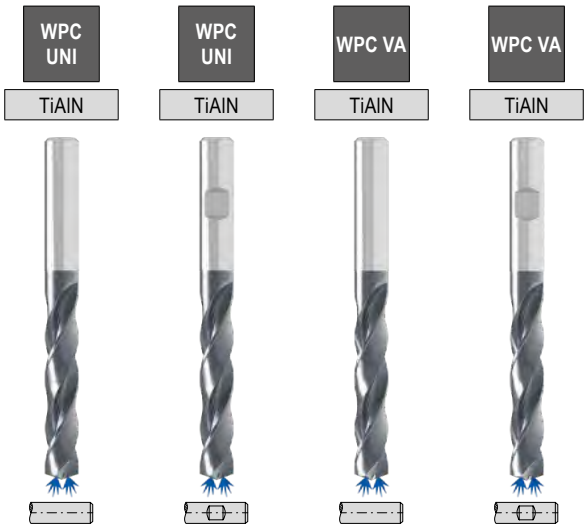
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 702 ...	CX 11 703 ...	CX 11 715 ...	CX 11 716 ...
4.30	6	74	36	29.0	36	04300	04300	04300	04300
4.40	6	74	36	29.0	36	04400	04400	04400	04400
4.50	6	74	36	29.0	36	04500	04500	04500	04500
4.60	6	74	36	29.0	36	04600	04600	04600	04600
4.65	6	74	36	29.0	36	04650	04650	04650	04650
4.70	6	74	36	29.0	36	04700	04700	04700	04700
4.80	6	82	44	35.0	36	04800	04800	04800	04800
4.90	6	82	44	35.0	36	04900	04900	04900	04900
5.00	6	82	44	35.0	36	05000	05000	05000	05000
5.10	6	82	44	35.0	36	05100	05100	05100	05100
5.20	6	82	44	35.0	36	05200	05200	05200	05200
5.30	6	82	44	35.0	36	05300	05300	05300	05300
5.40	6	82	44	35.0	36	05400	05400	05400	05400
5.50	6	82	44	35.0	36	05500	05500	05500	05500
5.55	6	82	44	35.0	36	05550	05550	05550	05550
5.60	6	82	44	35.0	36	05600	05600	05600	05600
5.65	6	82	44	35.0	36	05650	05650		
5.70	6	82	44	35.0	36	05700	05700	05700	05700
5.80	6	82	44	35.0	36	05800	05800	05800	05800
5.90	6	82	44	35.0	36	05900	05900	05900	05900
6.00	6	82	44	35.0	36	06000	06000	06000	06000
6.10	8	91	53	43.0	36	06100	06100	06100	06100
6.20	8	91	53	43.0	36	06200	06200	06200	06200
6.30	8	91	53	43.0	36	06300	06300	06300	06300
6.40	8	91	53	43.0	36	06400	06400	06400	06400
6.50	8	91	53	43.0	36	06500	06500	06500	06500
6.60	8	91	53	43.0	36	06600	06600	06600	06600
6.70	8	91	53	43.0	36	06700	06700	06700	06700
6.80	8	91	53	43.0	36	06800	06800	06800	06800
6.90	8	91	53	43.0	36	06900	06900	06900	06900
7.00	8	91	53	43.0	36	07000	07000	07000	07000
7.10	8	91	53	43.0	36	07100	07100	07100	07100
7.20	8	91	53	43.0	36	07200	07200	07200	07200
7.30	8	91	53	43.0	36	07300	07300	07300	07300
7.40	8	91	53	43.0	36	07400	07400	07400	07400
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





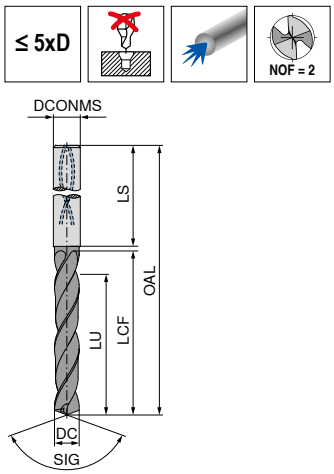
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

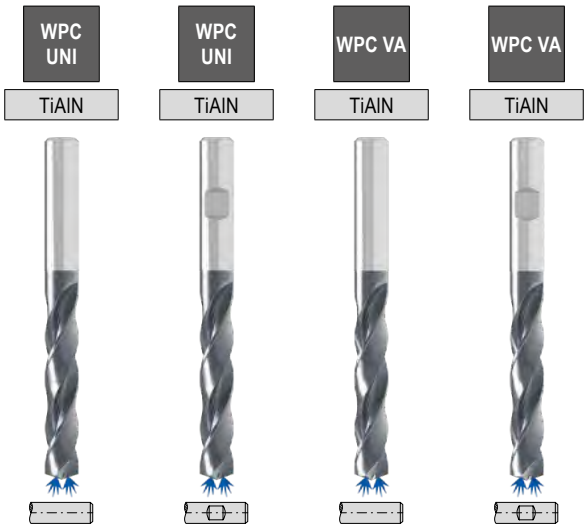
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 702 ...	CX 11 703 ...	CX 11 715 ...	CX 11 716 ...
7.45	8	91	53	43.0	36	07450	07450	07450	07450
7.50	8	91	53	43.0	36	07500	07500	07500	07500
7.55	8	91	53	43.0	36	07550	07550	07550	07550
7.60	8	91	53	43.0	36	07600	07600	07600	07600
7.65	8	91	53	43.0	36	07650	07650		
7.70	8	91	53	43.0	36	07700	07700	07700	07700
7.80	8	91	53	43.0	36	07800	07800	07800	07800
7.90	8	91	53	43.0	36	07900	07900	07900	07900
8.00	8	91	53	43.0	36	08000	08000	08000	08000
8.10	10	103	61	49.0	40	08100	08100	08100	08100
8.20	10	103	61	49.0	40	08200	08200	08200	08200
8.30	10	103	61	49.0	40	08300	08300	08300	08300
8.40	10	103	61	49.0	40	08400	08400	08400	08400
8.50	10	103	61	49.0	40	08500	08500	08500	08500
8.60	10	103	61	49.0	40	08600	08600	08600	08600
8.70	10	103	61	49.0	40	08700	08700	08700	08700
8.80	10	103	61	49.0	40	08800	08800	08800	08800
8.90	10	103	61	49.0	40	08900	08900	08900	08900
9.00	10	103	61	49.0	40	09000	09000	09000	09000
9.10	10	103	61	49.0	40	09100	09100	09100	09100
9.20	10	103	61	49.0	40	09200	09200	09200	09200
9.25	10	103	61	49.0	40	09250	09250	09250	
9.30	10	103	61	49.0	40	09300	09300	09300	09300
9.35	10	103	61	49.0	40	09350	09350	09350	
9.40	10	103	61	49.0	40	09400	09400	09400	09400
9.50	10	103	61	49.0	40	09500	09500	09500	09500
9.55	10	103	61	49.0	40	09550	09550		
9.60	10	103	61	49.0	40	09600	09600	09600	09600
9.70	10	103	61	49.0	40	09700	09700	09700	09700
9.80	10	103	61	49.0	40	09800	09800	09800	09800
9.90	10	103	61	49.0	40	09900	09900	09900	09900
10.00	10	103	61	49.0	40	10000	10000	10000	10000
10.10	12	118	71	56.0	45	10100	10100	10100	10100
10.20	12	118	71	56.0	45	10200	10200	10200	10200
10.30	12	118	71	56.0	45	10300	10300	10300	10300
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537





SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

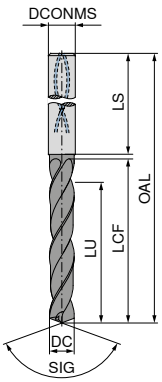
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 702 ...	CX 11 703 ...	CX 11 715 ...	CX 11 716 ...
10.40	12	118	71	56.0	45	10400	10400	10400	10400
10.50	12	118	71	56.0	45	10500	10500	10500	10500
10.60	12	118	71	56.0	45	10600	10600	10600	10600
10.70	12	118	71	56.0	45	10700	10700	10700	10700
10.80	12	118	71	56.0	45	10800	10800	10800	10800
10.90	12	118	71	56.0	45	10900	10900	10900	10900
11.00	12	118	71	56.0	45	11000	11000	11000	11000
11.10	12	118	71	56.0	45	11100	11100	11100	11100
11.20	12	118	71	56.0	45	11200	11200	11200	11200
11.25	12	118	71	56.0	45	11250	11250	11250	
11.30	12	118	71	56.0	45	11300	11300	11300	11300
11.40	12	118	71	56.0	45	11400	11400	11400	11400
11.50	12	118	71	56.0	45	11500	11500	11500	11500
11.60	12	118	71	56.0	45	11600	11600	11600	11600
11.70	12	118	71	56.0	45	11700	11700	11700	11700
11.80	12	118	71	56.0	45	11800	11800	11800	11800
11.90	12	118	71	56.0	45	11900	11900	11900	11900
12.00	12	118	71	56.0	45	12000	12000	12000	12000
12.10	14	124	77	60.0	45	12100	12100	12100	12100
12.20	14	124	77	60.0	45	12200	12200	12200	12200
12.25	14	124	77	60.0	45	12250	12250	12250	
12.40	14	124	77	60.0	45	12400	12400	12400	12400
12.50	14	124	77	60.0	45	12500	12500	12500	12500
12.60	14	124	77	60.0	45	12600	12600	12600	12600
12.70	14	124	77	60.0	45	12700	12700	12700	12700
12.80	14	124	77	60.0	45	12800	12800	12800	12800
12.90	14	124	77	60.0	45	12900	12900		
13.00	14	124	77	60.0	45	13000	13000	13000	13000
13.10	14	124	77	60.0	45	13100	13100	13100	13100
13.20	14	124	77	60.0	45	13200	13200	13200	13200
13.30	14	124	77	60.0	45	13300	13300	13300	13300
13.50	14	124	77	60.0	45	13500	13500	13500	13500
13.70	14	124	77	60.0	45	13700	13700	13700	13700
13.80	14	124	77	60.0	45	13800	13800	13800	13800
14.00	14	124	77	60.0	45	14000	14000	14000	14000
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

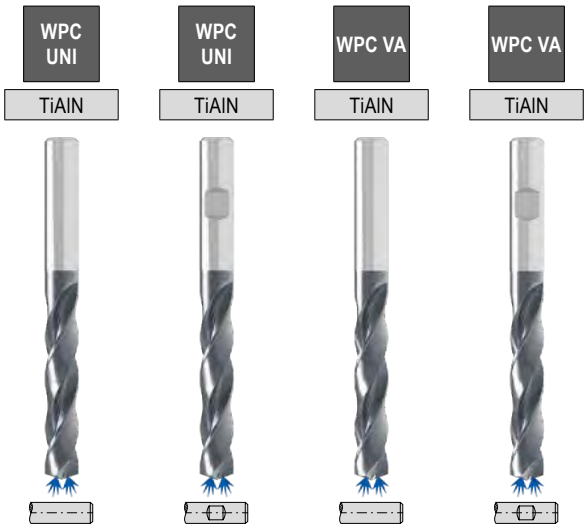
→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537

≤ 5xD | NOF = 2





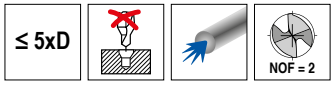
SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide | SIG 140° Solid carbide

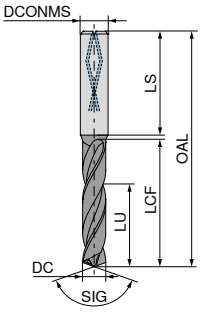
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 702 ...	CX 11 703 ...	CX 11 715 ...	CX 11 716 ...
14.20	16	133	83	63.0	48	14200	14200	14200	14200
14.30	16	133	83	63.0	48	14300	14300	14300	14300
14.40	16	133	83	63.0	48	14400	14400	14400	14400
14.50	16	133	83	63.0	48	14500	14500	14500	14500
14.70	16	133	83	63.0	48	14700	14700	14700	14700
14.80	16	133	83	63.0	48	14800	14800	14800	14800
15.00	16	133	83	63.0	48	15000	15000	15000	15000
15.10	16	133	83	63.0	48	15100	15100	15100	15100
15.20	16	133	83	63.0	48	15200	15200	15200	15200
15.25	16	133	83	63.0	48	15250	15250		
15.30	16	133	83	63.0	48	15300	15300	15300	15300
15.50	16	133	83	63.0	48	15500	15500	15500	15500
15.70	16	133	83	63.0	48	15700	15700	15700	15700
15.80	16	133	83	63.0	48	15800	15800	15800	15800
16.00	16	133	83	63.0	48	16000	16000	16000	16000
16.20	18	143	93	71.0	48	16200	16200	16200	16200
16.30	18	143	93	71.0	48	16300	16300	16300	16300
16.50	18	143	93	71.0	48	16500	16500	16500	16500
16.80	18	143	93	71.0	48	16800	16800	16800	16800
17.00	18	143	93	71.0	48	17000	17000	17000	17000
17.30	18	143	93	71.0	48	17300	17300	17300	17300
17.50	18	143	93	71.0	48	17500	17500	17500	17500
17.60	18	143	93	71.0	48	17600	17600		
17.80	18	143	93	71.0	48	17800	17800		
18.00	18	143	93	71.0	48	18000	18000	18000	18000
18.50	20	153	101	77.0	50	18500	18500	18500	18500
18.80	20	153	101	77.0	50	18800	18800		
18.90	20	153	101	77.0	50	18900	18900	18900	18900
19.00	20	153	101	77.0	50	19000	19000	19000	19000
19.20	20	153	101	77.0	50	19200	19200	19200	19200
19.30	20	153	101	77.0	50	19300	19300	19300	19300
19.50	20	153	101	77.0	50	19500	19500	19500	19500
19.70	20	153	101	77.0	50	19700	19700	19700	19700
19.80	20	153	101	77.0	50	19800	19800		
20.00	20	153	101	77.0	50	20000	20000	20000	20000
P						●	●	○	○
M						●	●	●	●
K						●	●		
N						○	○	●	●
S								○	○
H									
O								○	○

→ Find the cutting data standard values here.

WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





ISO-S

DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
3.00		6	66	28	23	36	030
3.10		6	66	28	23	36	031
3.20		6	66	28	23	36	032
3.30		6	66	28	23	36	033
3.40		6	66	28	23	36	034
3.50		6	66	28	23	36	035
3.60		6	66	28	23	36	036
3.70		6	66	28	23	36	037
3.80		6	74	36	29	36	038
3.90		6	74	36	29	36	039
3.97	5/32	6	74	36	29	36	900
4.00		6	74	36	29	36	040
4.10		6	74	36	29	36	041
4.20		6	74	36	29	36	042
4.23	1/6	6	74	36	29	36	901
4.30		6	74	36	29	36	043
4.40		6	74	36	29	36	044
4.50		6	74	36	29	36	045
4.60		6	74	36	29	36	046
4.70		6	74	36	29	36	047
4.80		6	82	44	35	36	048
4.90		6	82	44	35	36	049
5.00		6	82	44	35	36	050
5.10		6	82	44	35	36	051
5.20		6	82	44	35	36	052
5.30		6	82	44	35	36	053
5.40		6	82	44	35	36	054
5.50		6	82	44	35	36	055
5.56	7/32	6	82	44	35	36	902
5.60		6	82	44	35	36	056
5.70		6	82	44	35	36	057
5.80		6	82	44	35	36	058
5.90		6	82	44	35	36	059

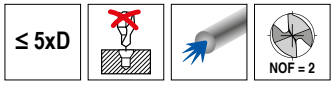
P	○
M	●
K	
N	
S	●
H	
O	

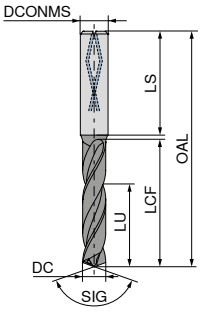
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





ISO-S

DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
6.00		6	82	44	35	36	060
6.10		8	91	53	43	36	061
6.20		8	91	53	43	36	062
6.30		8	91	53	43	36	063
6.35	1/4	8	91	53	43	36	903
6.40		8	91	53	43	36	064
6.50		8	91	53	43	36	065
6.60		8	91	53	43	36	066
6.70		8	91	53	43	36	067
6.80		8	91	53	43	36	068
6.90		8	91	53	43	36	069
7.00		8	91	53	43	36	070
7.10		8	91	53	43	36	071
7.20		8	91	53	43	36	072
7.30		8	91	53	43	36	073
7.40		8	91	53	43	36	074
7.50		8	91	53	43	36	075
7.60		8	91	53	43	36	076
7.70		8	91	53	43	36	077
7.80		8	91	53	43	36	078
7.90		8	91	53	43	36	079
7.94	5/16	8	91	53	43	36	904
8.00		8	91	53	43	36	080
8.10		10	103	61	49	40	081
8.20		10	103	61	49	40	082
8.30		10	103	61	49	40	083
8.40		10	103	61	49	40	084
8.50		10	103	61	49	40	085
8.60		10	103	61	49	40	086
8.70		10	103	61	49	40	087
8.80		10	103	61	49	40	088
8.90		10	103	61	49	40	089
9.00		10	103	61	49	40	090

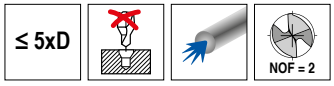
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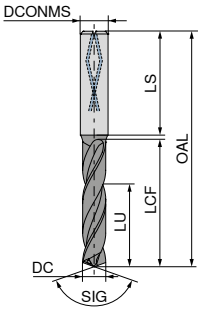
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





ISO-S

DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
9.10		10	103	61	49	40	091
9.20		10	103	61	49	40	092
9.30		10	103	61	49	40	093
9.40		10	103	61	49	40	094
9.50		10	103	61	49	40	095
9.53	3/8	10	103	61	49	40	905
9.60		10	103	61	49	40	096
9.70		10	103	61	49	40	097
9.80		10	103	61	49	40	098
9.90		10	103	61	49	40	099
10.00		10	103	61	49	40	100
10.10		12	118	71	54	45	101
10.20		12	118	71	54	45	102
10.30		12	118	71	54	45	103
10.40		12	118	71	54	45	104
10.50		12	118	71	54	45	105
10.60		12	118	71	54	45	106
10.70		12	118	71	54	45	107
10.80		12	118	71	54	45	108
10.90		12	118	71	54	45	109
11.00		12	118	71	54	45	110
11.10		12	118	71	54	45	111
11.11	7/16	12	118	71	54	45	906
11.20		12	118	71	54	45	112
11.30		12	118	71	54	45	113
11.40		12	118	71	54	45	114
11.50		12	118	71	54	45	115
11.60		12	118	71	54	45	116
11.70		12	118	71	54	45	117
11.80		12	118	71	54	45	118
11.90		12	118	71	54	45	119
12.00		12	118	71	54	45	120
12.10		14	124	77	58	45	121

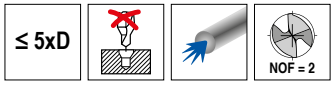
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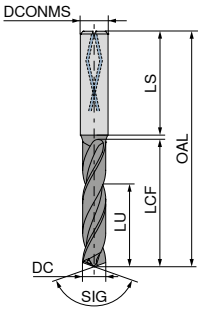
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





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DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
12.20		14	124	77	58	45	122
12.30		14	124	77	58	45	123
12.40		14	124	77	58	45	124
12.50		14	124	77	58	45	125
12.60		14	124	77	58	45	126
12.70	1/2	14	124	77	58	45	907
12.80		14	124	77	58	45	128
12.90		14	124	77	58	45	129
13.00		14	124	77	58	45	130
13.10		14	124	77	58	45	131
13.20		14	124	77	58	45	132
13.30		14	124	77	58	45	133
13.40		14	124	77	58	45	134
13.50		14	124	77	58	45	135
13.60		14	124	77	58	45	136
13.70		14	124	77	58	45	137
13.80		14	124	77	58	45	138
13.90		14	124	77	58	45	139
14.00		14	124	77	58	45	140
14.10		16	133	83	61	48	141
14.20		16	133	83	61	48	142
14.30		16	133	83	61	48	143
14.40		16	133	83	61	48	144
14.50		16	133	83	61	48	145
14.60		16	133	83	61	48	146
14.70		16	133	83	61	48	147
14.80		16	133	83	61	48	148
14.90		16	133	83	61	48	149
15.00		16	133	83	61	48	150
15.10		16	133	83	61	48	151
15.20		16	133	83	61	48	152
15.30		16	133	83	61	48	153
15.40		16	133	83	61	48	154

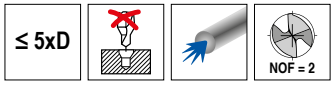
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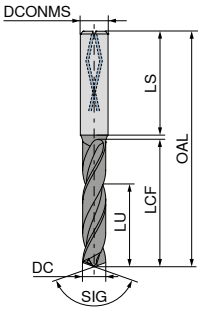
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





ISO-S

DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
15.50		16	133	83	61	48	155
15.60		16	133	83	61	48	156
15.70		16	133	83	61	48	157
15.80		16	133	83	61	48	158
15.90		16	133	83	61	48	159
16.00		16	133	83	61	48	160
16.10		18	143	93	69	48	161
16.20		18	143	93	69	48	162
16.30		18	143	93	69	48	163
16.40		18	143	93	69	48	164
16.50		18	143	93	69	48	165
16.60		18	143	93	69	48	166
16.70		18	143	93	69	48	167
16.80		18	143	93	69	48	168
16.90		18	143	93	69	48	169
17.00		18	143	93	69	48	170
17.10		18	143	93	69	48	171
17.20		18	143	93	69	48	172
17.30		18	143	93	69	48	173
17.40		18	143	93	69	48	174
17.50		18	143	93	69	48	175
17.60		18	143	93	69	48	176
17.70		18	143	93	69	48	177
17.80		18	143	93	69	48	178
17.90		18	143	93	69	48	179
18.00		18	143	93	69	48	180
18.10		20	153	101	75	50	181
18.20		20	153	101	75	50	182
18.30		20	153	101	75	50	183
18.40		20	153	101	75	50	184
18.50		20	153	101	75	50	185
18.60		20	153	101	75	50	186
18.70		20	153	101	75	50	187

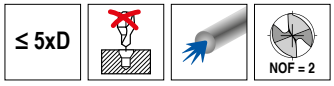
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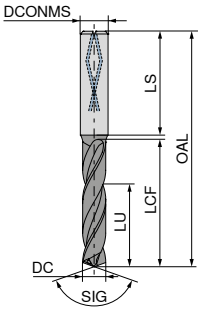
→ Find the cutting data standard values here.

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WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials





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DPA54

DRAGONSKIN



SIG 140°
Solid carbide

DC $_{m7}$ mm	DC inch	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 787 ...
18.80		20	153	101	75	50	**188**
18.90		20	153	101	75	50	**189**
19.00		20	153	101	75	50	**190**
19.10		20	153	101	75	50	**191**
19.20		20	153	101	75	50	**192**
19.30		20	153	101	75	50	**193**
19.40		20	153	101	75	50	**194**
19.50		20	153	101	75	50	**195**
19.60		20	153	101	75	50	**196**
19.70		20	153	101	75	50	**197**
19.80		20	153	101	75	50	**198**
19.90		20	153	101	75	50	**199**
20.00		20	153	101	75	50	**200**

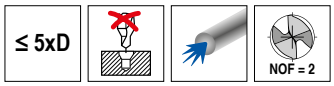
P	○
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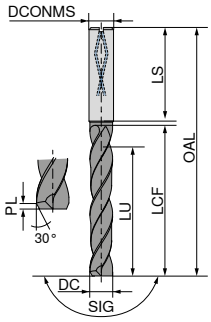


→ Find the cutting data standard values here.

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 5xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 721 ...
3.00	6	66	28	23	36	0.15	030
3.10	6	66	28	23	36	0.16	031
3.20	6	66	28	23	36	0.16	032
3.30	6	66	28	23	36	0.17	033
3.40	6	66	28	23	36	0.17	034
3.50	6	66	28	23	36	0.18	035
3.60	6	66	28	23	36	0.18	036
3.70	6	66	28	23	36	0.19	037
3.80	6	74	36	29	36	0.19	038
3.90	6	74	36	29	36	0.20	039
4.00	6	74	36	29	36	0.20	040
4.10	6	74	36	29	36	0.21	041
4.20	6	74	36	29	36	0.21	042
4.30	6	74	36	29	36	0.22	043
4.40	6	74	36	29	36	0.22	044
4.50	6	74	36	29	36	0.23	045
4.60	6	74	36	29	36	0.23	046
4.65	6	74	36	29	36	0.23	900
4.70	6	74	36	29	36	0.24	047
4.80	6	82	44	35	36	0.24	048
4.90	6	82	44	35	36	0.25	049
5.00	6	82	44	35	36	0.25	050
5.10	6	82	44	35	36	0.26	051
5.20	6	82	44	35	36	0.26	052
5.30	6	82	44	35	36	0.27	053
5.40	6	82	44	35	36	0.27	054
5.50	6	82	44	35	36	0.28	055
5.55	6	82	44	35	36	0.28	902
5.60	6	82	44	35	36	0.28	056
5.70	6	82	44	35	36	0.29	057
5.80	6	82	44	35	36	0.29	058

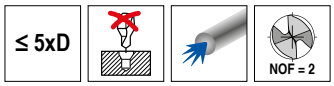
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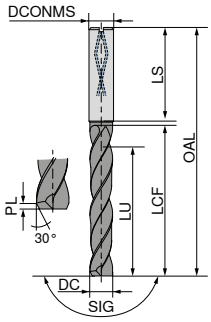
→ Find the cutting data standard values here.

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CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 5xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 721 ...
5.90	6	82	44	35	36	0.30	059
6.00	6	82	44	35	36	0.30	060
6.10	8	91	53	43	36	0.31	061
6.20	8	91	53	43	36	0.31	062
6.30	8	91	53	43	36	0.32	063
6.40	8	91	53	43	36	0.32	064
6.50	8	91	53	43	36	0.33	065
6.60	8	91	53	43	36	0.33	066
6.70	8	91	53	43	36	0.34	067
6.80	8	91	53	43	36	0.34	068
6.90	8	91	53	43	36	0.35	069
7.00	8	91	53	43	36	0.35	070
7.10	8	91	53	43	36	0.36	071
7.20	8	91	53	43	36	0.36	072
7.30	8	91	53	43	36	0.37	073
7.40	8	91	53	43	36	0.37	074
7.50	8	91	53	43	36	0.38	075
7.60	8	91	53	43	36	0.38	076
7.70	8	91	53	43	36	0.39	077
7.80	8	91	53	43	36	0.39	078
7.90	8	91	53	43	36	0.40	079
8.00	8	91	53	43	36	0.40	080
8.10	10	103	61	49	40	0.41	081
8.20	10	103	61	49	40	0.41	082
8.30	10	103	61	49	40	0.42	083
8.40	10	103	61	49	40	0.42	084
8.50	10	103	61	49	40	0.43	085
8.60	10	103	61	49	40	0.43	086
8.70	10	103	61	49	40	0.44	087
8.80	10	103	61	49	40	0.44	088
8.90	10	103	61	49	40	0.45	089

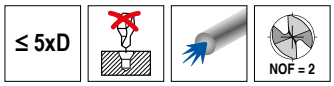
P	●
M	●
K	●
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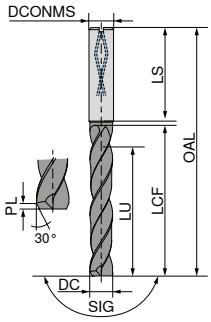
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 5xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 721 ...
9.00	10	103	61	49	40	0.45	**090**
9.10	10	103	61	49	40	0.46	**091**
9.20	10	103	61	49	40	0.46	**092**
9.30	10	103	61	49	40	0.47	**093**
9.40	10	103	61	49	40	0.47	**094**
9.50	10	103	61	49	40	0.48	**095**
9.60	10	103	61	49	40	0.48	**096**
9.70	10	103	61	49	40	0.49	**097**
9.80	10	103	61	49	40	0.49	**098**
9.90	10	103	61	49	40	0.50	**099**
10.00	10	103	61	49	40	0.50	**100**
10.10	12	116	69	54	45	0.51	**101**
10.20	12	116	69	54	45	0.51	**102**
10.30	12	116	69	54	45	0.52	**103**
10.40	12	116	69	54	45	0.52	**104**
10.50	12	116	69	54	45	0.53	**105**
10.60	12	116	69	54	45	0.53	**106**
10.70	12	116	69	54	45	0.54	**107**
10.80	12	116	69	54	45	0.54	**108**
10.90	12	116	69	54	45	0.55	**109**
11.00	12	116	69	54	45	0.55	**110**
11.10	12	116	69	54	45	0.56	**111**
11.20	12	116	69	54	45	0.56	**112**
11.30	12	116	69	54	45	0.57	**113**
11.40	12	116	69	54	45	0.57	**114**
11.50	12	116	69	54	45	0.58	**115**
11.60	12	116	69	54	45	0.58	**116**
11.70	12	116	69	54	45	0.59	**117**
11.80	12	116	69	54	45	0.59	**118**
11.90	12	116	69	54	45	0.60	**119**
12.00	12	116	69	54	45	0.60	**120**

P	●
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K	●
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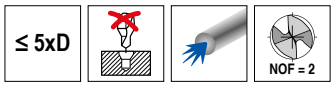


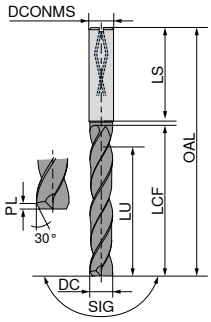
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, DIN 6537

- Universal application
- Four guide lands
- Polished chip flutes
- Type ALU 5xD on request





180

Ti800



SIG 180°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	PL mm	SD 10 721 ...
12.50	14	122	75	58	45	0.63	**125**
12.80	14	122	75	58	45	0.64	**128**
13.00	14	122	75	58	45	0.65	**130**
13.50	14	122	75	58	45	0.68	**135**
13.80	14	122	75	58	45	0.69	**138**
14.00	14	122	75	58	45	0.70	**140**
14.50	16	131	81	61	48	0.73	**145**
14.80	16	131	81	61	48	0.74	**148**
15.00	16	131	81	61	48	0.75	**150**
15.50	16	131	81	61	48	0.78	**155**
15.80	16	131	81	61	48	0.79	**158**
16.00	16	131	81	61	48	0.80	**160**
16.50	18	141	91	69	48	0.83	**165**
16.80	18	141	91	69	48	0.84	**168**
17.00	18	141	91	69	48	0.85	**170**
17.50	18	141	91	69	48	0.88	**175**
17.80	18	141	91	69	48	0.89	**178**
18.00	18	141	91	69	48	0.90	**180**
18.50	20	151	99	75	50	0.93	**185**
18.80	20	151	99	75	50	0.94	**188**
19.00	20	151	99	75	50	0.95	**190**
19.50	20	151	99	75	50	0.98	**195**
19.80	20	151	99	75	50	0.99	**198**
20.00	20	151	99	75	50	1.00	**200**

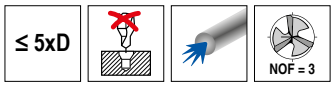
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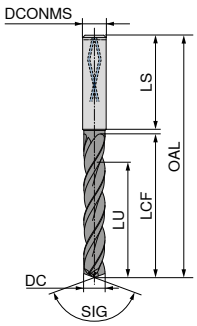


→ Find the cutting data standard values here.

CoreLine – High-feed drills, DIN 6537

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 789 ...
4.00	6	74	36	29	36	04000
4.10	6	74	36	29	36	04100
4.20	6	74	36	29	36	04200
4.30	6	74	36	29	36	04300
4.40	6	74	36	29	36	04400
4.50	6	74	36	29	36	04500
4.60	6	74	36	29	36	04600
4.70	6	74	36	29	36	04700
4.80	6	82	44	35	36	04800
4.90	6	82	44	35	36	04900
5.00	6	82	44	35	36	05000
5.10	6	82	44	35	36	05100
5.20	6	82	44	35	36	05200
5.30	6	82	44	35	36	05300
5.40	6	82	44	35	36	05400
5.50	6	82	44	35	36	05500
5.55	6	82	44	35	36	05550
5.60	6	82	44	35	36	05600
5.70	6	82	44	35	36	05700
5.80	6	82	44	35	36	05800
5.90	6	82	44	35	36	05900
6.00	6	82	44	35	36	06000
6.10	8	91	53	43	36	06100
6.20	8	91	53	43	36	06200
6.30	8	91	53	43	36	06300
6.40	8	91	53	43	36	06400
6.50	8	91	53	43	36	06500
6.60	8	91	53	43	36	06600
6.70	8	91	53	43	36	06700
6.80	8	91	53	43	36	06800

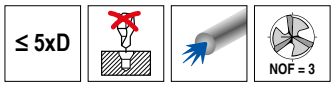
P	●
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K	●
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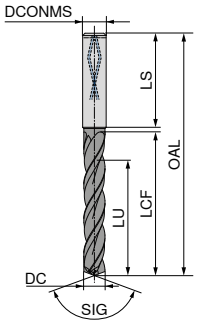
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drills, DIN 6537

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications







SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 789 ...
6.90	8	91	53	43	36	06900
7.00	8	91	53	43	36	07000
7.10	8	91	53	43	36	07100
7.20	8	91	53	43	36	07200
7.30	8	91	53	43	36	07300
7.40	8	91	53	43	36	07400
7.50	8	91	53	43	36	07500
7.60	8	91	53	43	36	07600
7.70	8	91	53	43	36	07700
7.80	8	91	53	43	36	07800
7.90	8	91	53	43	36	07900
8.00	8	91	53	43	36	08000
8.10	10	103	61	49	40	08100
8.20	10	103	61	49	40	08200
8.30	10	103	61	49	40	08300
8.40	10	103	61	49	40	08400
8.50	10	103	61	49	40	08500
8.60	10	103	61	49	40	08600
8.70	10	103	61	49	40	08700
8.80	10	103	61	49	40	08800
8.90	10	103	61	49	40	08900
9.00	10	103	61	49	40	09000
9.10	10	103	61	49	40	09100
9.20	10	103	61	49	40	09200
9.30	10	103	61	49	40	09300
9.40	10	103	61	49	40	09400
9.50	10	103	61	49	40	09500
9.60	10	103	61	49	40	09600
9.70	10	103	61	49	40	09700
9.80	10	103	61	49	40	09800

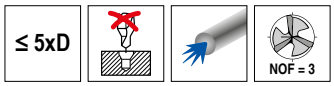
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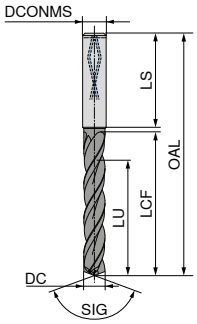
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drills, DIN 6537

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications







SIG 140°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 789 ...
9.90	10	103	61	49	40	09900
10.00	10	103	61	49	40	10000
10.10	12	118	71	56	45	10100
10.20	12	118	71	56	45	10200
10.30	12	118	71	56	45	10300
10.40	12	118	71	56	45	10400
10.50	12	118	71	56	45	10500
10.60	12	118	71	56	45	10600
10.70	12	118	71	56	45	10700
10.80	12	118	71	56	45	10800
10.90	12	118	71	56	45	10900
11.00	12	118	71	56	45	11000
11.10	12	118	71	56	45	11100
11.20	12	118	71	56	45	11200
11.30	12	118	71	56	45	11300
11.40	12	118	71	56	45	11400
11.50	12	118	71	56	45	11500
11.60	12	118	71	56	45	11600
11.70	12	118	71	56	45	11700
11.80	12	118	71	56	45	11800
11.90	12	118	71	56	45	11900
12.00	12	118	71	56	45	12000
12.20	14	124	77	60	45	12200
12.50	14	124	77	60	45	12500
12.80	14	124	77	60	45	12800
13.00	14	124	77	60	45	13000
13.50	14	124	77	60	45	13500
13.80	14	124	77	60	45	13800
14.00	14	124	77	60	45	14000
14.50	16	133	83	63	48	14500

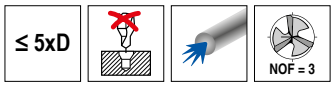
P	●
M	●
K	●
N	○
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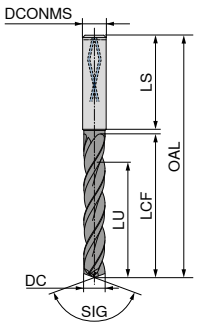
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drills, DIN 6537

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 140°

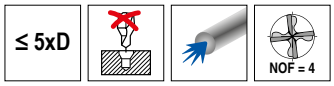
Solid carbide

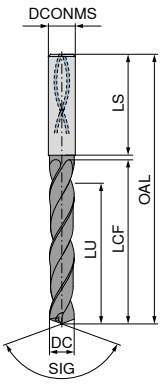
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 789 ...
14.80	16	133	83	63	48	**14800**
15.00	16	133	83	63	48	**15000**
15.50	16	133	83	63	48	**15500**
15.80	16	133	83	63	48	**15800**
16.00	16	133	83	63	48	**16000**
16.50	18	143	93	71	48	**16500**
16.80	18	143	93	71	48	**16800**
17.00	18	143	93	71	48	**17000**
17.50	18	143	93	71	48	**17500**
17.80	18	143	93	71	48	**17800**
18.00	18	143	93	71	48	**18000**
18.50	20	153	101	77	50	**18500**
18.80	20	153	101	77	50	**18800**
19.00	20	153	101	77	50	**19000**
19.50	20	153	101	77	50	**19500**
19.80	20	153	101	77	50	**19800**
20.00	20	153	101	77	50	**20000**
P						●
M						●
K						●
N						○
S						
H						
O						

→ Find the cutting data standard values here.

WTX – High-feed drill, factory standard

- Four-edged high-feed drill
- Specially designed for steel and cast iron machining
- Has four spiral coolant holes
- Innovative cutting edge geometry guarantees high positioning accuracy
- Outstanding drilling quality in terms of tolerance, surface finish, and position





HFDS

DPX14S

DRAGONSKIN



SIG 130°
Solid carbide

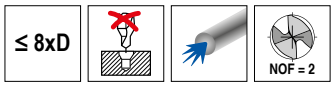
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 798 ...
6.0	8	89	51	40	36	06000
6.1	10	102	59	47	40	06100
6.5	10	102	59	47	40	06500
6.8	10	102	59	47	40	06800
7.0	10	102	59	47	40	07000
7.5	10	102	59	47	40	07500
7.7	10	102	59	47	40	07700
8.0	10	102	59	47	40	08000
8.5	12	118	70	55	45	08500
9.0	12	118	70	55	45	09000
9.5	12	118	70	55	45	09500
9.8	12	118	70	55	45	09800
10.0	12	118	70	55	45	10000
10.2	14	124	76	60	45	10200
10.5	14	124	76	60	45	10500
11.0	14	124	76	60	45	11000
12.0	14	124	76	60	45	12000
12.5	16	142	91	73	48	12500
13.0	16	142	91	73	48	13000
14.0	16	142	91	73	48	14000
14.5	16	142	91	73	48	14500
15.0	18	142	91	73	48	15000
16.0	18	142	91	73	48	16000

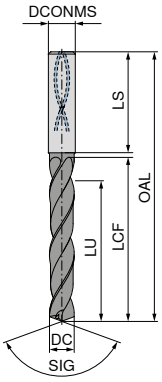
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M	○
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 613 ...
3.000		6	72	34	29	36	03000
3.100		6	72	34	29	36	03100
3.175	1/8	6	72	34	29	36	03175
3.200		6	72	34	29	36	03200
3.300		6	72	34	29	36	03300
3.400		6	72	34	29	36	03400
3.500		6	72	34	29	36	03500
3.600		6	72	34	29	36	03600
3.700		6	72	34	29	36	03700
3.800		6	81	43	36	36	03800
3.900		6	81	43	36	36	03900
3.970	5/32	6	81	43	36	36	03970
4.000		6	81	43	36	36	04000
4.100		6	81	43	36	36	04100
4.200		6	81	43	36	36	04200
4.300		6	81	43	36	36	04300
4.400		6	81	43	36	36	04400
4.500		6	81	43	36	36	04500
4.600		6	81	43	36	36	04600
4.700		6	81	43	36	36	04700
4.760	3/16	6	95	57	48	36	04760
4.800		6	95	57	48	36	04800
4.900		6	95	57	48	36	04900
5.000		6	95	57	48	36	05000
5.100		6	95	57	48	36	05100
5.200		6	95	57	48	36	05200
5.300		6	95	57	48	36	05300
5.400		6	95	57	48	36	05400
5.500		6	95	57	48	36	05500
5.560	7/32	6	95	57	48	36	05560
5.600		6	95	57	48	36	05600
5.700		6	95	57	48	36	05700
5.800		6	95	57	48	36	05800

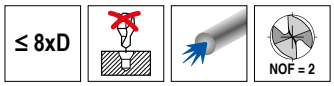
P	●
M	○
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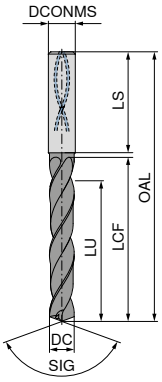
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 613 ...
5.900		6	95	57	48	36	05900
5.950	15/64	6	95	57	48	36	05950
6.000		6	95	57	48	36	06000
6.100		8	114	76	64	36	06100
6.200		8	114	76	64	36	06200
6.300		8	114	76	64	36	06300
6.350	1/4	8	114	76	64	36	06350
6.400		8	114	76	64	36	06400
6.500		8	114	76	64	36	06500
6.600		8	114	76	64	36	06600
6.700		8	114	76	64	36	06700
6.750	17/64	8	114	76	64	36	06750
6.800		8	114	76	64	36	06800
6.900		8	114	76	64	36	06900
7.000		8	114	76	64	36	07000
7.100		8	114	76	64	36	07100
7.140	9/32	8	114	76	64	36	07140
7.200		8	114	76	64	36	07200
7.400		8	114	76	64	36	07400
7.500		8	114	76	64	36	07500
7.600		8	114	76	64	36	07600
7.700		8	114	76	64	36	07700
7.800		8	114	76	64	36	07800
7.900		8	114	76	64	36	07900
7.940	5/16	8	114	76	64	36	07940
8.000		8	114	76	64	36	08000
8.100		10	142	95	80	40	08100
8.200		10	142	95	80	40	08200
8.400		10	142	95	80	40	08400
8.500		10	142	95	80	40	08500
8.600		10	142	95	80	40	08600
8.800		10	142	95	80	40	08800
9.000		10	142	95	80	40	09000

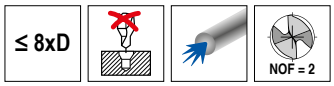
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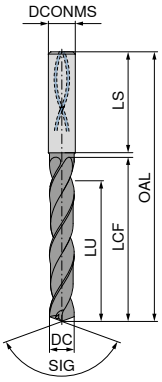
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 613 ...
9.100		10	142	95	80	40	09100
9.200		10	142	95	80	40	09200
9.300		10	142	95	80	40	09300
9.400		10	142	95	80	40	09400
9.500		10	142	95	80	40	09500
9.525	3/8	10	142	95	80	40	09525
9.600		10	142	95	80	40	09600
9.700		10	142	95	80	40	09700
9.800		10	142	95	80	40	09800
9.900		10	142	95	80	40	09900
9.920	25/64	10	142	95	80	40	09920
10.000		10	142	95	80	40	10000
10.100		12	162	114	96	45	10100
10.200		12	162	114	96	45	10200
10.300		12	162	114	96	45	10300
10.400		12	162	114	96	45	10400
10.500		12	162	114	96	45	10500
10.800		12	162	114	96	45	10800
10.900		12	162	114	96	45	10900
11.000		12	162	114	96	45	11000
11.100		12	162	114	96	45	11100
11.200		12	162	114	96	45	11200
11.500		12	162	114	96	45	11500
11.800		12	162	114	96	45	11800
12.000		12	162	114	96	45	12000
12.500		14	178	131	112	45	12500
12.700	1/2	14	178	131	112	45	12700
12.800		14	178	131	112	45	12800
13.000		14	178	131	112	45	13000
13.500		14	178	131	112	45	13500
13.800		14	178	131	112	45	13800
14.000		14	178	131	112	45	14000
14.500		16	203	152	128	48	14500

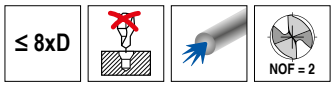
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M	○
K	●
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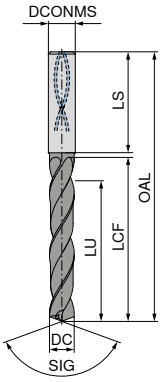
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°
Solid carbide

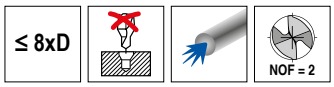
DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 613 ...
14.800		16	203	152	128	48	14800
15.000		16	203	152	128	48	15000
15.500		16	203	152	128	48	15500
15.800		16	203	152	128	48	15800
15.875	5/8	16	203	152	128	48	15875
16.000		16	203	152	128	48	16000
16.500		18	222	171	144	48	16500
17.000		18	222	171	144	48	17000
17.500		18	222	171	144	48	17500
18.000		18	222	171	144	48	18000
19.000		20	243	190	160	50	19000
19.050	3/4	20	243	190	160	50	19050
20.000		20	243	190	160	50	20000

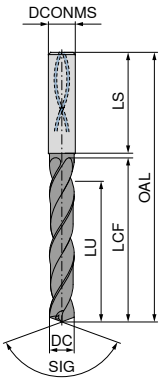
P	●
M	○
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI
DPX14S
DRAGONSKIN



SIG 145°
Solid carbide

Speed VA
Ti800



SIG 135°
Solid carbide

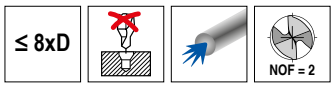
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 782 ...	SH 10 701 ...
3.00	6	72	34	29	36	03000	03000
3.10	6	72	34	29	36	03100	03100
3.20	6	72	34	29	36	03200	03200
3.30	6	72	34	29	36	03300	03300
3.40	6	72	34	29	36	03400	03400
3.50	6	72	34	29	36	03500	03500
3.60	6	72	34	29	36	03600	03600
3.70	6	72	34	29	36	03700	03700
3.80	6	81	43	36	36	03800	03800
3.90	6	81	43	36	36	03900	03900
4.00	6	81	43	36	36	04000	04000
4.10	6	81	43	36	36	04100	04100
4.20	6	81	43	36	36	04200	04200
4.30	6	81	43	36	36	04300	04300
4.40	6	81	43	36	36	04400	04400
4.50	6	81	43	36	36	04500	04500
4.60	6	81	43	36	36	04600	04600
4.65	6	81	43	36	36	04650	
4.70	6	81	43	36	36	04700	
4.80	6	95	57	48	36	04800	04800
4.90	6	95	57	48	36	04900	
5.00	6	95	57	48	36	05000	05000
5.10	6	95	57	48	36	05100	05100
5.20	6	95	57	48	36	05200	05200
5.30	6	95	57	48	36	05300	05300
5.40	6	95	57	48	36	05400	05400
5.50	6	95	57	48	36	05500	05500
5.55	6	95	57	48	36	05550	
5.60	6	95	57	48	36	05600	05600
5.70	6	95	57	48	36	05700	05700
5.80	6	95	57	48	36	05800	05800
P						●	●
M						●	●
K						●	●
N							○
S							●
H							
O							

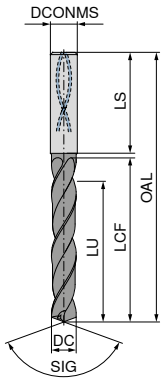
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI
DPX14S
DRAGONSKIN



SIG 145°
Solid carbide

Speed VA
Ti800



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 782 ...	SH 10 701 ...
5.90	6	95	57	48	36	05900	05900
6.00	6	95	57	48	36	06000	06000
6.10	8	114	76	64	36	06100	06100
6.20	8	114	76	64	36	06200	06200
6.30	8	114	76	64	36	06300	06300
6.40	8	114	76	64	36	06400	06400
6.50	8	114	76	64	36	06500	06500
6.60	8	114	76	64	36	06600	06600
6.70	8	114	76	64	36	06700	
6.80	8	114	76	64	36	06800	06800
6.90	8	114	76	64	36	06900	06900
7.00	8	114	76	64	36	07000	07000
7.10	8	114	76	64	36	07100	
7.20	8	114	76	64	36	07200	
7.30	8	114	76	64	36	07300	
7.40	8	114	76	64	36	07400	
7.50	8	114	76	64	36	07500	07500
7.60	8	114	76	64	36	07600	
7.70	8	114	76	64	36	07700	
7.80	8	114	76	64	36	07800	07800
7.90	8	114	76	64	36	07900	
8.00	8	114	76	64	36	08000	08000
8.10	10	142	95	80	40	08100	08100
8.20	10	142	95	80	40	08200	08200
8.30	10	142	95	80	40	08300	08300
8.40	10	142	95	80	40	08400	
8.50	10	142	95	80	40	08500	08500
8.60	10	142	95	80	40	08600	
8.70	10	142	95	80	40	08700	
8.80	10	142	95	80	40	08800	08800
8.90	10	142	95	80	40	08900	

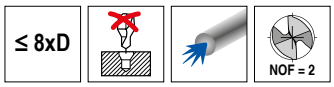
P	●	●
M	●	●
K	●	●
N		○
S		●
H		
O		

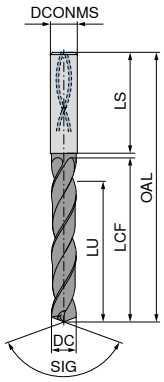
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction





Speed UNI
DPX14S
DRAGONSKIN



SIG 145°
Solid carbide

Speed VA
Ti800



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 782 ...	SH 10 701 ...
9.00	10	142	95	80	40	09000	09000
9.10	10	142	95	80	40	09100	
9.20	10	142	95	80	40	09200	
9.30	10	142	95	80	40	09300	09300
9.40	10	142	95	80	40	09400	
9.50	10	142	95	80	40	09500	09500
9.60	10	142	95	80	40	09600	
9.70	10	142	95	80	40	09700	
9.80	10	142	95	80	40	09800	09800
9.90	10	142	95	80	40	09900	
10.00	10	142	95	80	40	10000	10000
10.10	12	162	114	96	45	10100	
10.20	12	162	114	96	45	10200	10200
10.30	12	162	114	96	45	10300	
10.40	12	162	114	96	45	10400	
10.50	12	162	114	96	45	10500	10500
10.60	12	162	114	96	45	10600	
10.70	12	162	114	96	45	10700	
10.80	12	162	114	96	45	10800	10800
10.90	12	162	114	96	45	10900	
11.00	12	162	114	96	45	11000	11000
11.10	12	162	114	96	45	11100	
11.20	12	162	114	96	45	11200	
11.30	12	162	114	96	45	11300	
11.40	12	162	114	96	45	11400	
11.50	12	162	114	96	45	11500	11500
11.60	12	162	114	96	45	11600	
11.70	12	162	114	96	45	11700	
11.80	12	162	114	96	45	11800	11800
11.90	12	162	114	96	45	11900	
12.00	12	162	114	96	45	12000	12000
P						●	●
M						●	●
K						●	●
N							○
S							●
H							
O							

→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, factory standard

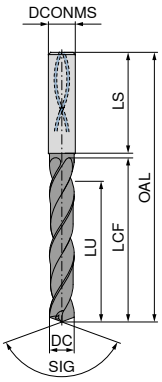
- Developed for high cutting speeds
- Three guide lands for low friction

≤ 8xD





NOF = 2



Speed UNI

DPX14S

DRAGONSKIN



SIG 145°
Solid carbide

Speed VA

Ti800



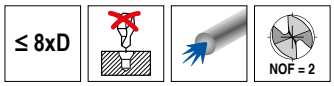
SIG 135°
Solid carbide

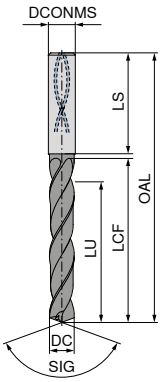
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 782 ...	SH 10 701 ...
12.20	14	178	133	112	45		12200
12.50	14	178	133	112	45		12500
12.50	14	178	131	112	45	12500	
12.80	14	178	131	112	45	12800	
12.80	14	178	133	112	45		12800
13.00	14	178	131	112	45	13000	
13.00	14	178	133	112	45		13000
13.50	14	178	131	112	45	13500	
13.50	14	178	133	112	45		13500
13.80	14	178	131	112	45	13800	
13.80	14	178	133	112	45		13800
14.00	14	178	131	112	45	14000	
14.00	14	178	133	112	45		14000
14.50	16	203	152	128	48	14500	14500
14.80	16	203	152	128	48	14800	
15.00	16	203	152	128	48	15000	15000
15.50	16	203	152	128	48	15500	15500
15.80	16	203	152	128	48	15800	
16.00	16	203	152	128	48	16000	16000
16.50	18	222	171	144	48	16500	16500
16.80	18	222	171	144	48	16800	
17.00	18	222	171	144	48	17000	17000
17.50	18	222	171	144	48	17500	17500
17.80	18	222	171	144	48	17800	
18.00	18	222	171	144	48	18000	18000
P						●	●
M						●	●
K						●	●
N							○
S							●
H							
O							

→ Find the cutting data standard values here.

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 704 ...
3.0	6	72	34	29	36	03000
3.1	6	72	34	29	36	03100
3.2	6	72	34	29	36	03200
3.3	6	72	34	29	36	03300
3.4	6	72	34	29	36	03400
3.5	6	72	34	29	36	03500
3.6	6	72	34	29	36	03600
3.7	6	72	34	29	36	03700
3.8	6	81	43	36	36	03800
3.9	6	81	43	36	36	03900
4.0	6	81	43	36	36	04000
4.1	6	81	43	36	36	04100
4.2	6	81	43	36	36	04200
4.3	6	81	43	36	36	04300
4.4	6	81	43	36	36	04400
4.5	6	81	43	36	36	04500
4.6	6	81	43	36	36	04600
4.7	6	81	43	36	36	04700
4.8	6	95	57	48	36	04800
4.9	6	95	57	48	36	04900
5.0	6	95	57	48	36	05000
5.1	6	95	57	48	36	05100
5.2	6	95	57	48	36	05200
5.3	6	95	57	48	36	05300
5.4	6	95	57	48	36	05400
5.5	6	95	57	48	36	05500
5.6	6	95	57	48	36	05600
5.7	6	95	57	48	36	05700
5.8	6	95	57	48	36	05800
5.9	6	95	57	48	36	05900
6.0	6	95	57	48	36	06000
6.1	8	114	76	64	36	06100
6.2	8	114	76	64	36	06200

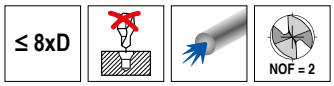
P	●
M	●
K	●
N	
S	
H	
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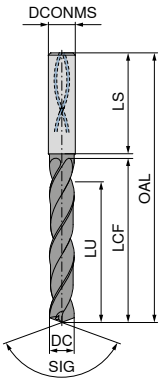
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 704 ...
6.3	8	114	76	64	36	06300
6.4	8	114	76	64	36	06400
6.5	8	114	76	64	36	06500
6.6	8	114	76	64	36	06600
6.7	8	114	76	64	36	06700
6.8	8	114	76	64	36	06800
6.9	8	114	76	64	36	06900
7.0	8	114	76	64	36	07000
7.1	8	114	76	64	36	07100
7.2	8	114	76	64	36	07200
7.3	8	114	76	64	36	07300
7.4	8	114	76	64	36	07400
7.5	8	114	76	64	36	07500
7.6	8	114	76	64	36	07600
7.7	8	114	76	64	36	07700
7.8	8	114	76	64	36	07800
7.9	8	114	76	64	36	07900
8.0	8	114	76	64	36	08000
8.1	10	142	95	80	40	08100
8.2	10	142	95	80	40	08200
8.3	10	142	95	80	40	08300
8.4	10	142	95	80	40	08400
8.5	10	142	95	80	40	08500
8.6	10	142	95	80	40	08600
8.7	10	142	95	80	40	08700
8.8	10	142	95	80	40	08800
8.9	10	142	95	80	40	08900
9.0	10	142	95	80	40	09000
9.1	10	142	95	80	40	09100
9.2	10	142	95	80	40	09200
9.3	10	142	95	80	40	09300
9.4	10	142	95	80	40	09400
9.5	10	142	95	80	40	09500

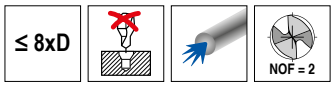
P	●
M	●
K	●
N	
S	
H	
O	

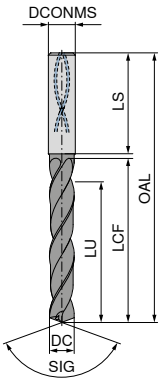
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



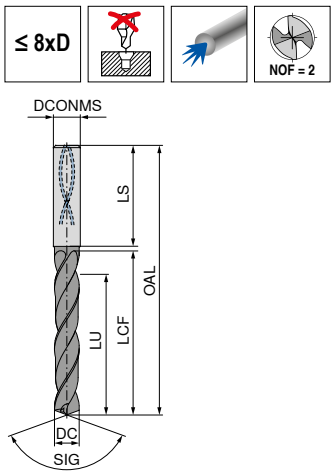
SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 704 ...
9.6	10	142	95	80	40	**09600**
9.7	10	142	95	80	40	**09700**
9.8	10	142	95	80	40	**09800**
9.9	10	142	95	80	40	**09900**
10.0	10	142	95	80	40	**10000**
10.2	12	162	114	96	45	**10200**
10.5	12	162	114	96	45	**10500**
10.8	12	162	114	96	45	**10800**
11.0	12	162	114	96	45	**11000**
11.2	12	162	114	96	45	**11200**
11.5	12	162	114	96	45	**11500**
11.8	12	162	114	96	45	**11800**
12.0	12	162	114	96	45	**12000**
12.2	14	178	131	112	45	**12200**
12.5	14	178	131	112	45	**12500**
12.7	14	178	131	112	45	**12700**
13.0	14	178	131	112	45	**13000**
13.5	14	178	131	112	45	**13500**
14.0	14	178	131	112	45	**14000**
14.5	16	203	152	128	48	**14500**
15.0	16	203	152	128	48	**15000**
15.5	16	203	152	128	48	**15500**
16.0	16	203	152	128	48	**16000**
16.5	18	222	171	144	48	**16500**
17.0	18	222	171	144	48	**17000**
17.5	18	222	171	144	48	**17500**
18.0	18	222	171	144	48	**18000**
18.5	20	243	190	160	50	**18500**
19.0	20	243	190	160	50	**19000**
19.5	20	243	190	160	50	**19500**
20.0	20	243	190	160	50	**20000**

P	●
M	●
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

CoreLine – High-performance drill, factory standard





SIG 140°
Solid carbide

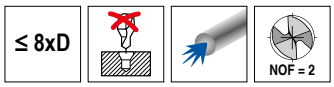
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 770 ...
3.0	6	72	34	29	36	030
3.1	6	72	34	29	36	031
3.2	6	72	34	29	36	032
3.3	6	72	34	29	36	033
3.4	6	72	34	29	36	034
3.5	6	72	34	29	36	035
3.6	6	72	34	29	36	036
3.7	6	72	34	29	36	037
3.8	6	81	43	36	36	038
3.9	6	81	43	36	36	039
4.0	6	81	43	36	36	040
4.1	6	81	43	36	36	041
4.2	6	81	43	36	36	042
4.3	6	81	43	36	36	043
4.4	6	81	43	36	36	044
4.5	6	81	43	36	36	045
4.6	6	81	43	36	36	046
4.7	6	81	43	36	36	047
4.8	6	95	57	48	36	048
4.9	6	95	57	48	36	049
5.0	6	95	57	48	36	050
5.1	6	95	57	48	36	051
5.2	6	95	57	48	36	052
5.3	6	95	57	48	36	053
5.4	6	95	57	48	36	054
5.5	6	95	57	48	36	055
5.6	6	95	57	48	36	056
5.7	6	95	57	48	36	057
5.8	6	95	57	48	36	058
5.9	6	95	57	48	36	059
6.0	6	95	57	48	36	060
6.1	8	114	76	64	36	061
6.2	8	114	76	64	36	062
6.3	8	114	76	64	36	063
6.4	8	114	76	64	36	064

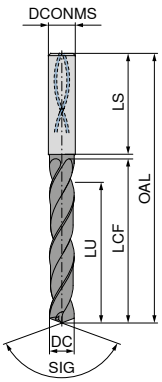
P	○
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K	○
N	○
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→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, factory standard







SIG 140°
Solid carbide

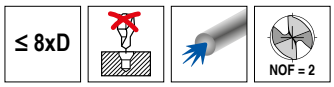
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 770 ...
6.5	8	114	76	64	36	065
6.6	8	114	76	64	36	066
6.7	8	114	76	64	36	067
6.8	8	114	76	64	36	068
6.9	8	114	76	64	36	069
7.0	8	114	76	64	36	070
7.1	8	114	76	64	36	071
7.2	8	114	76	64	36	072
7.3	8	114	76	64	36	073
7.4	8	114	76	64	36	074
7.5	8	114	76	64	36	075
7.6	8	114	76	64	36	076
7.7	8	114	76	64	36	077
7.8	8	114	76	64	36	078
7.9	8	114	76	64	36	079
8.0	8	114	76	64	36	080
8.1	10	142	95	80	40	081
8.2	10	142	95	80	40	082
8.3	10	142	95	80	40	083
8.4	10	142	95	80	40	084
8.5	10	142	95	80	40	085
8.6	10	142	95	80	40	086
8.7	10	142	95	80	40	087
8.8	10	142	95	80	40	088
8.9	10	142	95	80	40	089
9.0	10	142	95	80	40	090
9.1	10	142	95	80	40	091
9.2	10	142	95	80	40	092
9.3	10	142	95	80	40	093
9.4	10	142	95	80	40	094
9.5	10	142	95	80	40	095
9.6	10	142	95	80	40	096
9.7	10	142	95	80	40	097
9.8	10	142	95	80	40	098
9.9	10	142	95	80	40	099

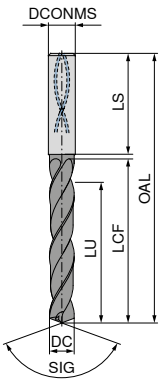
P	○
M	●
K	○
N	○
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CoreLine – High-performance drill, factory standard







SIG 140°
Solid carbide

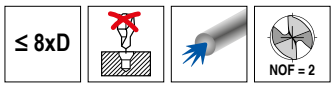
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 770 ...
10.0	10	142	95	80	40	100
10.1	12	162	114	96	45	101
10.2	12	162	114	96	45	102
10.3	12	162	114	96	45	103
10.4	12	162	114	96	45	104
10.5	12	162	114	96	45	105
10.6	12	162	114	96	45	106
10.7	12	162	114	96	45	107
10.8	12	162	114	96	45	108
10.9	12	162	114	96	45	109
11.0	12	162	114	96	45	110
11.1	12	162	114	96	45	111
11.2	12	162	114	96	45	112
11.3	12	162	114	96	45	113
11.4	12	162	114	96	45	114
11.5	12	162	114	96	45	115
11.6	12	162	114	96	45	116
11.7	12	162	114	96	45	117
11.8	12	162	114	96	45	118
11.9	12	162	114	96	45	119
12.0	12	162	114	96	45	120
12.5	14	178	133	112	45	125
12.8	14	178	133	112	45	128
13.0	14	178	133	112	45	130
13.5	14	178	133	112	45	135
13.8	14	178	133	112	45	138
14.0	14	178	133	112	45	140
14.5	16	203	152	128	48	145
14.8	16	203	152	128	48	148
15.0	16	203	152	128	48	150
15.5	16	203	152	128	48	155
15.8	16	203	152	128	48	158
16.0	16	203	152	128	48	160
16.5	18	222	171	144	48	165
16.8	18	222	171	144	48	168

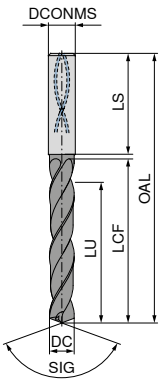
P	○
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K	○
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→ Find the cutting data standard values here.

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CoreLine – High-performance drill, factory standard







SIG 140°
Solid carbide

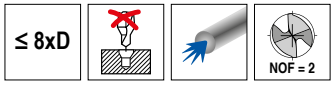
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 770 ...
17.0	18	222	171	144	48	**170**
17.5	18	222	171	144	48	**175**
17.8	18	222	171	144	48	**178**
18.0	18	222	171	144	48	**180**
18.5	20	243	190	160	50	**185**
18.8	20	243	190	160	50	**188**
19.0	20	243	190	160	50	**190**
19.5	20	243	190	160	50	**195**
19.8	20	243	190	160	50	**198**
20.0	20	243	190	160	50	**200**

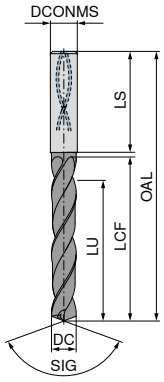
P	○
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K	○
N	○
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→ Find the cutting data standard values here.

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 792 ...
3.0	6	72	34	29	36	03000
3.1	6	72	34	29	36	03100
3.2	6	72	34	29	36	03200
3.3	6	72	34	29	36	03300
3.4	6	72	34	29	36	03400
3.5	6	72	34	29	36	03500
3.6	6	72	34	29	36	03600
3.7	6	72	34	29	36	03700
3.8	6	81	43	36	36	03800
3.9	6	81	43	36	36	03900
4.0	6	81	43	36	36	04000
4.1	6	81	43	36	36	04100
4.2	6	81	43	36	36	04200
4.3	6	81	43	36	36	04300
4.4	6	81	43	36	36	04400
4.5	6	81	43	36	36	04500
4.6	6	81	43	36	36	04600
4.7	6	81	43	36	36	04700
4.8	6	95	57	48	36	04800
4.9	6	95	57	48	36	04900
5.0	6	95	57	48	36	05000
5.1	6	95	57	48	36	05100
5.2	6	95	57	48	36	05200
5.3	6	95	57	48	36	05300
5.4	6	95	57	48	36	05400
5.5	6	95	57	48	36	05500
5.6	6	95	57	48	36	05600
5.7	6	95	57	48	36	05700
5.8	6	95	57	48	36	05800
5.9	6	95	57	48	36	05900
6.0	6	95	57	48	36	06000
6.1	8	114	76	64	36	06100
6.2	8	114	76	64	36	06200

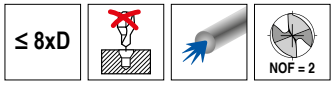
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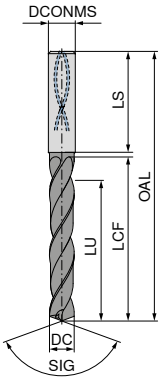
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 792 ...
6.3	8	114	76	64	36	06300
6.4	8	114	76	64	36	06400
6.5	8	114	76	64	36	06500
6.6	8	114	76	64	36	06600
6.7	8	114	76	64	36	06700
6.8	8	114	76	64	36	06800
6.9	8	114	76	64	36	06900
7.0	8	114	76	64	36	07000
7.1	8	114	76	64	36	07100
7.2	8	114	76	64	36	07200
7.3	8	114	76	64	36	07300
7.4	8	114	76	64	36	07400
7.5	8	114	76	64	36	07500
7.6	8	114	76	64	36	07600
7.8	8	114	76	64	36	07800
7.9	8	114	76	64	36	07900
8.0	8	114	76	64	36	08000
8.1	10	142	95	80	40	08100
8.2	10	142	95	80	40	08200
8.3	10	142	95	80	40	08300
8.4	10	142	95	80	40	08400
8.5	10	142	95	80	40	08500
8.6	10	142	95	80	40	08600
8.7	10	142	95	80	40	08700
8.8	10	142	95	80	40	08800
9.0	10	142	95	80	40	09000
9.1	10	142	95	80	40	09100
9.2	10	142	95	80	40	09200
9.3	10	142	95	80	40	09300
9.4	10	142	95	80	40	09400
9.5	10	142	95	80	40	09500
9.7	10	142	95	80	40	09700
9.8	10	142	95	80	40	09800

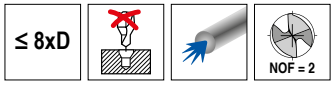
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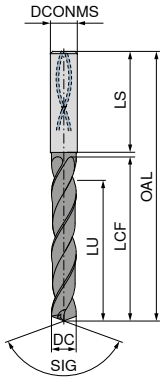
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

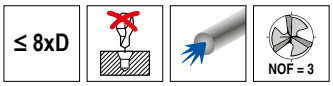
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 792 ...
9.9	10	142	95	80	40	**09900**
10.0	10	142	95	80	40	**10000**
10.2	12	162	114	96	45	**10200**
10.3	12	162	114	96	45	**10300**
10.4	12	162	114	96	45	**10400**
10.5	12	162	114	96	45	**10500**
10.7	12	162	114	96	45	**10700**
10.8	12	162	114	96	45	**10800**
11.0	12	162	114	96	45	**11000**
11.2	12	162	114	96	45	**11200**
11.5	12	162	114	96	45	**11500**
11.8	12	162	114	96	45	**11800**
12.0	12	162	114	96	45	**12000**
12.2	14	178	131	112	45	**12200**
12.5	14	178	131	112	45	**12500**
12.8	14	178	131	112	45	**12800**
13.0	14	178	131	112	45	**13000**
13.2	14	178	131	112	45	**13200**
13.5	14	178	131	112	45	**13500**
13.8	14	178	131	112	45	**13800**
14.0	14	178	131	112	45	**14000**
14.2	16	203	152	128	48	**14200**
14.5	16	203	152	128	48	**14500**
14.8	16	203	152	128	48	**14800**
15.0	16	203	152	128	48	**15000**
15.5	16	203	152	128	48	**15500**
15.8	16	203	152	128	48	**15800**
16.0	16	203	152	128	48	**16000**
17.0	18	222	171	144	48	**17000**
18.0	18	222	171	144	48	**18000**
19.0	20	243	190	160	50	**19000**
20.0	20	243	190	160	50	**20000**

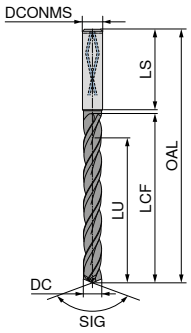
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→ Find the cutting data standard values here.

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 794 ...
4.00	6	81	43	36	36	04000
4.10	6	81	43	36	36	04100
4.20	6	81	43	36	36	04200
4.30	6	81	43	36	36	04300
4.40	6	81	43	36	36	04400
4.50	6	81	43	36	36	04500
4.60	6	81	43	36	36	04600
4.70	6	81	43	36	36	04700
4.80	6	95	57	48	36	04800
4.90	6	95	57	48	36	04900
5.00	6	95	57	48	36	05000
5.10	6	95	57	48	36	05100
5.20	6	95	57	48	36	05200
5.30	6	95	57	48	36	05300
5.40	6	95	57	48	36	05400
5.50	6	95	57	48	36	05500
5.55	6	95	57	48	36	05550
5.60	6	95	57	48	36	05600
5.70	6	95	57	48	36	05700
5.80	6	95	57	48	36	05800
5.90	6	95	57	48	36	05900
6.00	6	95	57	48	36	06000
6.10	8	114	76	64	36	06100
6.20	8	114	76	64	36	06200
6.30	8	114	76	64	36	06300
6.40	8	114	76	64	36	06400
6.50	8	114	76	64	36	06500
6.60	8	114	76	64	36	06600
6.70	8	114	76	64	36	06700
6.80	8	114	76	64	36	06800

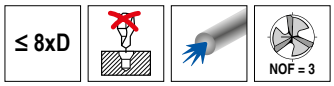
P	●
M	●
K	●
N	○
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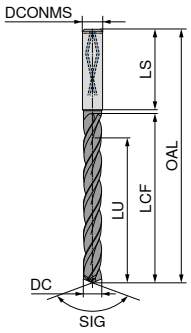
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 794 ...
6.90	8	114	76	64	36	06900
7.00	8	114	76	64	36	07000
7.10	8	114	76	64	36	07100
7.20	8	114	76	64	36	07200
7.30	8	114	76	64	36	07300
7.40	8	114	76	64	36	07400
7.50	8	114	76	64	36	07500
7.60	8	114	76	64	36	07600
7.70	8	114	76	64	36	07700
7.80	8	114	76	64	36	07800
7.90	8	114	76	64	36	07900
8.00	8	114	76	64	36	08000
8.10	10	142	95	80	40	08100
8.20	10	142	95	80	40	08200
8.30	10	142	95	80	40	08300
8.40	10	142	95	80	40	08400
8.50	10	142	95	80	40	08500
8.60	10	142	95	80	40	08600
8.70	10	142	95	80	40	08700
8.80	10	142	95	80	40	08800
8.90	10	142	95	80	40	08900
9.00	10	142	95	80	40	09000
9.10	10	142	95	80	40	09100
9.20	10	142	95	80	40	09200
9.30	10	142	95	80	40	09300
9.40	10	142	95	80	40	09400
9.50	10	142	95	80	40	09500
9.60	10	142	95	80	40	09600
9.70	10	142	95	80	40	09700
9.80	10	142	95	80	40	09800

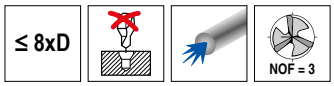
P	●
M	●
K	●
N	○
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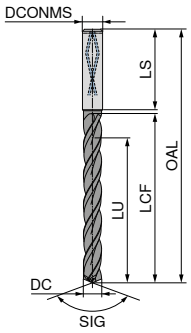
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 794 ...
9.90	10	142	95	80	40	09900
10.00	10	142	95	80	40	10000
10.10	12	162	114	96	45	10100
10.20	12	162	114	96	45	10200
10.30	12	162	114	96	45	10300
10.40	12	162	114	96	45	10400
10.50	12	162	114	96	45	10500
10.60	12	162	114	96	45	10600
10.70	12	162	114	96	45	10700
10.80	12	162	114	96	45	10800
10.90	12	162	114	96	45	10900
11.00	12	162	114	96	45	11000
11.10	12	162	114	96	45	11100
11.20	12	162	114	96	45	11200
11.30	12	162	114	96	45	11300
11.40	12	162	114	96	45	11400
11.50	12	162	114	96	45	11500
11.60	12	162	114	96	45	11600
11.70	12	162	114	96	45	11700
11.80	12	162	114	96	45	11800
11.90	12	162	114	96	45	11900
12.00	12	162	114	96	45	12000
12.20	14	178	131	112	45	12200
12.50	14	178	131	112	45	12500
12.80	14	178	131	112	45	12800
13.00	14	178	131	112	45	13000
13.50	14	178	131	112	45	13500
13.80	14	178	131	112	45	13800
14.00	14	178	131	112	45	14000
14.50	16	203	152	128	48	14500

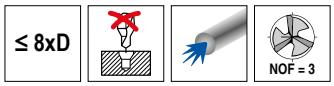
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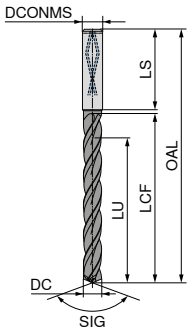
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

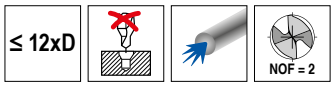
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 794 ...
14.80	16	203	152	128	48	**14800**
15.00	16	203	152	128	48	**15000**
15.50	16	203	152	128	48	**15500**
15.80	16	203	152	128	48	**15800**
16.00	16	203	152	128	48	**16000**
16.50	18	222	171	144	48	**16500**
16.80	18	222	171	144	48	**16800**
17.00	18	222	171	144	48	**17000**
17.50	18	222	171	144	48	**17500**
17.80	18	222	171	144	48	**17800**
18.00	18	222	171	144	48	**18000**
18.50	20	243	190	160	50	**18500**
18.80	20	243	190	160	50	**18800**
19.00	20	243	190	160	50	**19000**
19.50	20	243	190	160	50	**19500**
19.80	20	243	190	160	50	**19800**
20.00	20	243	190	160	50	**20000**

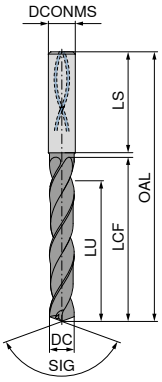
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K	●
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→ Find the cutting data standard values here.

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 614 ...
3.000		6	92	54	48	36	03000
3.100		6	92	54	48	36	03100
3.175	1/8	6	92	54	48	36	03175
3.200		6	92	54	48	36	03200
3.300		6	92	54	48	36	03300
3.400		6	92	54	48	36	03400
3.500		6	92	54	48	36	03500
3.600		6	92	54	48	36	03600
3.700		6	92	54	48	36	03700
3.800		6	102	64	58	36	03800
3.900		6	102	64	58	36	03900
3.970	5/32	6	102	64	58	36	03970
4.000		6	102	64	58	36	04000
4.100		6	102	64	58	36	04100
4.200		6	102	64	58	36	04200
4.300		6	102	64	58	36	04300
4.400		6	102	64	58	36	04400
4.500		6	102	64	58	36	04500
4.600		6	102	64	58	36	04600
4.700		6	102	64	58	36	04700
4.760	3/16	6	116	78	70	36	04760
4.800		6	116	78	70	36	04800
4.900		6	116	78	70	36	04900
5.000		6	116	78	70	36	05000
5.100		6	116	78	70	36	05100
5.200		6	116	78	70	36	05200
5.300		6	116	78	70	36	05300
5.400		6	116	78	70	36	05400
5.500		6	116	78	70	36	05500
5.560	7/32	6	116	78	70	36	05560
5.600		6	116	78	70	36	05600
5.700		6	116	78	70	36	05700
5.800		6	116	78	70	36	05800

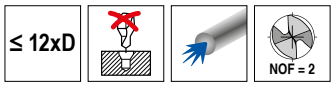
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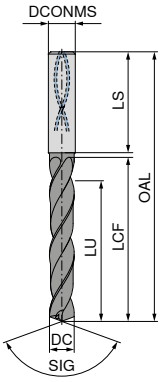
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 614 ...
5.900		6	116	78	70	36	05900
5.950	15/64	6	116	78	70	36	05950
6.000		6	116	78	70	36	06000
6.100		8	146	108	94	36	06100
6.200		8	146	108	94	36	06200
6.350	1/4	8	146	108	94	36	06350
6.500		8	146	108	94	36	06500
6.600		8	146	108	94	36	06600
6.750	17/64	8	146	108	94	36	06750
6.800		8	146	108	94	36	06800
7.000		8	146	108	94	36	07000
7.100		8	146	108	94	36	07100
7.140	9/32	8	146	108	94	36	07140
7.500		8	146	108	94	36	07500
7.700		8	146	108	94	36	07700
7.800		8	146	108	94	36	07800
7.940	5/16	8	146	108	94	36	07940
8.000		8	146	108	94	36	08000
8.100		10	162	120	110	40	08100
8.200		10	162	120	110	40	08200
8.500		10	162	120	110	40	08500
8.600		10	162	120	110	40	08600
8.800		10	162	120	110	40	08800
9.000		10	162	120	110	40	09000
9.500		10	162	120	110	40	09500
9.525	3/8	10	162	120	110	40	09525
9.800		10	162	120	110	40	09800
9.900		10	162	120	110	40	09900
9.920	25/64	10	162	120	110	40	09920
10.000		10	162	120	110	40	10000
10.100		12	204	156	142	45	10100
10.200		12	204	156	142	45	10200
10.300		12	204	156	142	45	10300

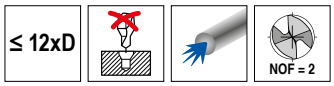
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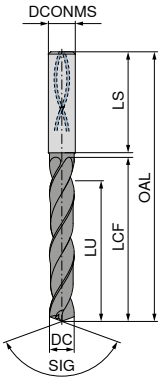
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

- Convex main cutting edge for high-stability cutting edges and process security
- Delivers high cutting values and long tool life
- Universal application
- Four guide lands guarantee greater positioning accuracy





Quattro

DPA74S

upGRADE

DRAGONSKIN



SIG 135°

Solid carbide

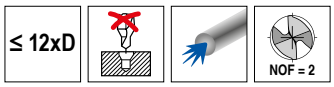
DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 614 ...
10.500		12	204	156	142	45	10500
10.800		12	204	156	142	45	10800
11.000		12	204	156	142	45	11000
11.200		12	204	156	142	45	11200
11.500		12	204	156	142	45	11500
11.800		12	204	156	142	45	11800
12.000		12	204	156	142	45	12000
12.500		14	230	182	166	45	12500
12.700	1/2	14	230	182	166	45	12700
13.000		14	230	182	166	45	13000
13.500		14	230	182	166	45	13500
14.000		14	230	182	166	45	14000
14.500		16	260	208	192	48	14500
15.000		16	260	208	192	48	15000
15.500		16	260	208	192	48	15500
15.875	5/8	16	260	208	192	48	15875
16.000		16	260	208	192	48	16000
16.500		18	285	234	216	48	16500
17.000		18	285	234	216	48	17000
17.500		18	285	234	216	48	17500
18.000		18	285	234	216	48	18000

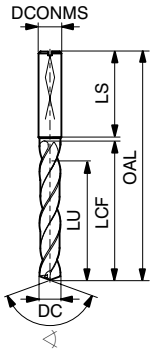
P	●
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→ Find the cutting data standard values here.

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction







SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 774 ...
3.00	6	92	54	48	36	03000
3.10	6	92	54	48	36	03100
3.20	6	92	54	48	36	03200
3.30	6	92	54	48	36	03300
3.40	6	92	54	48	36	03400
3.50	6	92	54	48	36	03500
3.60	6	92	54	48	36	03600
3.70	6	92	54	48	36	03700
3.80	6	102	64	58	36	03800
3.90	6	102	64	58	36	03900
4.00	6	102	64	58	36	04000
4.10	6	102	64	58	36	04100
4.20	6	102	64	58	36	04200
4.30	6	102	64	58	36	04300
4.40	6	102	64	58	36	04400
4.50	6	102	64	58	36	04500
4.60	6	102	64	58	36	04600
4.70	6	102	64	58	36	04700
4.80	6	116	78	70	36	04800
4.90	6	116	78	70	36	04900
5.00	6	116	78	70	36	05000
5.10	6	116	78	70	36	05100
5.20	6	116	78	70	36	05200
5.30	6	116	78	70	36	05300
5.40	6	116	78	70	36	05400
5.50	6	116	78	70	36	05500
5.60	6	116	78	70	36	05600
5.70	6	116	78	70	36	05700
5.80	6	116	78	70	36	05800
5.90	6	116	78	70	36	05900
6.00	6	116	78	70	36	06000
6.10	8	146	108	94	36	06100

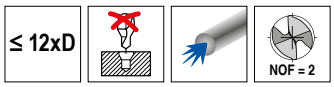
P	○
M	○
K	○
N	○
S	●
H	
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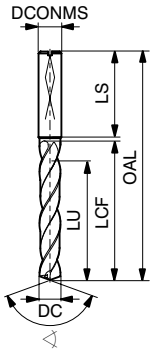
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction







SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 774 ...
6.20	8	146	108	94	36	06200
6.30	8	146	108	94	36	06300
6.40	8	146	108	94	36	06400
6.50	8	146	108	94	36	06500
6.60	8	146	108	94	36	06600
6.70	8	146	108	94	36	06700
6.80	8	146	108	94	36	06800
6.90	8	146	108	94	36	06900
7.00	8	146	108	94	36	07000
7.10	8	146	108	94	36	07100
7.20	8	146	108	94	36	07200
7.30	8	146	108	94	36	07300
7.40	8	146	108	94	36	07400
7.50	8	146	108	94	36	07500
7.60	8	146	108	94	36	07600
7.70	8	146	108	94	36	07700
7.80	8	146	108	94	36	07800
7.90	8	146	108	94	36	07900
8.00	8	146	108	94	36	08000
8.10	10	162	120	110	40	08100
8.20	10	162	120	110	40	08200
8.30	10	162	120	110	40	08300
8.40	10	162	120	110	40	08400
8.50	10	162	120	110	40	08500
8.60	10	162	120	110	40	08600
8.70	10	162	120	110	40	08700
8.80	10	162	120	110	40	08800
8.90	10	162	120	110	40	08900
9.00	10	162	120	110	40	09000
9.10	10	162	120	110	40	09100
9.20	10	162	120	110	40	09200
9.30	10	162	120	110	40	09300

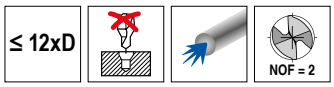
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M	○
K	○
N	○
S	●
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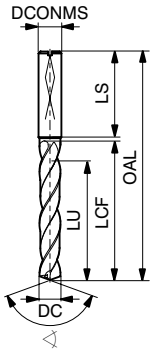
→ Find the cutting data standard values here.

Continued on next page

WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction







SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 774 ...
9.40	10	162	120	110	40	**09400**
9.50	10	162	120	110	40	**09500**
9.60	10	162	120	110	40	**09600**
9.70	10	162	120	110	40	**09700**
9.80	10	162	120	110	40	**09800**
9.90	10	162	120	110	40	**09900**
10.00	10	162	120	110	40	**10000**
10.10	12	204	156	142	45	**10100**
10.20	12	204	156	142	45	**10200**
10.30	12	204	156	142	45	**10300**
10.40	12	204	156	142	45	**10400**
10.50	12	204	156	142	45	**10500**
10.60	12	204	156	142	45	**10600**
10.70	12	204	156	142	45	**10700**
10.80	12	204	156	142	45	**10800**
10.90	12	204	156	142	45	**10900**
11.00	12	204	156	142	45	**11000**
11.10	12	204	156	142	45	**11100**
11.20	12	204	156	142	45	**11200**
11.30	12	204	156	142	45	**11300**
11.40	12	204	156	142	45	**11400**
11.50	12	204	156	142	45	**11500**
11.60	12	204	156	142	45	**11600**
11.70	12	204	156	142	45	**11700**
11.80	12	204	156	142	45	**11800**
11.90	12	204	156	142	45	**11900**
12.00	12	204	156	142	45	**12000**
12.20	14	230	182	166	45	**12200**
12.50	14	230	182	166	45	**12500**
12.80	14	230	182	166	45	**12800**
13.00	14	230	182	166	45	**13000**
13.50	14	230	182	166	45	**13500**

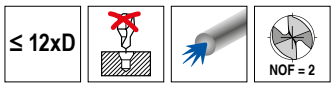
P	○
M	○
K	○
N	○
S	●
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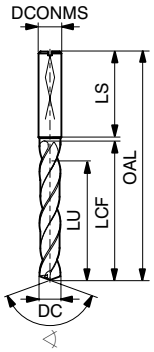
→ Find the cutting data standard values here.

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WTX – High-speed drill, factory standard

- Developed for high cutting speeds
- Three guide lands for low friction





Speed VA

Ti800



SIG 135°
Solid carbide

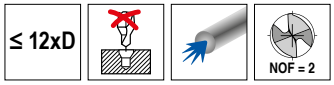
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 774 ...
13.80	14	230	182	166	45	**13800**
14.00	14	230	182	166	45	**14000**
14.20	16	260	208	192	48	**14200**
14.50	16	260	208	192	48	**14500**
15.00	16	260	208	192	48	**15000**
15.10	16	260	208	192	48	**15100**
15.20	16	260	208	192	48	**15200**
15.50	16	260	208	192	48	**15500**
15.80	16	260	208	192	48	**15800**
16.00	16	260	208	192	48	**16000**
17.00	18	285	234	216	48	**17000**
17.50	18	285	234	216	48	**17500**

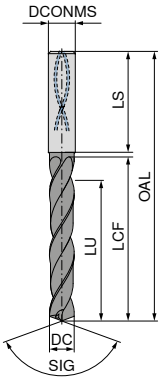
P	○
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→ Find the cutting data standard values here.

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 793 ...
3.0	6	92	54	48	36	03000
3.1	6	92	54	48	36	03100
3.2	6	92	54	48	36	03200
3.3	6	92	54	48	36	03300
3.4	6	92	54	48	36	03400
3.5	6	92	54	48	36	03500
3.6	6	92	54	48	36	03600
3.7	6	92	54	48	36	03700
3.8	6	102	64	58	36	03800
3.9	6	102	64	58	36	03900
4.0	6	102	64	58	36	04000
4.1	6	102	64	58	36	04100
4.2	6	102	64	58	36	04200
4.3	6	102	64	58	36	04300
4.4	6	102	64	58	36	04400
4.5	6	102	64	58	36	04500
4.6	6	102	64	58	36	04600
4.7	6	102	64	58	36	04700
4.8	6	116	78	70	36	04800
4.9	6	116	78	70	36	04900
5.0	6	116	78	70	36	05000
5.1	6	116	78	70	36	05100
5.2	6	116	78	70	36	05200
5.3	6	116	78	70	36	05300
5.4	6	116	78	70	36	05400
5.5	6	116	78	70	36	05500
5.6	6	116	78	70	36	05600
5.7	6	116	78	70	36	05700
5.8	6	116	78	70	36	05800
5.9	6	116	78	70	36	05900
6.0	6	116	78	70	36	06000
6.1	8	146	108	94	36	06100
6.2	8	146	108	94	36	06200

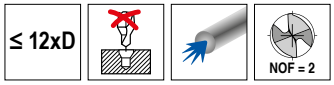
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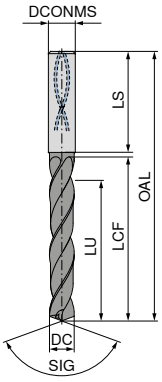
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 793 ...
6.3	8	146	108	94	36	06300
6.4	8	146	108	94	36	06400
6.5	8	146	108	94	36	06500
6.6	8	146	108	94	36	06600
6.8	8	146	108	94	36	06800
7.0	8	146	108	94	36	07000
7.1	8	146	108	94	36	07100
7.2	8	146	108	94	36	07200
7.3	8	146	108	94	36	07300
7.4	8	146	108	94	36	07400
7.5	8	146	108	94	36	07500
7.6	8	146	108	94	36	07600
7.8	8	146	108	94	36	07800
8.0	8	146	108	94	36	08000
8.1	10	162	120	110	40	08100
8.2	10	162	120	110	40	08200
8.3	10	162	120	110	40	08300
8.5	10	162	120	110	40	08500
8.6	10	162	120	110	40	08600
8.8	10	162	120	110	40	08800
9.0	10	162	120	110	40	09000
9.2	10	162	120	110	40	09200
9.5	10	162	120	110	40	09500
9.8	10	162	120	110	40	09800
10.0	10	162	120	110	40	10000
10.2	12	204	156	142	45	10200
10.5	12	204	156	142	45	10500
10.7	12	204	156	142	45	10700
10.8	12	204	156	142	45	10800
11.0	12	204	156	142	45	11000
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11.5	12	204	156	142	45	11500

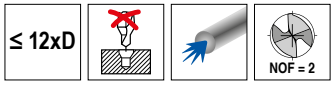
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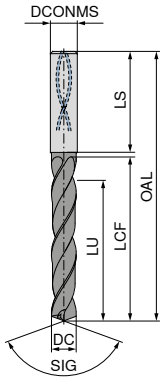
→ Find the cutting data standard values here.

Continued on next page

WTX – High-performance drill, factory standard

▲ Aluminum drill with six guide lands





AL

DLC

DRAGONSKIN



SIG 135°
Solid carbide

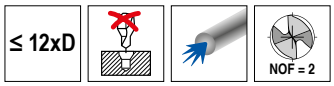
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 793 ...
11.8	12	204	156	142	45	**11800**
12.0	12	204	156	142	45	**12000**
12.2	14	230	182	166	45	**12200**
12.5	14	230	182	166	45	**12500**
13.0	14	230	182	166	45	**13000**
13.2	14	230	182	166	45	**13200**
13.5	14	230	182	166	45	**13500**
14.0	14	230	182	166	45	**14000**
14.5	16	260	208	192	48	**14500**
15.0	16	260	208	192	48	**15000**
16.0	16	260	208	192	48	**16000**
17.0	18	285	234	216	48	**17000**
18.0	18	285	234	216	48	**18000**

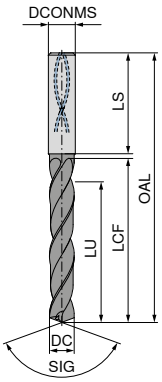
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→ Find the cutting data standard values here.

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 705 ...
3.0	6	92	54	48	36	03000
3.1	6	92	54	48	36	03100
3.2	6	92	54	48	36	03200
3.3	6	92	54	48	36	03300
3.4	6	92	54	48	36	03400
3.5	6	92	54	48	36	03500
3.6	6	92	54	48	36	03600
3.7	6	92	54	48	36	03700
3.8	6	102	64	58	36	03800
3.9	6	102	64	58	36	03900
4.0	6	102	64	58	36	04000
4.1	6	102	64	58	36	04100
4.2	6	102	64	58	36	04200
4.3	6	102	64	58	36	04300
4.4	6	102	64	58	36	04400
4.5	6	102	64	58	36	04500
4.6	6	102	64	58	36	04600
4.7	6	102	64	58	36	04700
4.8	6	116	78	70	36	04800
4.9	6	116	78	70	36	04900
5.0	6	116	78	70	36	05000
5.1	6	116	78	70	36	05100
5.2	6	116	78	70	36	05200
5.3	6	116	78	70	36	05300
5.4	6	116	78	70	36	05400
5.5	6	116	78	70	36	05500
5.6	6	116	78	70	36	05600
5.7	6	116	78	70	36	05700
5.8	6	116	78	70	36	05800
5.9	6	116	78	70	36	05900
6.0	6	116	78	70	36	06000
6.1	8	146	108	94	36	06100
6.2	8	146	108	94	36	06200

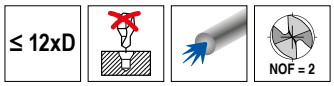
P	●
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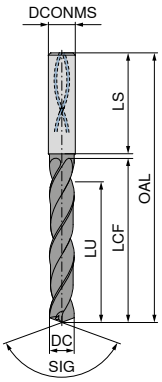
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



SIG 135°
Solid carbide

DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 705 ...
6.3	8	146	108	94	36	06300
6.4	8	146	108	94	36	06400
6.5	8	146	108	94	36	06500
6.6	8	146	108	94	36	06600
6.7	8	146	108	94	36	06700
6.8	8	146	108	94	36	06800
6.9	8	146	108	94	36	06900
7.0	8	146	108	94	36	07000
7.1	8	146	108	94	36	07100
7.2	8	146	108	94	36	07200
7.3	8	146	108	94	36	07300
7.4	8	146	108	94	36	07400
7.5	8	146	108	94	36	07500
7.6	8	146	108	94	36	07600
7.7	8	146	108	94	36	07700
7.8	8	146	108	94	36	07800
7.9	8	146	108	94	36	07900
8.0	8	146	108	94	36	08000
8.1	10	162	120	110	40	08100
8.2	10	162	120	110	40	08200
8.3	10	162	120	110	40	08300
8.4	10	162	120	110	40	08400
8.5	10	162	120	110	40	08500
8.6	10	162	120	110	40	08600
8.7	10	162	120	110	40	08700
8.8	10	162	120	110	40	08800
8.9	10	162	120	110	40	08900
9.0	10	162	120	110	40	09000
9.1	10	162	120	110	40	09100
9.2	10	162	120	110	40	09200
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9.4	10	162	120	110	40	09400
9.5	10	162	120	110	40	09500

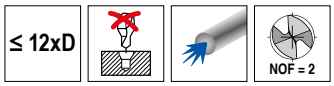
P	●
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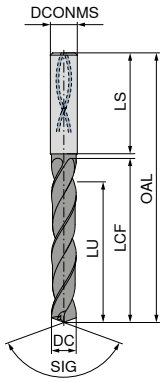
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance drill, factory standard

- Universal application
- Four guide lands guarantee greater positioning accuracy





WPC
UNI

TiAlN



SIG 135°
Solid carbide

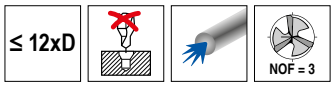
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	CX 11 705 ...
9.6	10	162	120	110	40	**09600**
9.7	10	162	120	110	40	**09700**
9.8	10	162	120	110	40	**09800**
9.9	10	162	120	110	40	**09900**
10.0	10	162	120	110	40	**10000**
10.2	12	204	156	142	45	**10200**
10.5	12	204	156	142	45	**10500**
10.8	12	204	156	142	45	**10800**
11.0	12	204	156	142	45	**11000**
11.5	12	204	156	142	45	**11500**
11.8	12	204	156	142	45	**11800**
12.0	12	204	156	142	45	**12000**
12.5	14	230	182	166	45	**12500**
12.7	14	230	182	166	45	**12700**
12.8	14	230	182	166	45	**12800**
13.0	14	230	182	166	45	**13000**
13.5	14	230	182	166	45	**13500**
13.8	14	230	182	166	45	**13800**
14.0	14	230	182	166	45	**14000**
14.5	16	260	208	192	48	**14500**
14.8	16	260	208	192	48	**14800**
15.0	16	260	208	192	48	**15000**
15.5	16	260	208	192	48	**15500**
15.8	16	260	208	192	48	**15800**
16.0	16	260	208	192	48	**16000**
16.5	18	285	234	216	48	**16500**
17.0	18	285	234	216	48	**17000**
17.5	18	285	234	216	48	**17500**
18.0	18	285	234	216	48	**18000**
18.5	20	310	258	240	50	**18500**
19.0	20	310	258	240	50	**19000**
19.5	20	310	258	240	50	**19500**
20.0	20	310	258	240	50	**20000**

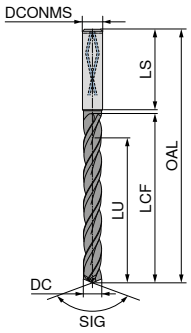
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M	●
K	●
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→ Find the cutting data standard values here.

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 796 ...
4.0	6	102	64	58	36	04000
4.1	6	102	64	58	36	04100
4.2	6	102	64	58	36	04200
4.3	6	102	64	58	36	04300
4.4	6	102	64	58	36	04400
4.5	6	102	64	58	36	04500
4.6	6	102	64	58	36	04600
4.7	6	102	64	58	36	04700
4.8	6	116	78	70	36	04800
4.9	6	116	78	70	36	04900
5.0	6	116	78	70	36	05000
5.1	6	116	78	70	36	05100
5.2	6	116	78	70	36	05200
5.3	6	116	78	70	36	05300
5.4	6	116	78	70	36	05400
5.5	6	116	78	70	36	05500
5.6	6	116	78	70	36	05600
5.7	6	116	78	70	36	05700
5.8	6	116	78	70	36	05800
5.9	6	116	78	70	36	05900
6.0	6	116	78	70	36	06000
6.1	8	146	108	94	36	06100
6.2	8	146	108	94	36	06200
6.3	8	146	108	94	36	06300
6.4	8	146	108	94	36	06400
6.5	8	146	108	94	36	06500
6.6	8	146	108	94	36	06600
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6.9	8	146	108	94	36	06900

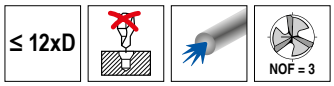
P	●
M	●
K	●
N	○
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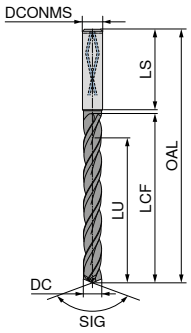
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 796 ...
7.0	8	146	108	94	36	07000
7.1	8	146	108	94	36	07100
7.2	8	146	108	94	36	07200
7.3	8	146	108	94	36	07300
7.4	8	146	108	94	36	07400
7.5	8	146	108	94	36	07500
7.6	8	146	108	94	36	07600
7.7	8	146	108	94	36	07700
7.8	8	146	108	94	36	07800
7.9	8	146	108	94	36	07900
8.0	8	146	108	94	36	08000
8.1	10	162	120	110	40	08100
8.2	10	162	120	110	40	08200
8.3	10	162	120	110	40	08300
8.4	10	162	120	110	40	08400
8.5	10	162	120	110	40	08500
8.6	10	162	120	110	40	08600
8.7	10	162	120	110	40	08700
8.8	10	162	120	110	40	08800
8.9	10	162	120	110	40	08900
9.0	10	162	120	110	40	09000
9.1	10	162	120	110	40	09100
9.2	10	162	120	110	40	09200
9.3	10	162	120	110	40	09300
9.4	10	162	120	110	40	09400
9.5	10	162	120	110	40	09500
9.6	10	162	120	110	40	09600
9.7	10	162	120	110	40	09700
9.8	10	162	120	110	40	09800
9.9	10	162	120	110	40	09900

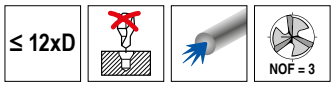
P	●
M	●
K	●
N	○
S	
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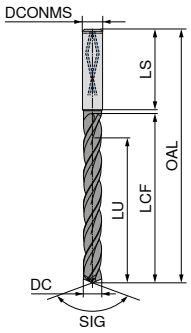
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 796 ...
10.0	10	162	120	110	40	10000
10.1	12	204	156	142	45	10100
10.2	12	204	156	142	45	10200
10.3	12	204	156	142	45	10300
10.4	12	204	156	142	45	10400
10.5	12	204	156	142	45	10500
10.6	12	204	156	142	45	10600
10.7	12	204	156	142	45	10700
10.8	12	204	156	142	45	10800
10.9	12	204	156	142	45	10900
11.0	12	204	156	142	45	11000
11.1	12	204	156	142	45	11100
11.2	12	204	156	142	45	11200
11.3	12	204	156	142	45	11300
11.4	12	204	156	142	45	11400
11.5	12	204	156	142	45	11500
11.6	12	204	156	142	45	11600
11.7	12	204	156	142	45	11700
11.8	12	204	156	142	45	11800
11.9	12	204	156	142	45	11900
12.0	12	204	156	142	45	12000
12.2	14	230	182	166	45	12200
12.5	14	230	182	166	45	12500
12.8	14	230	182	166	45	12800
13.0	14	230	182	166	45	13000
13.5	14	230	182	166	45	13500
13.8	14	230	182	166	45	13800
14.0	14	230	182	166	45	14000
14.5	16	260	208	192	48	14500
14.8	16	260	208	192	48	14800

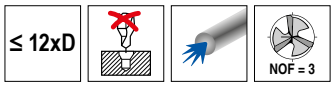
P	●
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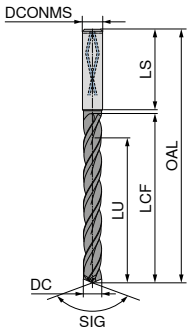
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-feed drill, factory standard

- Three-edged high-feed drill
- Universal application
- High positioning accuracy
- Suitable for difficult drilling applications





Feed UNI

DPX74S

DRAGONSKIN



SIG 135°
Solid carbide

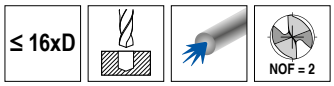
DC m7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SD 10 796 ...
15.0	16	260	208	192	48	**15000**
15.5	16	260	208	192	48	**15500**
15.8	16	260	208	192	48	**15800**
16.0	16	260	208	192	48	**16000**
16.5	18	285	234	216	48	**16500**
16.8	18	285	234	216	48	**16800**
17.0	18	285	234	216	48	**17000**
17.5	18	285	234	216	48	**17500**
17.8	18	285	234	216	48	**17800**
18.0	18	285	234	216	48	**18000**
18.5	20	310	258	240	50	**18500**
18.8	20	310	258	240	50	**18800**
19.0	20	310	258	240	50	**19000**
19.5	20	310	258	240	50	**19500**
19.8	20	310	258	240	50	**19800**
20.0	20	310	258	240	50	**20000**

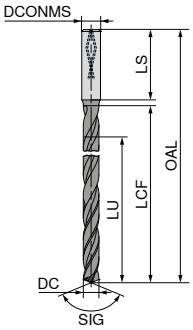
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→ Find the cutting data standard values here.

WTX – High-performance deep hole drill

- Up to 16xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 138°
Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 116 ...
3.000		6	103	60	55	36	03000
3.175	1/8	6	103	60	55	36	03175
3.200		6	103	60	55	36	03200
3.300		6	108	65	60	36	03300
3.500		6	108	65	59	36	03500
3.800		6	114	71	65	36	03800
3.970	5/32	6	118	76	70	36	03970
4.000		6	118	76	70	36	04000
4.200		6	126	84	77	36	04200
4.500		6	126	84	77	36	04500
4.760	3/16	6	135	93	85	36	04760
4.800		6	135	93	85	36	04800
5.000		6	135	93	85	36	05000
5.500		6	147	106	97	36	05500
5.560	7/32	6	147	106	97	36	05560
5.800		6	151	111	102	36	05800
5.950	15/64	6	151	111	102	36	05950
6.000		6	151	111	102	36	06000
6.350	1/4	8	162	120	110	36	06350
6.500		8	162	120	110	36	06500
6.750	17/64	8	172	130	119	36	06750
6.800		8	172	130	119	36	06800
7.000		8	172	130	119	36	07000
7.140	9/32	8	180	139	128	36	07140
7.500		8	180	139	127	36	07500
7.800		8	188	148	136	36	07800
7.940	5/16	8	188	148	136	36	07940
8.000		8	188	148	136	36	08000
8.500		10	203	157	144	40	08500
8.800		10	213	167	153	40	08800

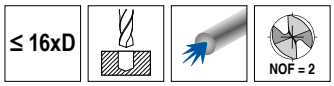
P	●
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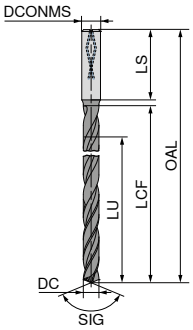
→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

WTX – High-performance deep hole drill

- Up to 16xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 138°
Solid carbide

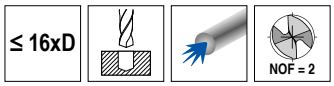
DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 116 ...
9.000		10	213	167	153	40	09000
9.525	3/8	10	229	185	170	40	09525
9.800		10	229	185	170	40	09800
9.920	25/64	10	229	185	170	40	09920
10.000		10	229	185	170	40	10000
10.200		12	245	194	178	45	10200
10.800		12	254	203	186	45	10800
11.000		12	254	203	186	45	11000
11.800		12	271	222	204	45	11800
12.000		12	271	222	204	45	12000
12.700	1/2	14	291	240	220	45	12700
13.000		14	291	240	220	45	13000
14.000		14	308	259	238	45	14000

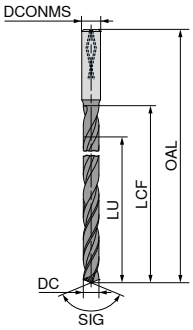
P	●
M	●
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 16xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal







SIG 135°
Solid carbide

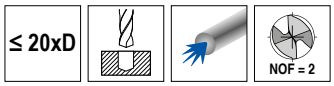
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 11 017 ...
2.0	4	84	42	39	020
2.2	4	84	42	39	022
2.3	4	84	42	39	023
2.4	4	96	54	50	024
2.5	4	96	54	50	025
2.7	4	96	54	50	027
2.8	4	96	54	50	028
3.0	6	100	60	55	030
3.2	6	100	60	55	032
3.3	6	100	60	55	033
3.5	6	100	60	55	035
3.8	6	115	75	69	038
4.0	6	115	75	69	040
4.2	6	115	75	69	042
4.5	6	130	90	83	045
4.8	6	130	90	83	048
5.0	6	130	90	83	050
5.5	6	150	108	99	055
5.8	6	150	108	99	058
6.0	6	150	108	99	060
6.5	8	165	125	115	065
6.8	8	165	125	115	068
7.0	8	165	125	115	070
7.5	8	180	140	128	075
7.8	8	180	140	128	078
8.0	8	180	140	128	080
8.5	10	205	160	147	085
8.8	10	205	160	147	088
9.0	10	205	160	147	090
9.8	10	225	180	165	098
10.0	10	225	180	165	100
10.2	12	240	190	174	102
10.8	12	240	190	174	108
11.8	12	265	215	197	118
12.0	12	265	215	197	120

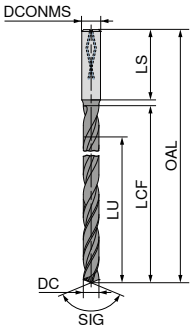
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 20xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 138°
Solid carbide

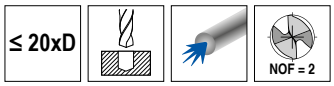
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 120 ...
3.0	6	115	72	67	36	03000
3.2	6	115	72	67	36	03200
3.3	6	122	79	74	36	03300
3.5	6	122	79	73	36	03500
3.8	6	129	86	80	36	03800
4.0	6	135	93	87	36	04000
4.2	6	144	102	95	36	04200
4.5	6	144	102	95	36	04500
4.8	6	155	113	105	36	04800
5.0	6	155	113	105	36	05000
5.5	6	169	128	119	36	05500
5.8	6	175	135	126	36	05800
6.0	6	175	135	126	36	06000
6.5	8	188	146	136	36	06500
6.8	8	200	158	147	36	06800
7.0	8	200	158	147	36	07000
7.5	8	210	169	157	36	07500
7.8	8	220	180	168	36	07800
8.0	8	220	180	168	36	08000
8.5	10	237	191	178	40	08500
8.8	10	249	203	189	40	08800
9.0	10	249	203	189	40	09000
9.8	10	269	225	210	40	09800
10.0	10	269	225	210	40	10000
10.2	12	287	236	220	45	10200
10.8	12	298	247	230	45	10800
11.0	12	298	247	230	45	11000
11.8	12	319	270	252	45	11800
12.0	12	319	270	252	45	12000
13.0	14	343	292	272	45	13000
14.0	14	364	315	294	45	14000

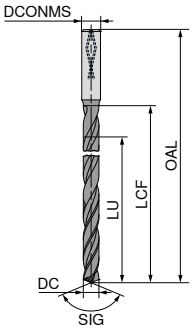
P	●
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 20xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal







SIG 135°
Solid carbide

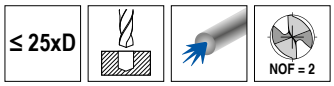
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 11 021 ...
2.0	4	92	50	47	020
2.2	4	92	50	47	022
2.3	4	92	50	47	023
2.4	4	112	70	66	024
2.5	4	112	70	66	025
2.7	4	112	70	66	027
2.8	4	112	70	66	028
3.0	6	120	80	75	030
3.2	6	120	80	75	032
3.3	6	120	80	75	033
3.5	6	120	80	75	035
3.8	6	130	90	84	038
4.0	6	130	90	84	040
4.2	6	160	110	103	042
4.5	6	160	110	103	045
4.8	6	160	120	113	048
5.0	6	160	120	113	050
5.5	6	185	140	131	055
5.8	6	185	140	131	058
6.0	6	185	140	131	060
6.5	8	210	160	150	065
6.8	8	210	160	150	068
7.0	8	210	160	150	070
7.5	8	230	180	168	075
7.8	8	230	180	168	078
8.0	8	230	180	168	080
8.5	10	260	195	182	085
8.8	10	290	230	216	088
9.0	10	290	230	216	090
9.8	10	290	230	216	098
10.0	10	290	230	216	100
10.2	12	315	268	251	102
10.8	12	315	268	251	108
11.8	12	315	268	251	118
12.0	12	315	268	251	120

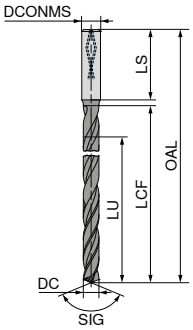
P	
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 25xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



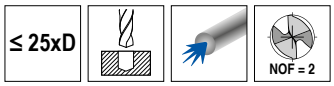
SIG 138°
Solid carbide

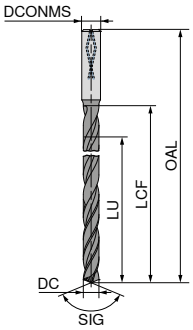
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 125 ...
3.0	6	131	88	83	36	03000
3.2	6	131	88	83	36	03200
3.3	6	140	97	92	36	03300
3.5	6	140	97	91	36	03500
3.8	6	148	105	99	36	03800
4.0	6	155	113	107	36	04000
4.2	6	166	124	117	36	04200
4.5	6	166	124	117	36	04500
4.8	6	180	138	130	36	04800
5.0	6	180	138	130	36	05000
5.5	6	198	157	148	36	05500
5.8	6	205	165	156	36	05800
6.0	6	205	165	156	36	06000
6.5	8	221	179	169	36	06500
6.8	8	235	193	182	36	06800
7.0	8	235	193	182	36	07000
7.5	8	247	206	194	36	07500
7.8	8	260	220	208	36	07800
8.0	8	260	220	208	36	08000
8.5	10	280	234	221	40	08500
8.8	10	294	248	234	40	08800
9.0	10	294	248	234	40	09000
9.8	10	319	275	260	40	09800
10.0	10	319	275	260	40	10000
10.2	12	340	289	273	45	10200
10.8	12	353	302	285	45	10800
11.0	12	353	302	285	45	11000
11.8	12	379	330	312	45	11800
12.0	12	379	330	312	45	12000
13.0	14	408	357	337	45	13000
14.0	14	434	385	364	45	14000
P						●
M						●
K						●
N						
S						
H						
O						

→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 25xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal







SIG 135°
Solid carbide

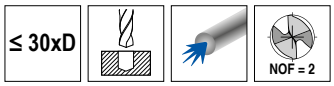
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 11 026 ...
2.0	4	104	60	57	020
2.2	4	104	60	57	022
2.3	4	104	60	57	023
2.4	4	125	80	76	024
2.5	4	125	80	76	025
2.7	4	125	80	76	027
2.8	4	125	80	76	028
3.0	6	135	98	93	030
3.2	6	135	98	93	032
3.3	6	150	110	105	033
3.5	6	150	110	105	035
3.8	6	160	120	114	038
4.0	6	160	120	114	040
4.2	6	160	120	114	042
4.5	6	180	135	128	045
4.8	6	180	135	128	048
5.0	6	180	135	128	050
5.5	6	205	168	159	055
5.8	6	205	168	159	058
6.0	6	205	168	159	060
6.5	8	240	200	190	065
6.8	8	240	200	190	068
7.0	8	240	200	190	070
7.5	8	260	220	208	075
7.8	8	260	220	208	078
8.0	8	260	220	208	080
8.5	10	285	240	227	085
8.8	10	310	268	254	088
9.0	10	310	268	254	090
9.8	10	310	268	254	098
10.0	10	310	268	254	100
10.2	12	375	325	308	102
10.8	12	375	325	308	108
11.8	12	375	325	308	118
12.0	12	375	325	308	120

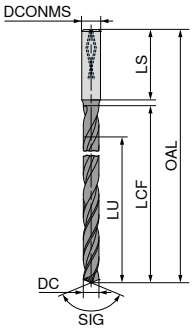
P	
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 30xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 138°
Solid carbide

DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 130 ...
3.000		6	147	104	99	36	03000
3.175	1/8	6	147	104	99	36	03175
3.200		6	147	104	99	36	03200
3.300		6	157	114	109	36	03300
3.500		6	157	114	108	36	03500
3.800		6	167	124	118	36	03800
3.970	5/32	6	176	134	128	36	03970
4.000		6	176	134	128	36	04000
4.200		6	189	147	140	36	04200
4.500		6	189	147	140	36	04500
4.760	3/16	6	205	163	155	36	04760
4.800		6	205	163	155	36	04800
5.000		6	205	163	155	36	05000
5.500		6	226	185	176	36	05500
5.560	7/32	6	226	185	176	36	05560
5.800		6	235	195	186	36	05800
5.950	15/64	6	235	195	186	36	05950
6.000		6	235	195	186	36	06000
6.350	1/4	8	253	211	201	36	06350
6.500		8	253	211	201	36	06500
6.750	17/64	8	270	228	217	36	06750
6.800		8	270	228	217	36	06800
7.000		8	270	228	217	36	07000
7.140	9/32	8	285	244	233	36	07140
7.500		8	285	244	232	36	07500
7.800		8	300	260	248	36	07800
7.940	5/16	8	300	260	248	36	07940
8.000		8	300	260	248	36	08000
8.500		10	322	276	263	40	08500
8.800		10	339	293	279	40	08800

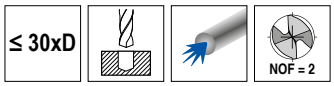
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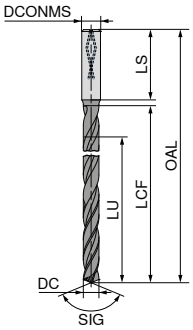
→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

WTX – High-performance deep hole drill

- Up to 30xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



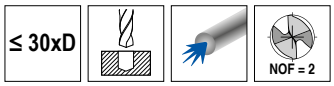
SIG 138°
Solid carbide

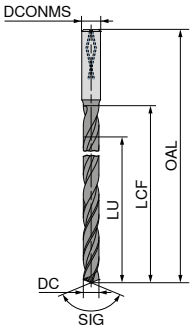
DC h7 mm	DC inch	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 130 ...
9.000		10	339	293	279	40	09000
9.525	3/8	10	369	325	310	40	09525
9.800		10	369	325	310	40	09800
9.920	25/64	10	369	325	310	40	09920
10.000		10	369	325	310	40	10000
10.200		12	392	341	325	45	10200
10.800		12	408	357	340	45	10800
11.000		12	408	357	340	45	11000
11.800		12	439	390	372	45	11800
12.000		12	439	390	372	45	12000
12.700	1/2	14	473	422	402	45	12700
13.000		14	473	422	402	45	13000
14.000		14	504	455	434	45	14000
P							●
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 30xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal







SIG 135°
Solid carbide

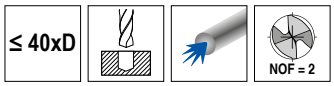
DC h7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 11 031 ...
2.0	4	115	70	67	020
2.2	4	115	70	67	022
2.3	4	115	70	67	023
2.4	4	138	90	86	024
2.5	4	138	90	86	025
2.7	4	138	90	86	027
2.8	4	138	90	86	028
3.0	6	150	105	100	030
3.2	6	150	105	100	032
3.3	6	185	135	130	033
3.5	6	185	135	130	035
3.8	6	185	135	130	038
4.0	6	185	135	130	040
4.2	6	185	135	130	042
4.5	6	215	165	158	045
4.8	6	215	165	158	048
5.0	6	215	165	158	050
5.5	6	230	180	171	055
5.8	6	230	180	171	058
6.0	6	230	180	171	060
6.5	8	280	215	205	065
6.8	8	280	230	220	068
7.0	8	280	230	220	070
7.5	8	280	230	220	075
7.8	8	315	265	253	078
8.0	8	315	265	253	080
8.5	10	350	295	282	085
8.8	10	380	330	316	088
9.0	10	380	330	316	090
9.8	10	380	330	316	098
10.0	10	380	330	316	100
10.2	12	430	380	365	102
10.8	12	430	380	365	108
11.8	12	430	380	365	118
12.0	12	430	380	365	120

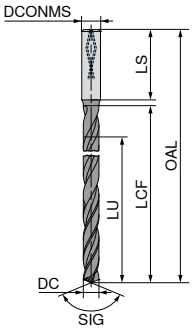
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 40xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 135°
Solid carbide

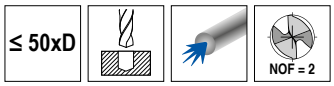
DC e7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 140 ...
3.0	6	186	143	138	36	03000
3.5	6	199	156	150	36	03500
4.0	6	225	183	177	36	04000
4.2	6	243	201	194	36	04200
4.5	6	243	201	194	36	04500
4.8	6	265	223	215	36	04800
5.0	6	265	223	215	36	05000
5.5	6	295	254	245	36	05500
6.0	6	308	267	258	36	06000
6.5	8	331	289	279	36	06500
6.8	8	354	312	301	36	06800
7.0	8	354	312	301	36	07000
7.5	8	375	334	322	36	07500
8.0	8	396	356	344	36	08000

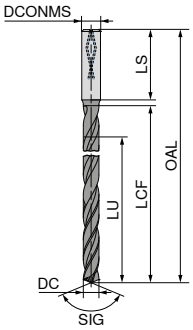
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance deep hole drill

- Up to 50xD without peck drilling
- Pilot hole necessary
- Excellent alignment precision
- Reliable chip removal





Deep UNI

DPA74S

DRAGONSKIN



SIG 135°
Solid carbide

DC e7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 11 150 ...
3.0	6	218	175	170	36	03000
3.5	6	234	191	185	36	03500
4.0	6	266	224	218	36	04000
4.2	6	288	246	239	36	04200
4.5	6	288	246	239	36	04500
4.8	6	315	273	265	36	04800
5.0	6	315	273	265	36	05000
5.5	6	352	311	302	36	05500
6.0	6	367	327	318	36	06000
6.5	8	396	354	344	36	06500
6.8	8	424	382	371	36	06800
7.0	8	424	382	371	36	07000
7.5	8	450	409	397	36	07500
8.0	8	476	436	424	36	08000

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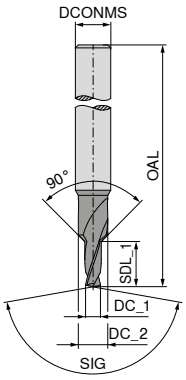
→ Find the cutting data standard values here.
→ Find further information on machining here

The deep hole drills are also available in other dimensions on request.

WTX – 90° pilot drill

- Specially designed pilot drill for WTX – Micro deep hole drill (8xD–30xD)
- For direct spot drilling on angled and curved surfaces up to a 50° angle of inclination
- 90° countersink can be achieved at the drill entrance on flat spot drilling surfaces





MICRO PILOT

DPX74M

DRAGONSKIN



SIG 160°
Solid carbide

DC_1 m6 mm	DC_2 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	SH 10 692 ...
0.80	1.7	4	55	2.000	**00800**
0.85	1.7	4	55	2.125	**00850**
0.90	1.7	4	55	2.250	**00900**
0.95	2.0	4	55	2.375	**00950**
1.00	2.0	4	55	2.500	**01000**
1.05	2.0	4	55	2.625	**01050**
1.10	2.0	4	55	2.750	**01100**
1.15	2.0	4	55	2.875	**01150**
1.20	2.0	4	55	3.000	**01200**
1.25	2.5	4	55	3.125	**01250**
1.30	2.5	4	55	3.250	**01300**
1.35	2.5	4	55	3.375	**01350**
1.40	2.5	4	55	3.500	**01400**
1.45	3.0	4	55	3.625	**01450**
1.50	3.0	4	55	3.750	**01500**
1.55	3.0	4	55	3.875	**01550**
1.60	3.0	4	55	4.000	**01600**
1.65	3.0	4	55	4.125	**01650**
1.70	3.0	4	55	4.250	**01700**
1.75	3.5	4	55	4.375	**01750**
1.80	3.5	4	55	4.500	**01800**
1.85	3.5	4	55	4.625	**01850**
1.90	3.5	4	55	4.750	**01900**
1.95	3.5	6	65	4.875	**01950**
2.00	3.5	6	65	5.000	**02000**
2.05	3.5	6	65	5.125	**02050**
2.10	3.5	6	65	5.250	**02100**
2.20	4.5	6	65	5.500	**02200**
2.30	4.5	6	65	5.750	**02300**
2.40	4.5	6	65	6.000	**02400**
2.50	4.5	6	65	6.250	**02500**

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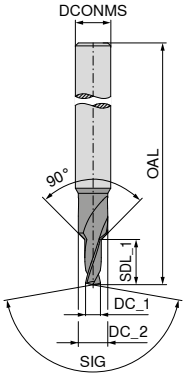
→ Find the cutting data standard values here.
→ Find further information on machining here

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WTX – 90° pilot drill

- ▲ Specially designed pilot drill for WTX – Micro deep hole drill (8xD–30xD)
- ▲ For direct spot drilling on angled and curved surfaces up to a 50° angle of inclination
- ▲ 90° countersink can be achieved at the drill entrance on flat spot drilling surfaces

≤ 2.5xD | NOF = 2



MICRO PILOT

DPX74M

DRAGONSKIN



SIG 160°
Solid carbide

DC_1 m6 mm	DC_2 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	SH 10 692 ...
2.60	4.5	6	65	6.500	**02600**
2.70	5.0	6	65	6.750	**02700**
2.80	5.0	6	65	7.000	**02800**
2.90	5.0	6	65	7.250	**02900**
3.00	5.0	6	65	7.500	**03000**

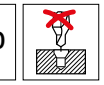
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→ Find the cutting data standard values here.
→ Find further information on machining here

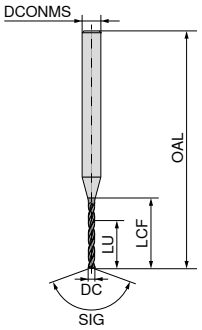
CoreLine – High-performance drills

▲ Standard shank Ø 3 mm h6 for use in heat shrink adapters

≤ 5xD



NOF = 2



MINI

TiAlN



SIG 140°

Solid carbide

DC +0,004 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SD 11 770 ...
0.10	3	38	1.2	1.0	00100
0.15	3	38	2.0	1.7	00150
0.20	3	38	3.5	3.0	00200
0.25	3	38	3.5	3.0	00250
0.30	3	38	5.5	5.0	00300
0.35	3	38	5.5	5.0	00350
0.40	3	38	7.0	6.0	00400
0.45	3	38	7.0	6.0	00450
0.50	3	38	7.0	6.0	00500
0.55	3	38	7.0	6.0	00550
0.60	3	38	7.0	6.0	00600
0.65	3	38	7.0	6.0	00650
0.70	3	38	10.5	8.0	00700
0.75	3	38	10.5	8.0	00750
0.80	3	38	10.5	8.0	00800
0.85	3	38	10.5	8.0	00850
0.90	3	38	10.5	8.0	00900
0.95	3	38	10.5	8.0	00950
0.97	3	38	10.5	8.0	00970
0.98	3	38	10.5	8.0	00980
0.99	3	38	10.5	8.0	00990
1.00	3	38	10.5	8.0	01000
1.01	3	38	10.5	8.0	01010
1.02	3	38	10.5	8.0	01020
1.03	3	38	10.5	8.0	01030
1.05	3	38	10.5	8.0	01050
1.10	3	38	10.5	8.0	01100
1.15	3	38	10.5	8.0	01150
1.20	3	38	10.5	8.0	01200
1.25	3	38	10.5	8.0	01250
1.30	3	38	10.5	8.0	01300
1.35	3	38	10.5	8.0	01350
1.40	3	38	10.5	8.0	01400
1.45	3	38	10.5	8.0	01450
1.47	3	38	10.5	8.0	01470
1.48	3	38	10.5	8.0	01480
1.49	3	38	10.5	8.0	01490
1.50	3	38	10.5	8.0	01500
1.51	3	38	10.5	8.0	01510
1.52	3	38	10.5	8.0	01520

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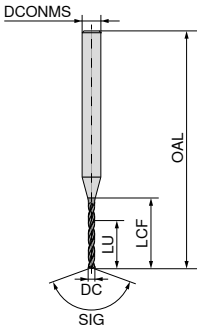
→ Find the cutting data standard values here.

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CoreLine – High-performance drills

▲ Standard shank Ø 3 mm h6 for use in heat shrink adapters

≤ 5xD | NOF = 2



MINI

TiAlN



SIG 140°
Solid carbide

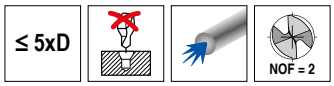
DC +0,004 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SD 11 770 ...
1.53	3	38	10.5	8.0	01530
1.55	3	38	10.5	8.0	01550
1.60	3	38	10.5	8.0	01600
1.65	3	38	10.5	8.0	01650
1.70	3	38	10.5	8.0	01700
1.75	3	38	10.5	8.0	01750
1.80	3	38	10.5	8.0	01800
1.85	3	38	12.0	8.0	01850
1.90	3	38	12.0	8.0	01900
1.95	3	38	12.0	8.0	01950
1.97	3	38	12.0	8.0	01970
1.98	3	38	12.0	8.0	01980
1.99	3	38	12.0	8.0	01990
2.00	3	42	13.0	9.0	02000
2.01	3	42	13.0	9.0	02010
2.02	3	42	13.0	9.0	02020
2.03	3	42	13.0	9.0	02030
2.05	3	42	13.0	9.0	02050
2.10	3	42	13.0	9.0	02100
2.15	3	42	13.0	9.0	02150
2.20	3	46	15.0	10.0	02200
2.25	3	46	15.0	10.0	02250
2.30	3	46	15.0	10.0	02300
2.35	3	46	15.0	10.0	02350
2.40	3	46	15.0	10.0	02400
2.45	3	46	15.0	10.0	02450
2.47	3	46	15.0	10.0	02470
2.48	3	46	15.0	10.0	02480
2.49	3	46	15.0	10.0	02490
2.50	3	46	15.0	10.0	02500
2.51	3	46	15.0	10.0	02510
2.52	3	46	15.0	10.0	02520
2.53	3	46	15.0	10.0	02530
2.60	3	46	15.0	10.0	02600
2.70	3	46	15.0	10.0	02700
2.80	3	46	15.0	10.0	02800
2.90	3	46	15.0	10.0	02900

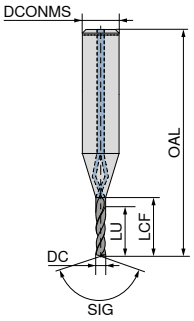
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→ Find the cutting data standard values here.

WTX – High-performance drills

- Specialized micro drill
- Universal application
- Extremely high process security
- Suitable as pilot drills for WTX – Micro high-performance deep hole drills





MICRO

DPX74M

DRAGONSKIN



SIG 135°
Solid carbide

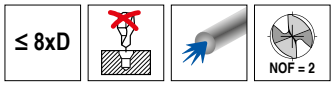
DC m6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 693 ...
0.80	3	39	5.6	4.0	00800
0.85	3	39	6.3	4.6	00850
0.90	3	39	6.3	4.5	00900
0.95	3	40	7.0	5.1	00950
1.00	3	40	7.0	5.0	01000
1.05	3	41	7.7	5.6	01050
1.10	3	41	7.7	5.5	01100
1.15	3	41	8.4	6.1	01150
1.20	3	41	8.4	6.0	01200
1.25	3	42	9.1	6.6	01250
1.30	3	42	9.1	6.5	01300
1.35	3	42	9.8	7.1	01350
1.40	3	42	9.8	7.0	01400
1.45	3	43	10.5	7.6	01450
1.50	3	43	10.5	7.5	01500
1.55	3	44	11.2	8.1	01550
1.60	3	44	11.2	8.0	01600
1.65	3	44	11.9	8.6	01650
1.70	3	44	11.9	8.5	01700
1.75	3	45	12.6	9.1	01750
1.80	3	45	12.6	9.0	01800
1.85	3	45	13.3	9.6	01850
1.90	3	45	13.3	9.5	01900
1.95	3	46	14.0	10.1	01950
2.00	3	46	14.0	10.0	02000
2.05	3	47	14.7	10.6	02050
2.10	3	47	14.7	10.5	02100
2.20	3	47	15.4	11.0	02200
2.30	3	48	16.1	11.5	02300
2.40	3	48	16.8	12.0	02400
2.50	3	49	17.5	12.5	02500
2.60	3	50	18.2	13.0	02600
2.70	3	50	18.9	13.5	02700
2.80	3	51	19.6	14.0	02800
2.90	3	51	20.3	14.5	02900
3.00	3	52	21.0	15.0	03000

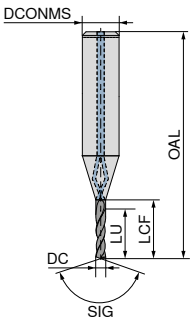
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance drills

- Specialized micro drill
- Universal application
- Extremely high process security





MICRO

DPX74M

DRAGONSKIN



SIG 128°
Solid carbide

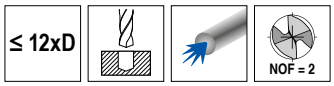
DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 694 ...
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0.85	3	42	9	7.3	00850
0.90	3	42	9	7.2	00900
0.95	3	43	10	8.1	00950
1.00	3	43	10	8.0	01000
1.05	3	44	11	8.9	01050
1.10	3	44	11	8.8	01100
1.15	3	45	12	9.7	01150
1.20	3	45	12	9.6	01200
1.25	3	46	13	10.5	01250
1.30	3	46	13	10.4	01300
1.35	3	47	14	11.3	01350
1.40	3	47	14	11.2	01400
1.45	3	47	15	12.1	01450
1.50	3	47	15	12.0	01500
1.55	3	48	16	12.9	01550
1.60	3	48	16	12.8	01600
1.65	3	49	17	13.7	01650
1.70	3	49	17	13.6	01700
1.75	3	50	18	14.5	01750
1.80	3	50	18	14.4	01800
1.85	3	51	19	15.3	01850
1.90	3	51	19	15.2	01900
1.95	3	52	20	16.1	01950
2.00	3	52	20	16.0	02000
2.05	3	53	21	16.9	02050
2.10	3	53	21	16.8	02100
2.20	3	54	22	17.6	02200
2.30	3	55	23	18.4	02300
2.40	3	56	24	19.2	02400
2.50	3	56	25	20.0	02500
2.60	3	57	26	20.8	02600
2.70	3	58	27	21.6	02700
2.80	3	59	28	22.4	02800
2.90	3	60	29	23.2	02900
3.00	3	61	30	24.0	03000

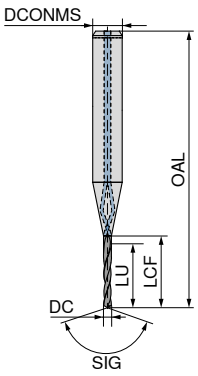
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – High-performance drills

- Specialized micro drill
- Universal application
- Extremely high process security
- Pilot drills: WTX – Micropilot or 5xD WTX – Micro





MICRO

DPX74M

DRAGONSKIN



SIG 128°
Solid carbide

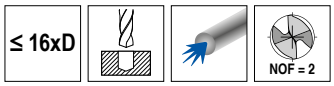
DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 695 ...
0.80	3	44	11.2	9.6	00800
0.85	3	46	12.6	10.9	00850
0.90	3	46	12.6	10.8	00900
0.95	3	47	14.0	12.1	00950
1.00	3	47	14.0	12.0	01000
1.05	3	48	15.4	13.3	01050
1.10	3	48	15.4	13.2	01100
1.15	3	50	16.8	14.5	01150
1.20	3	50	16.8	14.4	01200
1.25	3	51	18.2	15.7	01250
1.30	3	51	18.2	15.6	01300
1.35	3	52	19.6	16.9	01350
1.40	3	52	19.6	16.8	01400
1.45	3	53	21.0	18.1	01450
1.50	3	53	21.0	18.0	01500
1.55	3	55	22.4	19.3	01550
1.60	3	55	22.4	19.2	01600
1.65	3	56	23.8	20.5	01650
1.70	3	56	23.8	20.4	01700
1.75	3	57	25.2	21.7	01750
1.80	3	57	25.2	21.6	01800
1.85	3	59	26.6	22.9	01850
1.90	3	59	26.6	22.8	01900
1.95	3	60	28.0	24.1	01950
2.00	3	60	28.0	24.0	02000
2.05	3	61	29.4	25.3	02050
2.10	3	61	29.4	25.2	02100
2.20	3	63	30.8	26.4	02200
2.30	3	64	32.2	27.6	02300
2.40	3	65	33.6	28.8	02400
2.50	3	67	35.0	30.0	02500
2.60	3	68	36.4	31.2	02600
2.70	3	69	37.8	32.4	02700
2.80	3	70	39.2	33.6	02800
2.90	3	72	40.6	34.8	02900
3.00	3	73	42.0	36.0	03000

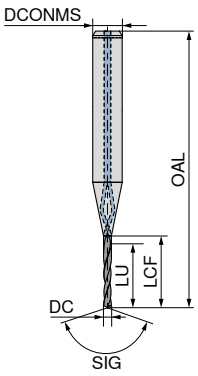
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→ Find the cutting data standard values here.
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WTX – High-performance deep hole drills

- Specialized micro deep hole drills
- Universal application
- Extremely high process security
- Pilot drills: WTX – Micropilot or 5xD WTX – Micro





MICRO

DPX74M

DRAGONSKIN



SIG 128°
Solid carbide

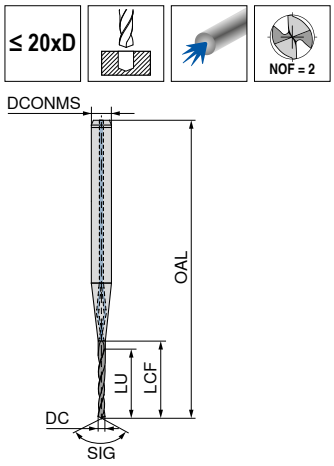
DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 696 ...
0.8	3	48	14.4	12.8	00800
0.9	3	49	16.2	14.4	00900
1.0	3	51	18.0	16.0	01000
1.1	3	53	19.8	17.6	01100
1.2	3	54	21.6	19.2	01200
1.3	3	56	23.4	20.8	01300
1.4	3	58	25.2	22.4	01400
1.5	3	60	27.0	24.0	01500
1.6	3	61	28.8	25.6	01600
1.7	3	63	30.6	27.2	01700
1.8	3	65	32.4	28.8	01800
1.9	3	66	34.2	30.4	01900
2.0	3	68	36.0	32.0	02000
2.1	3	70	37.8	33.6	02100
2.2	3	71	39.6	35.2	02200
2.3	3	73	41.4	36.8	02300
2.4	3	75	43.2	38.4	02400
2.5	3	77	45.0	40.0	02500
2.6	3	78	46.8	41.6	02600
2.7	3	80	48.6	43.2	02700
2.8	3	82	50.4	44.8	02800
2.9	3	83	52.2	46.4	02900
3.0	3	85	54.0	48.0	03000

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WTX – High-performance deep hole drills

- Specialized micro deep hole drills
- Universal application
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- Pilot drills: WTX – Micropilot or 5xD WTX – Micro





SIG 128°
Solid carbide

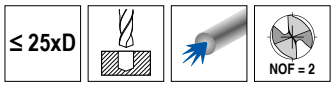
DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 697 ...
0.80	3	51	17.6	16.0	00800
0.85	3	53	19.8	18.1	00850
0.90	3	53	19.8	18.0	00900
0.95	3	55	22.0	20.1	00950
1.00	3	55	22.0	20.0	01000
1.05	3	57	24.2	22.1	01050
1.10	3	57	24.2	22.0	01100
1.15	3	59	26.4	24.1	01150
1.20	3	59	26.4	24.0	01200
1.25	3	61	28.6	26.1	01250
1.30	3	61	28.6	26.0	01300
1.35	3	63	30.8	28.1	01350
1.40	3	63	30.8	28.0	01400
1.45	3	66	33.0	30.1	01450
1.50	3	66	33.0	30.0	01500
1.55	3	68	35.2	32.1	01550
1.60	3	68	35.2	32.0	01600
1.65	3	70	37.4	34.1	01650
1.70	3	70	37.4	34.0	01700
1.75	3	72	39.6	36.1	01750
1.80	3	72	39.6	36.0	01800
1.85	3	74	41.8	38.1	01850
1.90	3	74	41.8	38.0	01900
1.95	3	76	44.0	40.1	01950
2.00	3	76	44.0	40.0	02000
2.05	3	78	46.2	42.1	02050
2.10	3	78	46.2	42.0	02100
2.20	3	80	48.4	44.0	02200
2.30	3	82	50.6	46.0	02300
2.40	3	85	52.8	48.0	02400
2.50	3	87	55.0	50.0	02500
2.60	3	89	57.2	52.0	02600
2.70	3	91	59.4	54.0	02700
2.80	3	93	61.6	56.0	02800
2.90	3	95	63.8	58.0	02900
3.00	3	97	66.0	60.0	03000

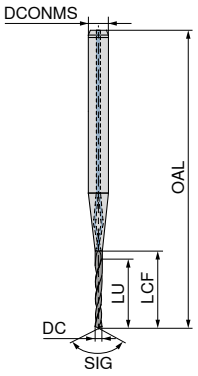
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WTX – High-performance deep hole drills

- Specialized micro deep hole drills
- Universal application
- Extremely high process security
- Pilot drills: WTX – Micropilot or 5xD WTX – Micro





MICRO

DPX74M

DRAGONSKIN



SIG 128°
Solid carbide

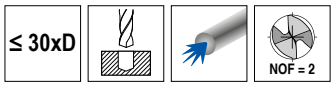
DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 698 ...
0.8	3	54	21.6	16.0	00800
0.9	3	57	24.3	20.5	00900
1.0	3	60	27.0	25.0	01000
1.1	3	63	29.7	27.5	01100
1.2	3	65	32.4	30.0	01200
1.3	3	68	35.1	32.5	01300
1.4	3	71	37.8	35.0	01400
1.5	3	73	40.5	37.5	01500
1.6	3	76	43.2	40.0	01600
1.7	3	78	45.9	42.5	01700
1.8	3	81	48.6	45.0	01800
1.9	3	84	51.3	47.5	01900
2.0	3	86	54.0	50.0	02000
2.1	3	89	56.7	52.5	02100
2.2	3	91	59.4	55.0	02200
2.3	3	94	62.1	57.5	02300
2.4	3	97	64.8	60.0	02400
2.5	3	99	67.5	62.5	02500
2.6	3	102	70.2	65.0	02600
2.7	3	104	72.9	67.5	02700
2.8	3	107	75.6	70.0	02800
2.9	3	110	78.3	72.5	02900
3.0	3	112	81.0	75.0	03000

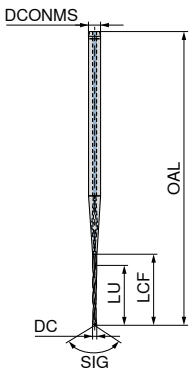
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WTX – High-performance deep hole drills

- Specialized micro deep hole drills
- Universal application
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MICRO

DPX74M

DRAGONSKIN



SIG 128°
Solid carbide

DC h6 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	SH 10 699 ...
0.80	3	59	25.6	19.2	00800
0.85	3	62	28.8	27.1	00850
0.90	3	62	28.8	24.5	00900
0.95	3	65	32.0	30.1	00950
1.00	3	65	32.0	30.0	01000
1.05	3	68	35.2	33.1	01050
1.10	3	68	35.2	33.0	01100
1.15	3	71	38.4	36.1	01150
1.20	3	71	38.4	36.0	01200
1.25	3	74	41.6	39.1	01250
1.30	3	74	41.6	39.0	01300
1.35	3	78	44.8	42.1	01350
1.40	3	78	44.8	42.0	01400
1.45	3	81	48.0	45.1	01450
1.50	3	81	48.0	45.0	01500
1.55	3	84	51.2	48.1	01550
1.60	3	84	51.2	48.0	01600
1.65	3	87	54.4	51.1	01650
1.70	3	87	54.4	51.0	01700
1.75	3	90	57.6	54.1	01750
1.80	3	90	57.6	54.0	01800
1.85	3	93	60.8	57.1	01850
1.90	3	93	60.8	57.0	01900
1.95	3	96	64.0	60.1	01950
2.00	3	96	64.0	60.0	02000
2.05	3	99	67.2	63.1	02050
2.10	3	99	67.2	63.0	02100
2.20	3	102	70.4	66.0	02200
2.30	3	106	73.6	69.0	02300
2.40	3	109	76.8	72.0	02400
2.50	3	112	80.0	75.0	02500
2.60	3	115	83.2	78.0	02600
2.70	3	118	86.4	81.0	02700
2.80	3	121	89.6	84.0	02800
2.90	3	124	92.8	87.0	02900
3.00	3	127	96.0	90.0	03000

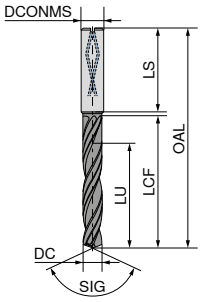
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→ Find the cutting data standard values here.
→ Find further information on machining here

WTX – Drill reamer H7

- Solid carbide high-performance drill reamer
- Drilling and reaming to tolerance H7 in one operation
- 2 drilling edges
- 4 reaming edges
- Good surface quality
- For blind holes and through holes
- Optimum roundness – tolerance H7





Finish BR

Ti700



SIG 140°
Solid carbide

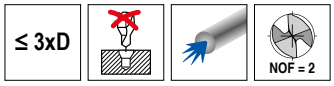
DC H7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 760 ...
4	6	66	24	17	36	**040**
5	6	79	34	24	36	**050**
6	6	79	34	24	36	**060**
8	8	79	34	24	36	**080**
10	10	89	47	35	40	**100**
12	12	102	55	40	45	**120**
14	14	107	60	43	45	**140**
16	16	115	65	45	48	**160**

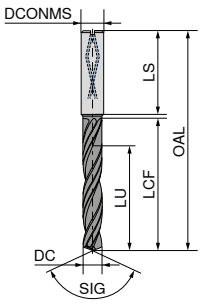
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→ Find the cutting data standard values here.

WTX – Drill reamer -1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 2 drilling edges
- 4 reaming edges
- Good surface quality
- For blind holes and through holes





Finish BR100

Ti700



SIG 140°
Solid carbide

DC +0,005 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 761 ...
3.97	6	66	24	17	36	03970
3.98	6	66	24	17	36	03980
3.99	6	66	24	17	36	03990
4.00	6	66	24	17	36	04000
4.01	6	66	24	17	36	04010
4.02	6	66	24	17	36	04020
4.97	6	66	24	17	36	04970
4.98	6	66	24	17	36	04980
4.99	6	66	24	17	36	04990
5.00	6	79	34	24	36	05000
5.01	6	79	34	24	36	05010
5.02	6	79	34	24	36	05020
5.97	6	79	34	24	36	05970
5.98	6	79	34	24	36	05980
5.99	6	79	34	24	36	05990
6.00	6	79	34	24	36	06000
6.01	6	79	34	24	36	06010
6.02	6	79	34	24	36	06020
7.97	8	79	34	24	36	07970
7.98	8	79	34	24	36	07980
7.99	8	79	34	24	36	07990
8.00	8	79	34	24	36	08000
8.01	8	79	34	24	36	08010
8.02	8	79	34	24	36	08020
9.97	10	89	47	35	40	09970
9.98	10	89	47	35	40	09980
9.99	10	89	47	35	40	09990
10.00	10	89	47	35	40	10000
10.01	10	89	47	35	40	10010
10.02	10	89	47	35	40	10020
11.97	12	102	55	40	45	11970
11.98	12	102	55	40	45	11980
11.99	12	102	55	40	45	11990
12.00	12	102	55	40	45	12000

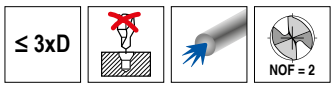
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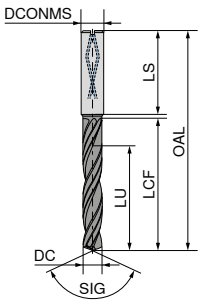
→ Find the cutting data standard values here.

Continued on next page

WTX – Drill reamer -1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 2 drilling edges
- 4 reaming edges
- Good surface quality
- For blind holes and through holes





Finish BR100

Ti700



SIG 140°
Solid carbide

DC +0,005 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 761 ...
12.01	12	102	55	40	45	**12010**
12.02	12	102	55	40	45	**12020**

P	●
M	
K	●
N	○
S	
H	
O	

→ Find the cutting data standard values here.

Tolerances

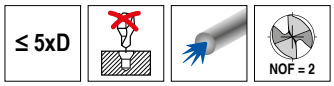
e.g., Ø 8 F7 = 8.02 mm

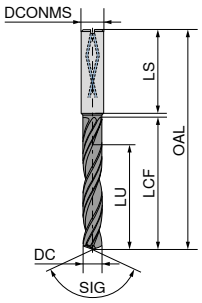
Ø 4	3,97	U 7	**X 7**			
	3,98	**N 10**	**N 11**	R 7		
	3,99	M 8	**N 7**	**N 8**	**N 9**	
	4,00	**J 7**	**J 8**	JS 7	JS 8	JS 9
	4,01	**G 7**	**H 8**			
	4,02	**F 8**	**H 9**			
Ø 5	4,97	U 7	**X 7**			
	4,98	**N 10**	**N 11**	R 7		
	4,99	M 8	**N 7**	**N 8**	**N 9**	
	5,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	5,01	**G 7**	**H 8**			
	5,02	**F 8**	**H 9**			
Ø 6	5,97	U 7	**X 7**			
	5,98	**N 10**	**N 11**	R 7		
	5,99	M 8	**N 7**	**N 8**	**N 9**	
	6,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	6,01	**G 7**	**H 8**			
	6,02	**F 8**	**H 9**			
Ø 8	7,97	S 7	**U 7**			
	7,98	N 8	**N 10**	**N 11**	P 7	R 7
	7,99	K 8	M 6	M 7	**M 8**	N 9
	8,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	8,01	G 7	**H 8**			
	8,02	**F 7**	F 8	**H 9**		
Ø 10	9,97	S 7	**U 7**			
	9,98	N 8	**N 10**	**N 11**	P 7	R 7
	9,99	K 8	M 6	M 7	**M 8**	N 9
	10,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	10,01	G 7	**H 8**			
	10,02	**F 7**	F 8	H 9		
Ø 12	11,97	N 11	R 7	**S 7**		
	11,98	N 8	**N 9**	**N 10**	**P 7**	
	11,99	K 8	**M 6**	**M 7**	**M 8**	N 7
	12,00	**J 7**	**J 8**	**JS 7**	**JS 8**	
	12,01	G 6	**H 7**	H 8	**JS 9**	
	12,02	F 7				

Tolerance classes that are not shown in bold are not optimally positioned in the tolerance field.

WTX – Drill reamer H7

- Solid carbide high-performance drill reamer
- Drilling and reaming to tolerance H7 in one operation
- 2 drilling edges
- 4 reaming edges
- Good surface quality
- For blind holes and through holes
- Optimum roundness –□ tolerance H7





Finish BR

Ti700



SIG 140°
Solid carbide

DC H7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 762 ...
4	6	74	36	29	36	**040**
5	6	91	53	43	36	**050**
6	6	91	53	43	36	**060**
8	8	91	53	43	36	**080**
10	10	103	61	49	40	**100**
12	12	118	71	56	45	**120**
14	14	124	77	60	45	**140**
16	16	133	83	63	48	**160**
18	18	143	93	71	48	**180**
20	20	153	101	77	50	**200**

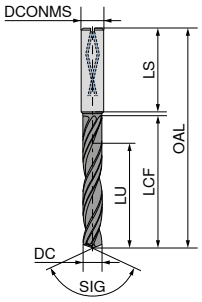
P	●
M	
K	●
N	○
S	
H	
O	

→ Find the cutting data standard values here.

WTX – Drill reamer 1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes





Feed BR100

DPX14S

DRAGONSKIN



SIG 140°
Solid carbide

DC ±0,003 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 707 ...
3.97	6	66	24	17	36	03970
3.98	6	66	24	17	36	03980
3.99	6	66	24	17	36	03990
4.00	6	66	24	17	36	04000
4.01	6	66	24	17	36	04010
4.02	6	66	24	17	36	04020
4.97	6	66	28	20	36	04970
4.98	6	66	28	20	36	04980
4.99	6	66	28	20	36	04990
5.00	6	66	28	20	36	05000
5.01	6	66	28	20	36	05010
5.02	6	66	28	20	36	05020
5.97	6	66	28	20	36	05970
5.98	6	66	28	20	36	05980
5.99	6	66	28	20	36	05990
6.00	6	66	28	20	36	06000
6.01	6	66	28	20	36	06010
6.02	6	66	28	20	36	06020
7.97	8	79	41	29	36	07970
7.98	8	79	41	29	36	07980
7.99	8	79	41	29	36	07990
8.00	8	79	41	29	36	08000
8.01	8	79	41	29	36	08010
8.02	8	79	41	29	36	08020
9.97	10	89	47	35	40	09970
9.98	10	89	47	35	40	09980
9.99	10	89	47	35	40	09990
10.00	10	89	47	35	40	10000
10.01	10	89	47	35	40	10010
10.02	10	89	47	35	40	10020
11.97	12	102	55	40	45	11970

P	●
M	
K	●
N	
S	
H	
O	

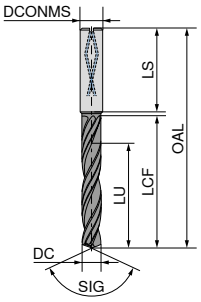
→ Find the cutting data standard values here.

Continued on next page

WTX – Drill reamer 1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes





Feed BR100

DPX14S

DRAGONSKIN



SIG 140°
Solid carbide

DC ±0,003 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 707 ...
11.98	12	102	55	40	45	**11980**
11.99	12	102	55	40	45	**11990**
12.00	12	102	55	40	45	**12000**
12.01	12	102	55	40	45	**12010**
12.02	12	102	55	40	45	**12020**

P	●
M	
K	●
N	
S	
H	
O	



→ Find the cutting data standard values here.

Tolerances

e.g., Ø 8 F7 = 8.02 mm

Ø 4	3,97	U 7	**X 7**				**Ø 8**	7,97	S 7	**U 7**			
	3,98	**N 10**	**N 11**	R 7				7,98	N 8	**N 10**	**N 11**	P 7	R 7
	3,99	M 8	**N 7**	**N 8**	**N 9**			7,99	K 8	M 6	M 7	**M 8**	N 9
	4,00	**J 7**	**J 8**	JS 7	JS 8	JS 9		8,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	4,01	**G 7**	**H 8**					8,01	G 7	**H 8**			
	4,02	**F 8**	**H 9**					8,02	**F 7**	F 8	**H 9**		
Ø 5	4,97	U 7	**X 7**				**Ø 10**	9,97	S 7	**U 7**			
	4,98	**N 10**	**N 11**	R 7				9,98	N 8	**N 10**	**N 11**	P 7	R 7
	4,99	M 8	**N 7**	**N 8**	**N 9**			9,99	K 8	M 6	M 7	**M 8**	N 9
	5,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**		10,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	5,01	**G 7**	**H 8**					10,01	G 7	**H 8**			
	5,02	**F 8**	**H 9**					10,02	**F 7**	F 8	H 9		
Ø 6	5,97	U 7	**X 7**				**Ø 12**	11,97	N 11	R 7	**S 7**		
	5,98	**N 10**	**N 11**	R 7				11,98	N 8	**N 9**	**N 10**	**P 7**	
	5,99	M 8	**N 7**	**N 8**	**N 9**			11,99	K 8	**M 6**	**M 7**	**M 8**	N 7
	6,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**		12,00	**J 7**	**J 8**	**JS 7**	**JS 8**	
	6,01	**G 7**	**H 8**					12,01	G 6	**H 7**	H 8	**JS 9**	
	6,02	**F 8**	**H 9**					12,02	F 7				

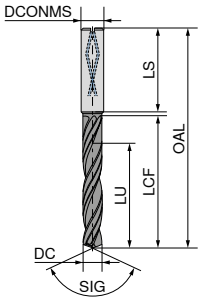


Tolerance classes that are not shown in bold are not optimally positioned in the tolerance field.

WTX – Drill reamer 1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes





Feed BR100

DPX14S

DRAGONSKIN



SIG 140°
Solid carbide

DC ±0,003 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 713 ...
3.97	6	74	36	29	36	03970
3.98	6	74	36	29	36	03980
3.99	6	74	36	29	36	03990
4.00	6	74	36	29	36	04000
4.01	6	74	36	29	36	04010
4.02	6	74	36	29	36	04020
4.97	6	82	44	35	36	04970
4.98	6	82	44	35	36	04980
4.99	6	82	44	35	36	04990
5.00	6	82	44	35	36	05000
5.01	6	82	44	35	36	05010
5.02	6	82	44	35	36	05020
5.97	6	82	44	35	36	05970
5.98	6	82	44	35	36	05980
5.99	6	82	44	35	36	05990
6.00	6	82	44	35	36	06000
6.01	6	82	44	35	36	06010
6.02	6	82	44	35	36	06020
7.97	8	91	53	43	36	07970
7.98	8	91	53	43	36	07980
7.99	8	91	53	43	36	07990
8.00	8	91	53	43	36	08000
8.01	8	91	53	43	36	08010
8.02	8	91	53	43	36	08020
9.97	10	103	61	49	40	09970
9.98	10	103	61	49	40	09980
9.99	10	103	61	49	40	09990
10.00	10	103	61	49	40	10000
10.01	10	103	61	49	40	10010
10.02	10	103	61	49	40	10020
11.97	12	118	71	56	45	11970

P	●
M	
K	●
N	
S	
H	
O	

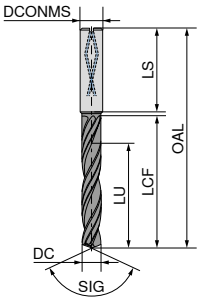
→ Find the cutting data standard values here.

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WTX – Drill reamer 1/100

- Solid carbide high-performance drill reamer
- Drilling and reaming in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes





Feed BR100

DPX14S

DRAGONSKIN



SIG 140°
Solid carbide

DC ±0,003 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 713 ...
11.98	12	118	71	56	45	**11980**
11.99	12	118	71	56	45	**11990**
12.00	12	118	71	56	45	**12000**
12.01	12	118	71	56	45	**12010**
12.02	12	118	71	56	45	**12020**

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

Tolerances

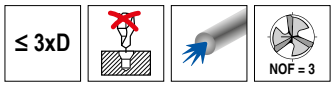
e.g., Ø 8 F7 = 8.02 mm

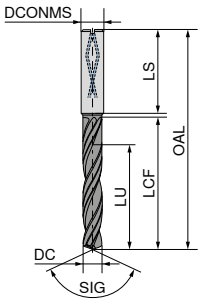
Ø 4	3,97	U 7	**X 7**				
	3,98	**N 10**	**N 11**	R 7			
	3,99	M 8	**N 7**	**N 8**	**N 9**		
	4,00	**J 7**	**J 8**	JS 7	JS 8	JS 9	
	4,01	**G 7**	**H 8**				
	4,02	**F 8**	**H 9**				
Ø 5	4,97	U 7	**X 7**				
	4,98	**N 10**	**N 11**	R 7			
	4,99	M 8	**N 7**	**N 8**	**N 9**		
	5,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**	
	5,01	**G 7**	**H 8**				
	5,02	**F 8**	**H 9**				
Ø 6	5,97	U 7	**X 7**				
	5,98	**N 10**	**N 11**	R 7			
	5,99	M 8	**N 7**	**N 8**	**N 9**		
	6,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**	
	6,01	**G 7**	**H 8**				
	6,02	**F 8**	**H 9**				
Ø 8	7,97	S 7	**U 7**				
	7,98	N 8	**N 10**	**N 11**	P 7	R 7	
	7,99	K 8	M 6	M 7	**M 8**	N 9	
	8,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**	
	8,01	G 7	**H 8**				
	8,02	**F 7**	F 8	**H 9**			
Ø 10	9,97	S 7	**U 7**				
	9,98	N 8	**N 10**	**N 11**	P 7	R 7	
	9,99	K 8	M 6	M 7	**M 8**	N 9	
	10,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**	
	10,01	G 7	**H 8**				
	10,02	**F 7**	F 8	H 9			
Ø 12	11,97	N 11	R 7	**S 7**			
	11,98	N 8	**N 9**	**N 10**	**P 7**		
	11,99	K 8	**M 6**	**M 7**	**M 8**	N 7	
	12,00	**J 7**	**J 8**	**JS 7**	**JS 8**		
	12,01	G 6	**H 7**	H 8	**JS 9**		
	12,02	F 7					

Tolerance classes that are not shown in bold are not optimally positioned in the tolerance field.

WTX – Drill reamer H7

- Solid carbide high-performance drill reamer
- Drilling and reaming to tolerance H7 in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes
- Optimum roundness – tolerance H7





Feed BR

DPX14S

DRAGONSKIN



SIG 140°

Solid carbide

DC H7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 711 ...
4	6	66	24	17	36	**04000**
5	6	66	28	20	36	**05000**
6	6	66	28	20	36	**06000**
8	8	79	41	29	36	**08000**
10	10	89	47	35	40	**10000**
12	12	102	55	40	45	**12000**
14	14	107	60	43	45	**14000**
16	16	115	65	45	48	**16000**

P	●
M	
K	●
N	
S	
H	
O	



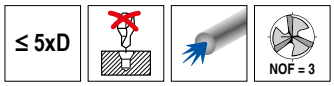
→ Find the cutting data standard values here.

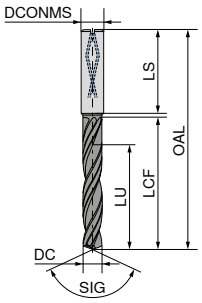


Special dimensions available upon request

WTX – Drill reamer H7

- Solid carbide high-performance drill reamer
- Drilling and reaming to tolerance H7 in one operation
- 3 drilling edges
- 6 reaming edges
- High feeds
- Good surface quality
- For blind holes and through holes
- Optimum roundness – tolerance H7





Feed BR

DPX14S

DRAGONSKIN



SIG 140°
Solid carbide

DC H7 mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	LS mm	SH 10 719 ...
4	6	74	36	29	36	**04000**
5	6	82	44	35	36	**05000**
6	6	82	44	35	36	**06000**
8	8	91	53	43	36	**08000**
10	10	103	61	49	40	**10000**
12	12	118	71	56	45	**12000**
14	14	124	77	60	45	**14000**
16	16	133	83	63	48	**16000**
18	18	143	93	71	48	**18000**
20	20	153	101	77	50	**20000**

P	●
M	
K	●
N	
S	
H	
O	

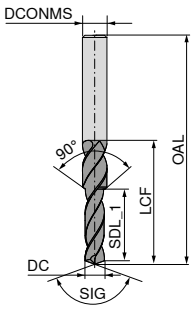
→ Find the cutting data standard values here.

Special dimensions available upon request

CoreLine – Short 90° step drill

- Stepped drill for thread core hole with 90° chamfer for thread cutting
- Step length according to DIN 8378





WPC Step UNI

TiAlN



SIG 140°
Solid carbide

For threads	DC m7 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	LCF mm	SD 11 721 ...
M3	2.5	6	62	8.8	20	**02500**
M4	3.3	6	62	11.4	24	**03300**
M5	4.2	6	66	13.6	28	**04200**
M6	5.0	8	79	16.5	34	**05000**
M8	6.8	10	89	21.0	47	**06800**
M10	8.5	12	102	25.5	55	**08500**
M12	10.2	14	107	30.0	60	**10200**

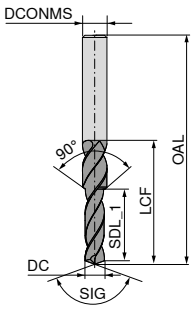
P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.

CoreLine – Short 90° step drill

- Stepped drill for thread core hole with 90° chamfer for thread forming
- Step length according to DIN 8378

≤ 3xD | NOF = 2



WPC Step UNI

TiAlN



SIG 140°
Solid carbide

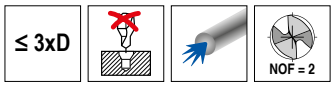
For threads	DC m7 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	LCF mm	SD 11 722 ...
M3	2.80	6	62	8.8	20	**02800**
M4	3.70	6	62	11.4	24	**03700**
M5	4.65	6	66	13.6	28	**04650**
M6	5.60	8	79	16.5	34	**05600**
M8	7.45	10	89	21.0	47	**07450**
M10	9.30	12	102	25.5	55	**09300**
M12	11.20	14	107	30.0	60	**11200**

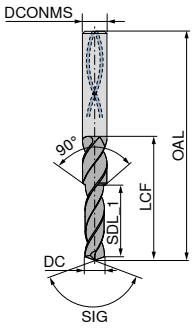
P	●
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→ Find the cutting data standard values here.

CoreLine – Short 90° step drill

- Stepped drill for thread core hole with 90° chamfer for thread cutting
- Step length according to DIN 8378





WPC Step UNI

TiAlN



SIG 140°
Solid carbide

For threads	DC $_{m7}$ mm	DCONMS $_{h6}$ mm	OAL mm	SDL_1 mm	LCF mm	SD 11 723 ...
M4	3.3	6	62	11.4	24	**03300**
M5	4.2	6	66	13.6	28	**04200**
M6	5.0	8	79	16.5	34	**05000**
M8	6.8	10	89	21.0	47	**06800**
M10	8.5	12	102	25.5	55	**08500**
M12	10.2	14	107	30.0	60	**10200**
M14	12.0	16	115	34.5	65	**12000**
M16	14.0	18	123	38.5	73	**14000**

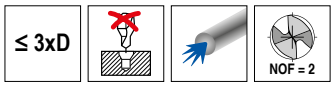
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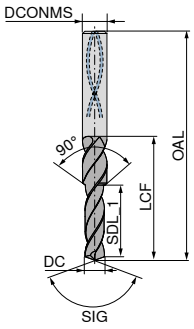


→ Find the cutting data standard values here.

CoreLine – Short 90° step drill

- Stepped drill for thread core hole with 90° chamfer for thread forming
- Step length according to DIN 8378





WPC Step UNI

TiAlN



SIG 140°
Solid carbide

For threads	DC m7 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	LCF mm	SD 11 724 ...
M4	3.70	6	62	11.4	24	**03700**
M5	4.65	6	66	13.6	28	**04650**
M6	5.60	8	79	16.5	34	**05600**
M8	7.45	10	89	21.0	47	**07450**
M10	9.30	12	102	25.5	55	**09300**
M12	11.20	14	107	30.0	60	**11200**
M14	13.00	16	115	34.5	65	**13000**
M16	15.00	18	123	38.5	73	**15000**

P	●
M	○
K	●
N	○
S	
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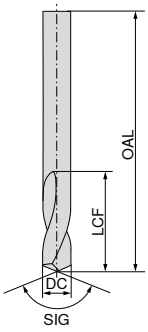


→ Find the cutting data standard values here.

CoreLine – NC spot drill, factory standard

▲ Spiral-fluted





			NC-A	NC-A TiAlN	NC-A	NC-A TiAlN	NC-A	NC-A TiAlN
								
			 SIG 90° Solid carbide	 SIG 90° Solid carbide	 SIG 120° Solid carbide	 SIG 120° Solid carbide	 SIG 142° Solid carbide	 SIG 142° Solid carbide
			CX	CX	CX	CX	CX	CX
DC js8 mm	OAL mm	LCF mm	10 702 ...	10 716 ...	10 703 ...	10 717 ...	10 704 ...	10 718 ...
2	32	6	002	002 [1]	002	002 [1]	002	002 [1]
3	32	8	003	003 [1]	003	003 [1]	003	003 [1]
4	40	10	004	004 [1]	004	004 [1]	004	004 [1]
5	50	13	005	005 [1]	005	005 [1]	005	005 [1]
6	50	13	006	006	006	006	006	006
8	60	23	008	008	008	008	008	008
10	70	24	010	010	010	010	010	010
12	70	24	012	012	012	012	012	012
14	75	26	014	014	014	014	014	014
16	75	29	016	016	016	016	016	016
18	100	35	018	018	018	018	018	018
20	100	35	020	020	020	020	020	020
P			○	●	○	●	○	●
M								
K			○	●	○	●	○	●
N			●	●	●	●	●	●
S								
H				○		○		○
O								

1) Shank type DIN 6535 HA

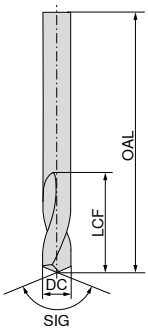


→ Find the cutting data standard values here.

CoreLine – NC spot drill, factory standard, long

▲ Spiral-fluted







DC js8 mm	OAL mm	LCF mm	SIG 90° Solid carbide CX 10 724 ...	SIG 120° Solid carbide CX 10 726 ...	SIG 142° Solid carbide CX 10 727 ...
3	66	8	003 [1]	003 [1]	003 [1]
4	74	10	004 [1]	004 [1]	004 [1]
6	82	13	006	006	006
8	91	23	008	008	008
10	103	24	010	010	010
12	118	24	012	012	012
16	133	29	016	016	016

P	●	●	●
M			
K	●	●	●
N	●	●	●
S			
H	○	○	○
O			

1) Shank type DIN 6535 HA

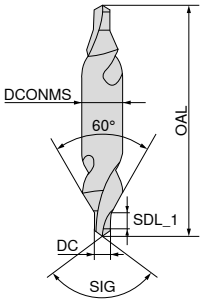
→ Find the cutting data standard values here.

CoreLine – Center drills, DIN 333, form A

- Spiral-fluted
- Up to and including diameter DC of 0.8 mm suitable for use on one side only

NOF = 2

ZB





SIG 120°
Solid carbide

CX

DC k13 mm	DCONMS h6 mm	OAL mm	SDL_1 mm	10 708 ...
0.50	3.15	20.0	0.76	**050** [1]
0.80	3.15	20.0	1.07	**080** [1]
1.00	3.15	31.5	1.31	**100**
1.25	3.15	31.5	1.54	**125**
1.60	4.00	35.5	1.94	**160**
2.00	5.00	40.0	2.32	**200**
2.50	6.30	45.0	2.88	**250**
3.15	8.00	50.0	3.49	**315**
4.00	10.00	56.0	4.45	**400**
5.00	12.50	63.0	5.46	**500**
6.30	16.00	71.0	6.78	**630**

P	●
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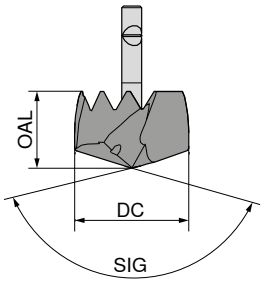
1) Can only be used on one side

→ Find the cutting data standard values here.

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



		SIG 140° Solid carbide	SIG 138° Solid carbide	SIG 138° Solid carbide	SIG 140° Solid carbide	SIG 140° Solid carbide
		EH	EH	EH	EH	EH
DC h7/m7 mm	OAL mm	10 919 ...	10 923 ...	10 921 ...	10 924 ...	10 922 ...
12.0	10.7	12000	120	120	120	120
12.1	10.7	12100	121	121	121	121
12.2	10.7	12200	122	122		
12.3	10.7	12300	123	123		
12.4	10.7	12400	124	124		
12.5	10.7	12500	125	125	125	125
12.6	10.7	12600	126	126		
12.7	10.7	12700	127	127		
12.8	10.7	12800	128	128		
12.9	10.7	12900	129	129		
13.0	10.7	13000	130	130	130	130
13.1	10.7	13100	131	131		
13.2	10.7	13200	132	132		
13.3	10.7	13300	133	133		
13.4	10.7	13400	134	134		
13.5	11.3	13500	135	135	135	135
13.6	11.3	13600	136	136		
13.7	11.3	13700	137	137		
13.8	11.3	13800	138	138		
13.9	11.3	13900	139	139		
14.0	11.3	14000	140	140	140	140
14.1	11.3	14100	141	141		
14.2	11.3	14200	142	142	142	142
14.3	11.3	14300	143	143		
14.4	11.3	14400	144	144		
14.5	11.3	14500	145	145	145	145
14.6	11.3	14600	146	146		
14.7	11.3	14700	147	147		
14.8	11.3	14800	148	148		
14.9	11.3	14900	149	149	149	149
15.0	11.3	15000	150	150	150	150
15.1	11.3	15100	151	151		
15.2	11.3	15200	152	152		
15.3	11.3	15300	153	153		
15.4	11.3	15400	154	154		
15.5	11.9	15500	155	155	155	155
15.6	11.9	15600	156	156		
15.7	11.9	15700	157	157		
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
S				●		
H						
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→ Find the cutting data standard values here.
→ Find further information on machining here

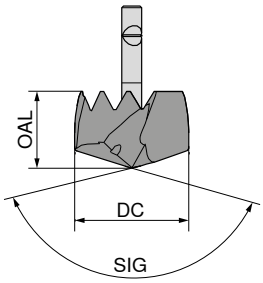
When changing the head, please observe the specified tightening torque.

Continued on next page

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7 mm	OAL mm	SIG 140° Solid carbide EH 10 919 ...	SIG 138° Solid carbide EH 10 923 ...	SIG 138° Solid carbide EH 10 921 ...	SIG 140° Solid carbide EH 10 924 ...	SIG 140° Solid carbide EH 10 922 ...
15.8	11.9	15800	158	158	158	158
15.9	11.9	15900	159	159		
16.0	11.9	16000	160	160	160	160
16.1	11.9	16100	161	161		
16.2	11.9	16200	162	162		
16.3	11.9	16300	163	163		
16.4	11.9	16400	164	164		
16.5	13.4	16500	165	165	165	165
16.6	13.4	16600	166	166		
16.7	13.4	16700	167	167		
16.8	13.4	16800	168	168	168	168
16.9	13.4	16900	169	169		
17.0	13.4	17000	170	170	170	170
17.1	13.4	17100	171	171		
17.2	13.4	17200	172	172		
17.3	13.4	17300	173	173	173	173
17.4	13.4	17400	174	174		
17.5	13.4	17500	175	175	175	175
17.6	13.4	17600	176	176		
17.7	13.4	17700	177	177	177	177
17.8	13.4	17800	178	178	178	178
17.9	13.4	17900	179	179		
18.0	13.4	18000	180	180	180	180
18.1	13.4	18100	181	181		
18.2	13.4	18200	182	182		
18.3	13.4	18300	183	183		
18.4	13.4	18400	184	184		
18.5	13.4	18500	185	185	185	185
18.6	13.4	18600	186	186	186	186
18.7	13.4	18700	187	187		
18.8	13.4	18800	188	188		
18.9	13.4	18900	189	189		
19.0	13.4	19000	190	190	190	190
19.1	13.4	19100	191	191		
19.2	13.4	19200	192	192		
19.3	13.4	19300	193	193		
19.4	13.4	19400	194	194		
19.5	13.4	19500	195	195	195	195
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
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→ Find the cutting data standard values here.
→ Find further information on machining here

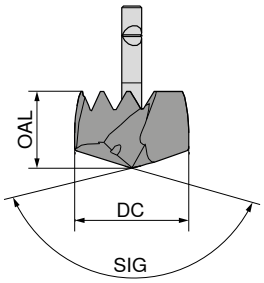
When changing the head, please observe the specified tightening torque.

Continued on next page

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



	SIG 140° Solid carbide	SIG 138° Solid carbide	SIG 138° Solid carbide	SIG 140° Solid carbide	SIG 140° Solid carbide
	EH	EH	EH	EH	EH
DC h7/m7 mm	10 919 ...	10 923 ...	10 921 ...	10 924 ...	10 922 ...
OAL mm					
19.6	13.4	19600	196	196		
19.7	13.4	19700	197	197		
19.8	13.4	19800	198	198	198	198
19.9	13.4	19900	199	199		
20.0	13.4	20000	200	200	200	200
20.1	13.4	20100	201	201		
20.2	13.4	20200	202	202		
20.3	13.4	20300	203	203		
20.4	13.4	20400	204	204		
20.5	15.4	20500	205	205	205	205
20.6	15.4	20600	206	206	206	206
20.7	15.4	20700	207	207	207	207
20.8	15.4	20800	208	208		
20.9	15.4	20900	209	209		
21.0	15.4	21000	210	210	210	210
21.1	15.4	21100	211	211	211	211
21.2	15.4	21200	212	212		
21.3	15.4	21300	213	213	213	213
21.4	15.4	21400	214	214		
21.5	15.4	21500	215	215	215	215
21.6	15.4	21600	216	216		
21.7	15.4	21700	217	217	217	217
21.8	15.4	21800	218	218		
21.9	15.4	21900	219	219	219	219
22.0	15.4	22000	220	220	220	220
22.1	15.4	22100	221	221		
22.2	15.4	22200	222	222	222	222
22.3	15.4	22300	223	223		
22.4	15.4	22400	224	224		
22.5	15.4	22500	225	225	225	225
22.6	15.4	22600	226	226		
22.7	15.4	22700	227	227		
22.8	15.4	22800	228	228		
22.9	15.4	22900	229	229		
23.0	15.4	23000	230	230	230	230
23.1	15.4	23100	231	231		
23.2	15.4	23200	232	232		
23.3	15.4	23300	233	233		
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
S				●		
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→ Find the cutting data standard values here.
→ Find further information on machining here

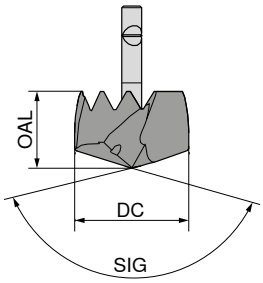
When changing the head, please observe the specified tightening torque.

Continued on next page

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7 mm	OAL mm	SIG 140° Solid carbide EH 10 919 ...	SIG 138° Solid carbide EH 10 923 ...	SIG 138° Solid carbide EH 10 921 ...	SIG 140° Solid carbide EH 10 924 ...	SIG 140° Solid carbide EH 10 922 ...
23.4	15.4	23400	234	234		
23.5	15.4	23500	235	235	235	235
23.6	15.4	23600	236	236		
23.7	15.4	23700	237	237		
23.8	15.4	23800	238	238	238	238
23.9	15.4	23900	239	239		
24.0	15.4	24000	240	240	240	240
24.1	15.4	24100	241	241		
24.2	15.4	24200	242	242		
24.3	15.4	24300	243	243		
24.4	15.4	24400	244	244	244	244
24.5	17.4	24500	245	245	245	245
24.6	17.4	24600	246	246		
24.7	17.4	24700	247	247		
24.8	17.4	24800	248	248		
24.9	17.4	24900	249	249		
25.0	17.4	25000	250	250	250	250
25.1	17.4	25100	251	251	251	251
25.2	17.4	25200	252	252	252	252
25.3	17.4	25300	253	253	253	253
25.4	17.4	25400	254	254		
25.5	17.4	25500	255	255		
25.6	17.4	25600	256	256		
25.7	17.4	25700	257	257		
25.8	17.4	25800	258	258		
25.9	17.4	25900	259	259		
26.0	17.4	26000	260	260	260	260
26.1	17.4	26100	261	261		
26.2	17.4	26200	262	262		
26.3	17.4	26300	263	263		
26.4	17.4	26400	264	264	264	264
26.5	17.4	26500	265	265	265	265
26.6	17.4	26600	266	266		
26.7	17.4	26700	267	267		
26.8	17.4	26800	268	268		
26.9	17.4	26900	269	269		
27.0	17.4	27000	270	270	270	270
27.1	17.4	27100	271	271		
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
S				●		
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→ Find the cutting data standard values here.
→ Find further information on machining here

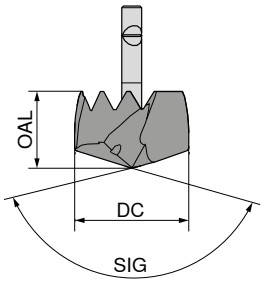
When changing the head, please observe the specified tightening torque.

Continued on next page

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7 mm	OAL mm	SIG 140° Solid carbide EH 10 919 ...	SIG 138° Solid carbide EH 10 923 ...	SIG 138° Solid carbide EH 10 921 ...	SIG 140° Solid carbide EH 10 924 ...	SIG 140° Solid carbide EH 10 922 ...
27.2	17.4	27200	272	272		
27.3	17.4	27300	273	273		
27.4	17.4	27400	274	274		
27.5	17.4	27500	275	275		
27.6	17.4	27600	276	276		
27.7	17.4	27700	277	277		
27.8	17.4	27800	278	278		
27.9	17.4	27900	279	279		
28.0	17.4	28000	280	280	280	280
28.1	17.4	28100	281	281		
28.2	17.4	28200	282	282		
28.3	17.4	28300	283	283		
28.4	17.4	28400	284	284		
28.5	18.4	28500	285	285		
28.6	18.4	28600	286	286		
28.7	18.4	28700	287	287		
28.8	18.4	28800	288	288		
28.9	18.4	28900	289	289		
29.0	18.4	29000	290	290	290	290
29.1	18.4	29100	291	291		
29.2	18.4	29200	292	292		
29.3	18.4	29300	293	293		
29.4	18.4	29400	294	294		
29.5	18.4	29500	295	295		
29.6	18.4	29600	296	296		
29.7	18.4	29700	297	297		
29.8	18.4	29800	298	298		
29.9	18.4	29900	299	299		
30.0	18.4	30000	300	300	300	300
30.1	18.4	30100	301	301		
30.2	18.4	30200	302	302		
30.3	18.4	30300	303	303		
30.4	18.4	30400	304	304		
30.5	18.4	30500	305	305		
30.6	18.4	30600	306	306		
30.7	18.4	30700	307	307		
30.8	18.4	30800	308	308		
30.9	18.4	30900	309	309		
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
S				●		
H						
O						

→ Find the cutting data standard values here.
→ Find further information on machining here

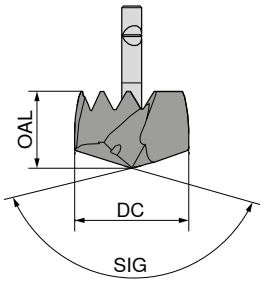
When changing the head, please observe the specified tightening torque.

Continued on next page

WTX – Drilling head for exchangeable head drills

▲ Extra-long head type





Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7 mm	OAL mm	SIG 140° Solid carbide EH 10 919 ...	SIG 138° Solid carbide EH 10 923 ...	SIG 138° Solid carbide EH 10 921 ...	SIG 140° Solid carbide EH 10 924 ...	SIG 140° Solid carbide EH 10 922 ...
31.0	18.4	31000	310	310	310	310
31.1	18.4	31100	311	311		
31.2	18.4	31200	312	312		
31.3	18.4	31300	313	313		
31.4	18.4	31400	314	314		
31.5	18.4	31500	315	315		
31.6	18.4	31600	316	316		
31.7	18.4	31700	317	317		
31.8	18.4	31800	318	318		
31.9	18.4	31900	319	319		
32.0	18.4	32000	320	320	320	320
32.5	24.3	32500	325			
33.0	24.3	33000	330			
33.5	24.3	33500	335			
34.0	24.3	34000	340			
34.5	24.3	34500	345			
35.0	24.3	35000	350			
35.5	26.3	35500	355			
36.0	26.3	36000	360			
36.5	26.3	36500	365			
37.0	26.3	37000	370			
37.5	26.3	37500	375			
38.0	26.3	38000	380			
38.5	26.3	38500	385			
39.0	26.3	39000	390			
39.5	26.3	39500	395			
40.0	26.3	40000	400			
40.5	26.3	40500	405			
41.0	26.3	41000	410			
P		●	●	○		
M				●		
K		●	●	●	●	
N						●
S				●		
H						
O						

→ Find the cutting data standard values here.
→ Find further information on machining here

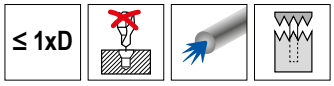
When changing the head, please observe the specified tightening torque.

WTX – Holder for exchangeable head drills

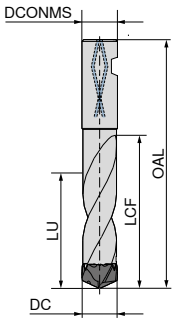
▲ With radial teeth

Scope of supply:

Holder incl. offset screwdriver



Change







DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	Tightening torque Nm	TO 10 911 ...
12,00 - 12,49	14	81	29	12.5	1,0	120
12,50 - 12,99	14	81	29	13.0	1,0	125
13,00 - 13,49	14	81	31	13.5	1,0	130
13,50 - 13,99	16	86	32	14.0	1,3	135
14,00 - 14,49	16	86	33	14.5	1,3	140
14,50 - 14,99	16	91	34	15.0	1,3	145
15,00 - 15,49	16	91	36	15.5	1,3	150
15,50 - 16,49	20	97	38	16.5	1,3	161
15,50 - 16,49	18	92	38	16.5	1,3	160
16,50 - 17,49	20	99	40	17.5	3,5	166
16,50 - 17,49	18	94	40	17.5	3,5	165
17,50 - 18,49	20	104	43	18.5	3,5	176
17,50 - 18,49	18	99	43	18.5	3,5	175
18,50 - 19,49	20	99	45	19.5	3,5	185
19,50 - 20,49	20	104	47	20.5	3,5	195
20,50 - 21,49	25	111	49	21.5	3,5	205
21,50 - 22,49	25	116	52	22.5	3,5	215
22,50 - 23,49	25	116	54	23.5	3,5	225
23,50 - 24,49	25	121	56	24.5	4,0	235
24,50 - 25,49	25	123	59	25.5	4,0	245
25,50 - 26,49	25	123	61	26.5	4,0	255
26,50 - 27,49	25	128	63	27.5	4,0	265
27,50 - 28,49	25	128	66	28.5	4,0	275
28,50 - 29,49	32	134	68	29.5	4,0	285
29,50 - 30,49	32	139	70	30.5	4,0	295
30,50 - 31,49	32	139	75	31.5	4,0	305
31,50 - 32,49	32	139	75	32.5	4,0	315
32,50 - 33,49	32	150	78	33.5	6,0	325
33,50 - 34,49	32	150	79	34.5	6,0	335
34,50 - 35,49	32	150	82	35.5	6,0	345
35,50 - 37,49	32	152	86	37.5	6,0	355
37,50 - 39,49	32	157	91	39.5	6,0	375
39,50 - 41,00	32	167	95	41.5	6,0	395

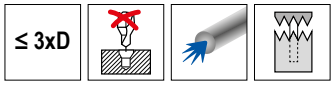
→ Find the right spare parts here

WTX – Holder for exchangeable head drills

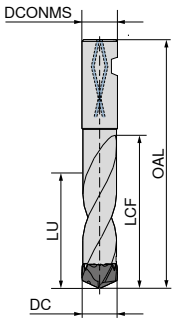
▲ With radial teeth

Scope of supply:

Holder incl. offset screwdriver



Change







DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	Tightening torque Nm	TO 10 913 ...
12,00 - 12,49	14	100	53	38.0	1,0	120
12,50 - 12,99	14	105	55	39.0	1,0	125
13,00 - 13,49	14	105	57	40.0	1,0	130
13,50 - 13,99	16	110	59	42.0	1,3	135
14,00 - 14,49	16	115	61	43.0	1,3	140
14,50 - 14,99	16	115	63	45.0	1,3	145
15,00 - 15,49	16	115	65	46.0	1,3	150
15,50 - 16,49	18	120	70	50.0	1,3	160
15,50 - 16,49	20	125	70	50.0	1,3	161
16,50 - 17,49	18	125	74	53.0	3,5	165
16,50 - 17,49	20	130	74	50.0	3,5	166
17,50 - 18,49	18	130	78	55.0	3,5	175
17,50 - 18,49	20	135	78	50.0	3,5	176
18,50 - 19,49	20	135	82	58.0	3,5	185
19,50 - 20,49	20	140	87	62.0	3,5	195
20,50 - 21,49	25	150	91	65.0	3,5	205
21,50 - 22,49	25	155	95	67.0	3,5	215
22,50 - 23,49	25	160	99	70.0	3,5	225
23,50 - 24,49	25	165	103	73.0	3,5	235
24,50 - 25,49	25	165	108	77.0	4,0	245
25,50 - 26,49	25	175	112	80.0	4,0	255
26,50 - 27,49	25	175	116	82.0	4,0	265
27,50 - 28,49	25	180	120	85.0	4,0	275
28,50 - 29,49	32	190	124	88.0	4,0	285
29,50 - 30,49	32	195	129	92.0	4,0	295
30,50 - 31,49	32	195	133	94.0	4,0	305
31,50 - 32,49	32	200	137	97.0	4,0	315
32,50 - 33,49	32	210	144	100.5	6,0	325
33,50 - 34,49	32	215	148	103.5	6,0	335
34,50 - 35,49	32	220	153	106.5	6,0	345
35,50 - 37,49	32	227	161	112.5	6,0	355
37,50 - 39,49	32	237	170	118.5	6,0	375
39,50 - 41,00	32	247	178	124.5	6,0	395

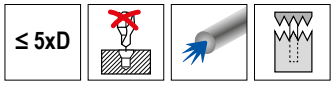
→ Find the right spare parts here

WTX – Holder for exchangeable head drills

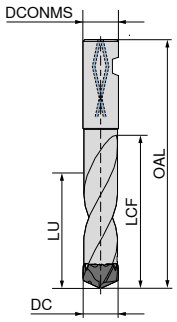
▲ With radial teeth

Scope of supply:

Holder incl. offset screwdriver



Change





DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	Tightening torque Nm	TO 10 915 ...
12,00 - 12,49	14	125	78	62.0	1,0	120
12,50 - 12,99	14	130	81	65.0	1,0	125
13,00 - 13,49	14	130	84	67.0	1,0	130
13,50 - 13,99	16	140	88	70.0	1,3	135
14,00 - 14,49	16	140	90	72.0	1,3	140
14,50 - 14,99	16	145	94	75.0	1,3	145
15,00 - 15,49	16	145	96	77.0	1,3	150
15,50 - 16,49	18	155	103	82.0	1,3	160
15,50 - 16,49	20	160	103	82.0	1,3	161
16,50 - 17,49	18	160	109	87.0	3,5	165
16,50 - 17,49	20	165	109	87.0	3,5	166
17,50 - 18,49	18	165	115	92.0	3,5	175
17,50 - 18,49	20	170	115	92.0	3,5	176
18,50 - 19,49	20	175	121	97.0	3,5	185
19,50 - 20,49	20	180	128	102.0	3,5	195
20,50 - 21,49	25	195	134	107.0	3,5	205
21,50 - 22,49	25	200	140	112.0	3,5	215
22,50 - 23,49	25	205	146	117.0	3,5	225
23,50 - 24,49	25	210	152	122.0	3,5	235
24,50 - 25,49	25	220	159	127.0	4,0	245
25,50 - 26,49	25	225	165	132.0	4,0	255
26,50 - 27,49	25	230	171	137.0	4,0	265
27,50 - 28,49	25	240	177	142.0	4,0	275
28,50 - 29,49	32	250	183	146.0	4,0	285
29,50 - 30,49	32	255	190	152.0	4,0	295
30,50 - 31,49	32	260	196	157.0	4,0	305
31,50 - 32,49	32	265	202	162.0	4,0	315
32,50 - 33,49	32	275	210	167.5	6,0	325
33,50 - 34,49	32	285	217	172.5	6,0	335
34,50 - 35,49	32	290	224	177.5	6,0	345
35,50 - 37,49	32	302	236	187.5	6,0	355
37,50 - 39,49	32	317	249	197.5	6,0	375
39,50 - 41,00	32	327	261	207.5	6,0	395

→ Find the right spare parts here

WTX – Holder for exchangeable head drills

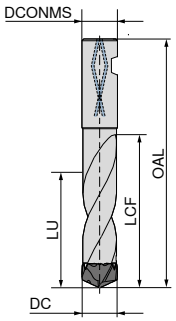
▲ Pilot hole is recommended
▲ With radial teeth

Scope of supply:

Holder incl. offset screwdriver



Change





DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	Tightening torque Nm	TO 10 918 ...
12,00 - 12,49	14	165	116	100	1,0	120
12,50 - 12,99	14	170	121	104	1,0	125
13,00 - 13,49	14	175	126	108	1,0	130
13,50 - 13,99	16	180	129	111	1,3	135
14,00 - 14,49	16	185	134	115	1,3	140
14,50 - 14,99	16	190	139	120	1,3	145
15,00 - 15,49	16	195	144	124	1,3	150
15,50 - 16,49	18	205	152	131	1,3	160
15,50 - 16,49	20	210	152	131	1,3	161
16,50 - 17,49	18	215	161	138	3,5	165
16,50 - 17,49	20	220	161	138	3,5	166
17,50 - 18,49	18	220	171	147	3,5	175
17,50 - 18,49	20	225	171	147	3,5	176
18,50 - 19,49	20	235	180	155	3,5	185
19,50 - 20,49	20	240	189	163	3,5	195
20,50 - 21,49	25	260	198	170	3,5	205
21,50 - 22,49	25	270	207	178	3,5	215
22,50 - 23,49	25	275	217	187	3,5	225
23,50 - 24,49	25	285	226	194	3,5	235
24,50 - 25,49	25	295	235	202	4,0	245
25,50 - 26,49	25	305	244	210	4,0	255
26,50 - 27,49	25	315	253	218	4,0	265
27,50 - 28,49	25	325	263	226	4,0	275
28,50 - 29,49	32	340	272	234	4,0	285
29,50 - 30,49	32	345	281	242	4,0	295
30,50 - 31,49	32	355	290	249	4,0	305
31,50 - 32,00	32	360	299	257	4,0	315

→ Find the right spare parts here

WTX – Holder for exchangeable head drills

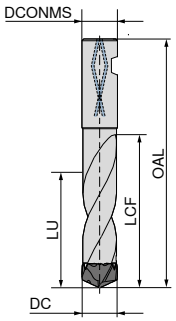
▲ Pilot hole is recommended
▲ With radial teeth

Scope of supply:

Holder incl. offset screwdriver



Change





DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	Tightening torque Nm	TO 10 912 ...
12,00 - 12,49	14	210	162	150	1,0	12000
12,50 - 12,99	14	216	168	156	1,0	12500
13,00 - 13,49	14	223	175	162	1,0	13000
13,50 - 13,99	16	235	182	168	1,3	13500
14,00 - 14,49	16	242	189	174	1,3	14000
14,50 - 14,99	16	248	195	180	1,3	14500
15,00 - 15,49	16	255	202	186	1,3	15000
15,50 - 16,49	18	262	209	198	1,3	15500
16,50 - 17,49	18	275	222	210	3,5	16500
17,50 - 18,49	18	289	236	222	3,5	17500
18,50 - 19,49	20	304	249	234	3,5	18500
19,50 - 20,49	20	318	263	246	3,5	19500
20,50 - 21,49	25	337	276	258	3,5	20500
21,50 - 22,49	25	351	290	270	3,5	21500
22,50 - 23,49	25	364	303	282	3,5	22500
23,50 - 24,49	25	378	317	294	3,5	23500
24,50 - 25,49	25	391	330	306	4,0	24500
25,50 - 26,49	25	405	344	318	4,0	25500
26,50 - 27,49	25	418	357	330	4,0	26500
27,50 - 28,49	25	432	371	342	4,0	27500
28,50 - 29,49	32	449	384	354	4,0	28500
29,50 - 30,49	32	463	398	366	4,0	29500
30,50 - 31,49	32	476	411	378	4,0	30500
31,50 - 32,00	32	490	425	390	4,0	31500

→ Find the right spare parts here

Spare parts DC		 Key AS 80 950 ...		 Key I AS 80 950 ...		 Set Screw AS 10 950 ...
12,00 - 12,49			SW1,3	132	M2,5x0,45x5	025
12,50 - 12,99			SW1,3	132	M2,5x0,45x6	026
13,00 - 13,49			SW1,3	132	M2,5x0,45x6	026
13,50 - 13,99	SW1,5	133			M3x0,5x6	031
14,00 - 14,49	SW1,5	133			M3x0,5x6	031
14,50 - 14,99	SW1,5	133			M3x0,5x7	030
15,00 - 15,49	SW1,5	133			M3x0,5x7	030
15,50 - 16,49	SW1,5	133			M3x0,5x7	030
16,50 - 17,49	SW2	134			M4x0,5x7,5	040
17,50 - 18,49	SW2	134			M4x0,5x7,5	040
18,50 - 19,49	SW2	134			M4x0,5x7,5	040
19,50 - 20,49	SW2	134			M4x0,5x7,5	040
20,50 - 21,49	SW2	134			M4x0,5x10	041
21,50 - 22,49	SW2	134			M4x0,5x10	041
22,50 - 23,49	SW2	134			M4x0,5x10	041
23,50 - 24,49	SW2	134			M4x0,5x10	041
24,50 - 25,49	SW2,5	135			M5x0,5x11	050
25,50 - 26,49	SW2,5	135			M5x0,5x11	050
26,50 - 27,49	SW2,5	135			M5x0,5x11	050
27,50 - 28,49	SW2,5	135			M5x0,5x11	050
28,50 - 29,49	SW2,5	135			M5x0,5x14	051
29,50 - 30,49	SW2,5	135			M5x0,5x14	051
30,50 - 31,49	SW2,5	135			M5x0,5x14	051
31,50 - 32,49	SW2,5	135			M5x0,5x14	051
32,50 - 33,49	SW 3	136			M6x0,5x16	060
33,50 - 34,49	SW 3	136			M6x0,5x16	060
34,50 - 35,49	SW 3	136			M6x0,5x16	060
35,50 - 37,49	SW 3	136			M6x0,5x18	061
37,50 - 39,49	SW 3	136			M6x0,5x18	061
39,50 - 41,00	SW 3	136			M6x0,5x20	062

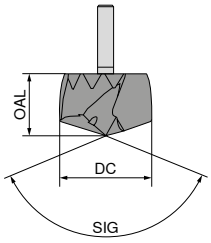
WTX – Drilling head for exchangeable head drills

▲ Extra-long head type
▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

DC m7 mm	OAL mm	EH 10 925 ...
14.0	13.5	140
14.1	13.5	141
14.2	13.5	142
14.3	13.5	143
14.4	13.5	144
14.5	14.0	145
14.6	14.0	146
14.7	14.0	147
14.8	14.0	148
14.9	14.0	149
15.0	14.4	150
15.1	14.4	151
15.2	14.4	152
15.3	14.4	153
15.4	14.4	154
15.5	15.4	155
15.6	15.4	156
15.7	15.4	157
15.8	15.4	158
15.9	15.4	159
16.0	15.4	160
16.1	15.4	161
16.2	15.4	162
16.3	15.4	163
16.4	15.4	164
16.5	16.3	165
16.6	16.3	166
16.7	16.3	167
16.8	16.3	168
16.9	16.3	169
17.0	16.3	170
17.1	16.3	171

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

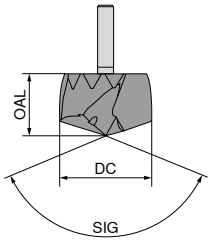
WTX – Drilling head for exchangeable head drills

▲ Extra-long head type
▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

DC m7 mm	OAL mm	EH 10 925 ...
17.2	16.3	172
17.3	16.3	173
17.4	16.3	174
17.5	17.2	175
17.6	17.2	176
17.7	17.2	177
17.8	17.2	178
17.9	17.2	179
18.0	17.2	180
18.1	17.2	181
18.2	17.2	182
18.3	17.2	183
18.4	17.2	184
18.5	18.2	185
18.6	18.2	186
18.7	18.2	187
18.8	18.2	188
18.9	18.2	189
19.0	18.2	190
19.1	18.2	191
19.2	18.2	192
19.3	18.2	193
19.4	18.2	194
19.5	19.1	195
19.6	19.1	196
19.7	19.1	197
19.8	19.1	198
19.9	19.1	199
20.0	19.1	200
20.1	19.1	201
20.2	19.1	202
20.3	19.1	203

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

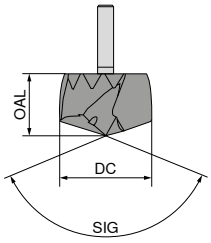
WTX – Drilling head for exchangeable head drills

- ▲ Extra-long head type
- ▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

DC $_{m7}$ mm	OAL mm	EH 10 925 ...
20.4	19.1	204
20.5	20.0	205
20.6	20.0	206
20.7	20.0	207
20.8	20.0	208
20.9	20.0	209
21.0	20.0	210
21.1	20.0	211
21.2	20.0	212
21.3	20.0	213
21.4	20.0	214
21.5	21.0	215
21.6	21.0	216
21.7	21.0	217
21.8	21.0	218
21.9	21.0	219
22.0	21.0	220
22.1	21.0	221
22.2	21.0	222
22.3	21.0	223
22.4	21.0	224
22.5	21.9	225
22.6	21.9	226
22.7	21.9	227
22.8	21.9	228
22.9	21.9	229
23.0	21.9	230
23.1	21.9	231
23.2	21.9	232
23.3	21.9	233
23.4	21.9	234
23.5	22.8	235

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

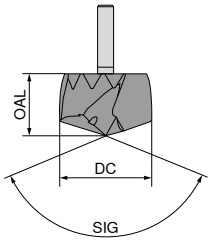
WTX – Drilling head for exchangeable head drills

- ▲ Extra-long head type
- ▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

DC m7 mm	OAL mm	EH 10 925 ...
23.6	22.8	236
23.7	22.8	237
23.8	22.8	238
23.9	22.8	239
24.0	22.8	240
24.1	22.8	241
24.2	22.8	242
24.3	22.8	243
24.4	22.8	244
24.5	23.8	245
24.6	23.8	246
24.7	23.8	247
24.8	23.8	248
24.9	23.8	249
25.0	23.8	250
25.1	23.8	251
25.2	23.8	252
25.3	23.8	253
25.4	23.8	254
25.5	24.7	255
25.6	24.7	256
25.7	24.7	257
25.8	24.7	258
25.9	24.7	259
26.0	24.7	260
26.1	24.7	261
26.2	24.7	262
26.3	24.7	263
26.4	24.7	264
26.5	25.6	265
26.6	25.6	266
26.7	25.6	267

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find further information on machining here

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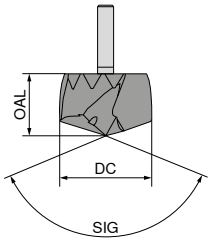
WTX – Drilling head for exchangeable head drills

▲ Extra-long head type
▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

DC $_{m7}$ mm	OAL mm	EH 10 925 ...
26.8	25.6	268
26.9	25.6	269
27.0	25.6	270
27.1	25.6	271
27.2	25.6	272
27.3	25.6	273
27.4	25.6	274
27.5	26.6	275
27.6	26.6	276
27.7	26.6	277
27.8	26.6	278
27.9	26.6	279
28.0	26.6	280
28.1	26.6	281
28.2	26.6	282
28.3	26.6	283
28.4	26.6	284
28.5	27.5	285
28.6	27.5	286
28.7	27.5	287
28.8	27.5	288
28.9	27.5	289
29.0	27.5	290
29.1	27.5	291
29.2	27.5	292
29.3	27.5	293
29.4	27.5	294
29.5	28.4	295
29.6	28.4	296
29.7	28.4	297
29.8	28.4	298
29.9	28.4	299

P	●
M	
K	●
N	
S	
H	
O	

→ Find the cutting data standard values here.
→ Find further information on machining here

Continued on next page

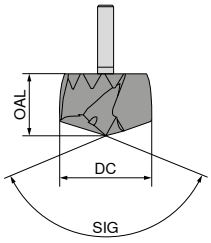
WTX – Drilling head for exchangeable head drills

▲ Extra-long head type
▲ Three-edged

Scope of supply:

Drill head incl. differential screw





Change Feed UNI

Ti750



SIG 140°
Solid carbide

EH

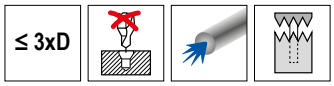
DC $_{m7}$ mm	OAL mm	10 925 ...
30.0	28.4	300
30.1	28.4	301
30.2	28.4	302
30.3	28.4	303
30.4	28.4	304
30.5	29.3	305
30.6	29.3	306
30.7	29.3	307
30.8	29.3	308
30.9	29.3	309
31.0	29.3	310
31.1	29.3	311
31.2	29.3	312
31.3	29.3	313
31.4	29.3	314
31.5	30.3	315
31.6	30.3	316
31.7	30.3	317
31.8	30.3	318
31.9	30.3	319
32.0	30.3	320
P		●
M		
K		●
N		
S		
H		
O		

→ Find the cutting data standard values here.
→ Find further information on machining here

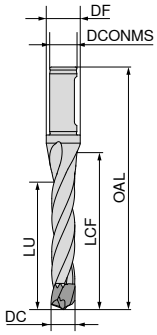
WTX – Holder for exchangeable head drills

Scope of supply:

Holder incl. blade holder and interchangeable blade



Change Feed







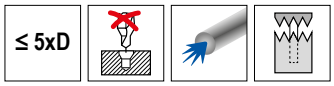
DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	TO 10 914 ...
14,00 - 14,49	16	120	72	48	20	0,7	**140**
14,50 - 14,99	16	122	74	49	20	0,7	**145**
15,00 - 15,49	16	124	76	51	25	0,7	**150**
15,50 - 16,49	20	131	81	54	25	0,7	**155**
16,50 - 17,49	20	135	85	58	25	0,7	**165**
17,50 - 18,49	20	140	90	61	25	1,3	**175**
18,50 - 19,49	25	150	94	64	31	1,3	**185**
19,50 - 20,49	25	155	99	68	31	2,0	**195**
20,50 - 21,49	25	159	103	71	31	2,0	**205**
21,50 - 22,49	25	164	108	74	31	2,0	**215**
22,50 - 23,49	25	168	112	78	31	2,0	**225**
23,50 - 24,49	25	173	117	81	31	2,0	**235**
24,50 - 25,49	32	182	122	84	38	3,1	**245**
25,50 - 26,49	32	186	126	87	38	3,1	**255**
26,50 - 27,49	32	191	131	91	38	3,1	**265**
27,50 - 28,49	32	195	135	94	38	3,1	**275**
28,50 - 29,49	32	200	140	97	38	5,6	**285**
29,50 - 30,49	32	204	144	101	38	5,6	**295**
30,50 - 31,49	32	209	149	104	38	5,6	**305**
31,50 - 32,49	32	213	153	107	38	5,6	**315**

→ Find the right spare parts here

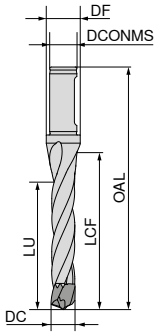
WTX – Holder for exchangeable head drills

Scope of supply:

Holder incl. blade holder and interchangeable blade



Change Feed





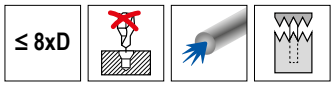
DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	TO 10 916 ...
14,00 - 14,49	16	149	101	77	20	0,7	140
14,50 - 14,99	16	152	104	79	20	0,7	145
15,00 - 15,49	16	155	107	82	25	0,7	150
15,50 - 16,49	20	164	114	87	25	0,7	155
16,50 - 17,49	20	170	120	93	25	0,7	165
17,50 - 18,49	20	177	127	98	25	1,3	175
18,50 - 19,49	25	189	133	103	31	1,3	185
19,50 - 20,49	25	196	140	109	31	2,0	195
20,50 - 21,49	25	202	146	114	31	2,0	205
21,50 - 22,49	25	209	153	119	31	2,0	215
22,50 - 23,49	25	215	159	124	31	2,0	225
23,50 - 24,49	25	222	166	130	31	2,0	235
24,50 - 25,49	32	233	173	135	38	3,1	245
25,50 - 26,49	32	239	179	140	38	3,1	255
26,50 - 27,49	32	246	186	146	38	3,1	265
27,50 - 28,49	32	252	192	151	38	3,1	275
28,50 - 29,49	32	259	199	156	38	5,6	285
29,50 - 30,49	32	265	205	162	38	5,6	295
30,50 - 31,49	32	272	212	167	38	5,6	305
31,50 - 32,49	32	278	218	172	38	5,6	315

→ Find the right spare parts here

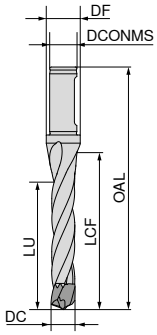
WTX – Holder for exchangeable head drills

Scope of supply:

Holder incl. blade holder and interchangeable blade



Change Feed





DC mm	DCONMS h6 mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	TO 10 917 ...
14,00 - 14,49	16	192	144	120	20	0,7	14000
14,50 - 14,99	16	197	149	124	20	0,7	14500
15,00 - 15,49	16	202	154	129	25	0,7	15000
15,50 - 16,49	20	213	163	137	25	0,7	15500
16,50 - 17,49	20	223	173	145	25	0,7	16500
17,50 - 18,49	20	232	182	153	25	1,3	17500
18,50 - 19,49	25	248	192	162	31	1,3	18500
19,50 - 20,49	25	257	201	170	31	2,0	19500
20,50 - 21,49	25	267	211	178	31	2,0	20500
21,50 - 22,49	25	276	220	187	31	2,0	21500
22,50 - 23,49	25	286	230	195	31	2,0	22500
23,50 - 24,49	25	295	239	203	31	2,0	23500
24,50 - 25,49	32	309	249	212	38	3,1	24500
25,50 - 26,49	32	319	259	220	38	3,1	25500
26,50 - 27,49	32	328	268	228	38	3,1	26500
27,50 - 28,49	32	338	278	236	38	3,1	27500
28,50 - 29,49	32	342	282	245	38	5,6	28500
29,50 - 30,49	32	352	292	253	38	5,6	29500
30,50 - 31,49	32	361	301	261	38	5,6	30500
31,50 - 32,49	32	371	311	270	38	5,6	31500

→ Find the right spare parts here

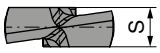
	Interchangeable blades		 Blade holders		 Torque handles		 Differential screw
	AS		AS		AS		AS
Spare parts DC	**80 022 ...**		**80 020 ...**		**80 023 ...**		**10 950 ...**
14,00 - 14,49	**007**	1/4"	**025**	0,24 - 1,2 Nm	**012**	Ø14,00 - Ø17,40	**064**
14,50 - 14,99	**007**	1/4"	**025**	0,24 - 1,2 Nm	**012**	Ø14,00 - Ø17,40	**064**
15,00 - 15,49	**007**	1/4"	**025**	0,24 - 1,2 Nm	**012**	Ø14,00 - Ø17,40	**064**
15,50 - 16,49	**007**	1/4"	**025**	0,24 - 1,2 Nm	**012**	Ø14,00 - Ø17,40	**064**
16,50 - 17,49	**007**	1/4"	**025**	0,24 - 1,2 Nm	**012**	Ø14,00 - Ø17,40	**064**
17,50 - 18,49	**008**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø17,50 - Ø19,40	**065**
18,50 - 19,49	**008**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø17,50 - Ø19,40	**065**
19,50 - 20,49	**010**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø19,50 - Ø24,40	**066**
20,50 - 21,49	**010**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø19,50 - Ø24,40	**066**
21,50 - 22,49	**010**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø19,50 - Ø24,40	**066**
22,50 - 23,49	**010**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø19,50 - Ø24,40	**066**
23,50 - 24,49	**010**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø19,50 - Ø24,40	**066**
24,50 - 25,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø24,50 - Ø28,40	**067**
25,50 - 26,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø24,50 - Ø28,40	**067**
26,50 - 27,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø24,50 - Ø28,40	**067**
27,50 - 28,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø24,50 - Ø28,40	**067**
28,50 - 29,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø28,50 - Ø32,00	**068**
29,50 - 30,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø28,50 - Ø32,00	**068**
30,50 - 31,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø28,50 - Ø32,00	**068**
31,50 - 32,49	**015**	1/4"	**025**	1,20 - 6,0 Nm	**060**	Ø28,50 - Ø32,00	**068**

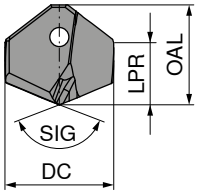
CoreLine – Indexable insert for indexable insert drill

Scope of supply:

Indexable insert (clamping screws can be ordered separately, if necessary)

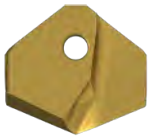






WPC Change UNI

TPX74S



DC $_{m7}$ mm	OAL mm	LPR mm	S mm	SIG 135° HM IH 11 910 ...
14.0	12.8	7.73	5.0	**14000**
14.1	12.8	7.73	5.0	**14100**
14.2	12.8	7.73	5.0	**14200**
14.3	12.8	7.73	5.0	**14300**
14.4	12.8	7.73	5.0	**14400**
14.5	13.1	7.84	5.0	**14500**
14.6	13.1	7.84	5.0	**14600**
14.7	13.1	7.84	5.0	**14700**
14.8	13.1	7.84	5.0	**14800**
14.9	13.1	7.84	5.0	**14900**
15.0	13.4	7.95	5.0	**15000**
15.1	13.4	7.95	5.0	**15100**
15.2	13.4	7.95	5.0	**15200**
15.3	13.4	7.95	5.0	**15300**
15.4	13.4	7.95	5.0	**15400**
15.5	13.7	8.05	5.0	**15500**
15.6	13.7	8.05	5.0	**15600**
15.7	13.7	8.05	5.0	**15700**
15.8	13.7	8.05	5.0	**15800**
15.9	13.7	8.05	5.0	**15900**
16.0	14.4	9.06	5.8	**16000**
16.1	14.4	9.06	5.8	**16100**
16.2	14.4	9.06	5.8	**16200**
16.3	14.4	9.06	5.8	**16300**
16.4	14.4	9.06	5.8	**16400**
16.5	14.7	9.17	5.8	**16500**
16.6	14.7	9.17	5.8	**16600**
16.7	14.7	9.17	5.8	**16700**
16.8	14.7	9.17	5.8	**16800**
16.9	14.7	9.17	5.8	**16900**
17.0	15.0	9.28	5.8	**17000**
17.1	15.0	9.28	5.8	**17100**
17.2	15.0	9.28	5.8	**17200**
17.3	15.0	9.28	5.8	**17300**
17.4	15.0	9.28	5.8	**17400**
17.5	15.3	9.39	5.8	**17500**

P	●
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→ Find the cutting data standard values here.
→ Find further information on machining here



When changing the head, please observe the specified tightening torque.

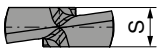
Continued on next page

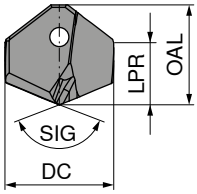
CoreLine – Indexable insert for indexable insert drill

Scope of supply:

Indexable insert (clamping screws can be ordered separately, if necessary)

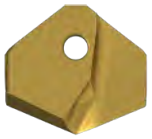






WPC Change UNI

TPX74S



DC $_{m7}$ mm	OAL mm	LPR mm	S mm	SIG 135° HM IH 11 910 ...
17.6	15.3	9.39	5.8	17600
17.7	15.3	9.39	5.8	17700
17.8	15.3	9.39	5.8	17800
17.9	15.3	9.39	5.8	17900
18.0	16.3	10.19	6.5	18000
18.1	16.3	10.19	6.5	18100
18.2	16.3	10.19	6.5	18200
18.3	16.3	10.19	6.5	18300
18.4	16.3	10.19	6.5	18400
18.5	16.6	10.30	6.5	18500
18.6	16.6	10.30	6.5	18600
18.7	16.6	10.30	6.5	18700
18.8	16.6	10.30	6.5	18800
18.9	16.6	10.30	6.5	18900
19.0	16.9	10.41	6.5	19000
19.1	16.9	10.41	6.5	19100
19.2	16.9	10.41	6.5	19200
19.3	16.9	10.41	6.5	19300
19.4	16.9	10.41	6.5	19400
19.5	17.2	10.52	6.5	19500
19.6	17.2	10.52	6.5	19600
19.7	17.2	10.52	6.5	19700
19.8	17.2	10.52	6.5	19800
19.9	17.2	10.52	6.5	19900
20.0	18.2	11.33	7.2	20000
20.1	18.2	11.33	7.2	20100
20.2	18.2	11.33	7.2	20200
20.3	18.2	11.33	7.2	20300
20.4	18.2	11.33	7.2	20400
20.5	18.5	11.43	7.2	20500
20.6	18.5	11.43	7.2	20600
20.7	18.5	11.43	7.2	20700
20.8	18.5	11.43	7.2	20800
20.9	18.5	11.43	7.2	20900
21.0	18.8	11.54	7.2	21000
21.1	18.8	11.54	7.2	21100
P				●
M				
K				●
N				
S				
H				
O				



→ Find the cutting data standard values here.
→ Find further information on machining here



When changing the head, please observe the specified tightening torque.

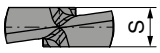
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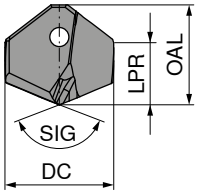
CoreLine – Indexable insert for indexable insert drill

Scope of supply:

Indexable insert (clamping screws can be ordered separately, if necessary)

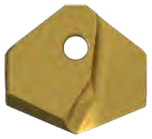






WPC Change UNI

TPX74S



DC $_{m7}$ mm	OAL mm	LPR mm	S mm	SIG 135° HM IH 11 910 ...
21.2	18.8	11.54	7.2	**21200**
21.3	18.8	11.54	7.2	**21300**
21.4	18.8	11.54	7.2	**21400**
21.5	19.1	11.65	7.2	**21500**
21.6	19.1	11.65	7.2	**21600**
21.7	19.1	11.65	7.2	**21700**
21.8	19.1	11.65	7.2	**21800**
21.9	19.1	11.65	7.2	**21900**
22.0	20.2	12.56	7.9	**22000**
22.1	20.2	12.56	7.9	**22100**
22.2	20.2	12.56	7.9	**22200**
22.3	20.2	12.56	7.9	**22300**
22.4	20.2	12.56	7.9	**22400**
22.5	20.5	12.67	7.9	**22500**
22.6	20.5	12.67	7.9	**22600**
22.7	20.5	12.67	7.9	**22700**
22.8	20.5	12.67	7.9	**22800**
22.9	20.5	12.67	7.9	**22900**
23.0	20.8	12.78	7.9	**23000**
23.1	20.8	12.78	7.9	**23100**
23.2	20.8	12.78	7.9	**23200**
23.3	20.8	12.78	7.9	**23300**
23.4	20.8	12.78	7.9	**23400**
23.5	21.1	12.88	7.9	**23500**
23.6	21.1	12.88	7.9	**23600**
23.7	21.1	12.88	7.9	**23700**
23.8	21.1	12.88	7.9	**23800**
23.9	21.1	12.88	7.9	**23900**
24.0	22.1	13.69	8.6	**24000**
24.1	22.1	13.69	8.6	**24100**
24.2	22.1	13.69	8.6	**24200**
24.3	22.1	13.69	8.6	**24300**
24.4	22.1	13.69	8.6	**24400**
24.5	22.4	13.80	8.6	**24500**
24.6	22.4	13.80	8.6	**24600**
24.7	22.4	13.80	8.6	**24700**
P				●
M				
K				●
N				
S				
H				
O				

→ Find the cutting data standard values here.
→ Find further information on machining here

When changing the head, please observe the specified tightening torque.

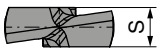
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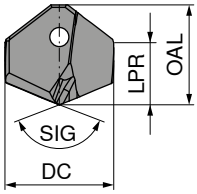
CoreLine – Indexable insert for indexable insert drill

Scope of supply:

Indexable insert (clamping screws can be ordered separately, if necessary)

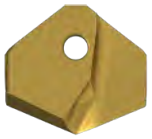






WPC Change UNI

TPX74S



DC $_{m7}$ mm	OAL mm	LPR mm	S mm	SIG 135° HM IH 11 910 ...
24.8	22.4	13.80	8.6	**24800**
24.9	22.4	13.80	8.6	**24900**
25.0	22.7	13.91	8.6	**25000**
25.1	22.7	13.91	8.6	**25100**
25.2	22.7	13.91	8.6	**25200**
25.3	22.7	13.91	8.6	**25300**
25.4	22.7	13.91	8.6	**25400**
25.5	23.0	14.02	8.6	**25500**
25.6	23.0	14.02	8.6	**25600**
25.7	23.0	14.02	8.6	**25700**
25.8	23.0	14.02	8.6	**25800**
25.9	23.0	14.02	8.6	**25900**
26.0	24.1	14.92	9.4	**26000**
26.5	24.4	15.03	9.4	**26500**
27.0	24.7	15.14	9.4	**27000**
27.5	25.0	15.25	9.4	**27500**
28.0	25.3	15.36	9.4	**28000**
28.5	25.6	15.47	9.4	**28500**
29.0	25.9	15.57	9.4	**29000**
29.5	26.2	15.68	9.4	**29500**
30.0	26.2	15.49	9.4	**30000**
P				●
M				
K				●
N				
S				
H				
O				



→ Find the cutting data standard values here.
→ Find further information on machining here



When changing the head, please observe the specified tightening torque.

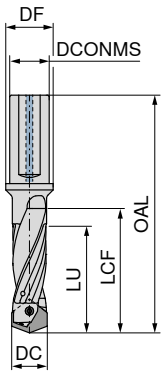
CoreLine – Holder for indexable insert drill

- Easy handling
- Insert can be changed in the machine
- Precise and stable insert seat, clamping via TORX PLUS® screw

Scope of supply:

Holder incl. clamping screw





WPC Change



135°

DC mm	DCONMS mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	TO 11 903 ...
14,00 - 14,49	16	108.9	50.8	43.5	20	0.9	14000
14,50 - 14,99	16	111.0	52.5	45.0	20	0.9	14500
15,00 - 15,49	20	115.1	54.3	46.5	25	0.9	15000
15,50 - 15,99	20	117.2	56.0	48.0	25	0.9	15500
16,00 - 16,49	20	119.3	57.8	49.5	25	1.2	16000
16,50 - 16,99	20	121.4	59.5	51.0	25	1.2	16500
17,00 - 17,49	20	123.5	61.3	52.5	25	1.2	17000
17,50 - 17,99	20	125.6	63.0	54.0	25	1.2	17500
18,00 - 18,49	20	127.7	64.8	55.5	25	2.2	18000
18,50 - 18,99	20	129.8	66.5	57.0	25	2.2	18500
19,00 - 19,49	25	137.9	68.3	58.5	30	2.2	19000
19,50 - 19,99	25	140.0	70.0	60.0	30	2.2	19500
20,00 - 20,49	25	142.1	71.8	61.5	30	2.2	20000
20,50 - 20,99	25	144.2	73.5	63.0	30	2.2	20500
21,00 - 21,49	25	146.3	75.3	64.5	30	2.2	21000
21,50 - 21,99	25	148.4	77.0	66.0	30	2.2	21500
22,00 - 22,49	25	150.5	78.8	67.5	30	3.2	22000
22,50 - 22,99	25	152.6	80.5	69.0	30	3.2	22500
23,00 - 23,49	25	154.7	82.3	70.5	30	3.2	23000
23,50 - 23,99	25	156.8	84.0	72.0	30	3.2	23500
24,00 - 24,49	32	162.9	85.8	73.5	39	5	24000
24,50 - 24,99	32	165.0	87.5	75.0	39	5	24500
25,00 - 25,49	32	167.1	89.3	76.5	39	5	25000
25,50 - 25,99	32	169.2	91.0	78.0	39	5	25500
26,00 - 26,49	32	171.3	92.8	79.5	39	6	26000
26,50 - 26,99	32	173.4	94.5	81.0	39	6	26500
27,00 - 27,49	32	175.5	96.3	82.5	39	6	27000
27,50 - 27,99	32	177.6	98.0	84.0	39	6	27500
28,00 - 28,49	32	179.7	99.8	85.5	39	6	28000
28,50 - 28,99	32	181.8	101.5	87.0	39	6	28500
29,00 - 29,49	32	183.9	103.3	88.5	39	6	29000
29,50 - 30,00	32	186.0	105.0	90.0	39	6	29500

→ Find the right spare parts here

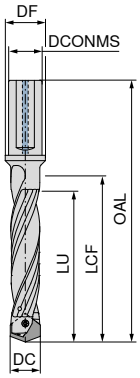
CoreLine – Holder for indexable insert drill

- Easy handling
- Insert can be changed in the machine
- Precise and stable insert seat, clamping via TORX PLUS® screw

Scope of supply:

Holder incl. clamping screw





WPC Change



135°

DC mm	DCONMS mm	OAL mm	LCF mm	LU mm	DF mm	Tightening torque Nm	TO 11 905 ...
14,00 - 14,49	16	137.9	79.8	72.5	20	0.9	14000
14,50 - 14,99	16	141.0	82.5	75.0	20	0.9	14500
15,00 - 15,49	20	146.1	85.3	77.5	25	0.9	15000
15,50 - 15,99	20	149.2	88.0	80.0	25	0.9	15500
16,00 - 16,49	20	152.3	90.8	82.5	25	1.2	16000
16,50 - 16,99	20	155.4	93.5	85.0	25	1.2	16500
17,00 - 17,49	20	158.5	96.3	87.5	25	1.2	17000
17,50 - 17,99	20	161.6	99.0	90.0	25	1.2	17500
18,00 - 18,49	20	164.7	101.8	92.5	25	2.2	18000
18,50 - 18,99	20	167.8	104.5	95.0	25	2.2	18500
19,00 - 19,49	25	176.9	107.3	97.5	30	2.2	19000
19,50 - 19,99	25	180.0	110.0	100.0	30	2.2	19500
20,00 - 20,49	25	183.1	112.8	102.5	30	2.2	20000
20,50 - 20,99	25	186.2	115.5	105.0	30	2.2	20500
21,00 - 21,49	25	189.3	118.3	107.5	30	2.2	21000
21,50 - 21,99	25	192.4	121.0	110.0	30	2.2	21500
22,00 - 22,49	25	195.5	123.8	112.5	30	3.2	22000
22,50 - 22,99	25	198.6	126.5	115.0	30	3.2	22500
23,00 - 23,49	25	201.7	129.3	117.5	30	3.2	23000
23,50 - 23,99	25	204.8	132.0	120.0	30	3.2	23500
24,00 - 24,49	32	211.9	134.8	122.5	39	5	24000
24,50 - 24,99	32	215.0	137.5	125.0	39	5	24500
25,00 - 25,49	32	218.1	140.3	127.5	39	5	25000
25,50 - 25,99	32	221.2	143.0	130.0	39	5	25500
26,00 - 26,49	32	224.3	145.8	132.5	39	6	26000
26,50 - 26,99	32	227.4	148.5	135.0	39	6	26500
27,00 - 27,49	32	230.5	151.3	137.5	39	6	27000
27,50 - 27,99	32	233.6	154.0	140.0	39	6	27500
28,00 - 28,49	32	236.7	156.8	142.5	39	6	28000
28,50 - 28,99	32	239.8	159.5	145.0	39	6	28500
29,00 - 29,49	32	242.9	162.3	147.5	39	6	29000
29,50 - 30,00	32	246.0	165.0	150.0	39	6	29500

→ Find the right spare parts here

Spare parts DC		TORX® interchangeable blade AS 80 950 ...		Clamping screw AS 11 950 ...		Key AS 80 950 ...		Torque screwdriver AS 80 950 ...
14,00 - 14,49	T08 - IP	043	M2,2x13 - 08IP	00100	T08 - IP	060	0,5 - 2,0 Nm	191
14,50 - 14,99	T08 - IP	043	M2,2x13 - 08IP	00100	T08 - IP	060	0,5 - 2,0 Nm	191
15,00 - 15,49	T08 - IP	043	M2,2x13 - 08IP	00100	T08 - IP	060	0,5 - 2,0 Nm	191
15,50 - 15,99	T08 - IP	043	M2,2x13 - 08IP	00100	T08 - IP	060	0,5 - 2,0 Nm	191
16,00 - 16,49	T08 - IP	043	M2,5x15 - 08IP	00200	T08 - IP	060	0,5 - 2,0 Nm	191
16,50 - 16,99	T08 - IP	043	M2,5x15 - 08IP	00200	T08 - IP	060	0,5 - 2,0 Nm	191
17,00 - 17,49	T08 - IP	043	M2,5x15 - 08IP	00200	T08 - IP	060	0,5 - 2,0 Nm	191
17,50 - 17,99	T08 - IP	043	M2,5x15 - 08IP	00200	T08 - IP	060	0,5 - 2,0 Nm	191
18,00 - 18,49	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
18,50 - 18,99	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
19,00 - 19,49	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
19,50 - 19,99	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
20,00 - 20,49	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
20,50 - 20,99	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
21,00 - 21,49	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
21,50 - 21,99	T10 - IP	053	M3,0x17 - 10IP	00300	T10 - IP	062	2,0 - 7,0 Nm	193
22,00 - 22,49	T10 - IP	053	M3,5x21 - 10IP	00400	T10 - IP	062	2,0 - 7,0 Nm	193
22,50 - 22,99	T10 - IP	053	M3,5x21 - 10IP	00400	T10 - IP	062	2,0 - 7,0 Nm	193
23,00 - 23,49	T10 - IP	053	M3,5x21 - 10IP	00400	T10 - IP	062	2,0 - 7,0 Nm	193
23,50 - 23,99	T10 - IP	053	M3,5x21 - 10IP	00400	T10 - IP	062	2,0 - 7,0 Nm	193
24,00 - 24,49	T15 - IP	054	M4,0x23 - 15IP	00500	T15 - IP	063	2,0 - 7,0 Nm	193
24,50 - 24,99	T15 - IP	054	M4,0x23 - 15IP	00500	T15 - IP	063	2,0 - 7,0 Nm	193
25,00 - 25,49	T15 - IP	054	M4,0x23 - 15IP	00500	T15 - IP	063	2,0 - 7,0 Nm	193
25,50 - 25,99	T15 - IP	054	M4,0x23 - 15IP	00500	T15 - IP	063	2,0 - 7,0 Nm	193
26,00 - 26,49	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
26,50 - 26,99	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
27,00 - 27,49	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
27,50 - 27,99	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
28,00 - 28,49	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
28,50 - 28,99	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
29,00 - 29,49	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193
29,50 - 30,00	T20 - IP	055	M4,5x25 - 20IP	00600	T20 - IP	064	2,0 - 7,0 Nm	193

MultiChange – Program Overview

The MultiChange exchangeable head system enables an extremely fast, straightforward tool change. It has been designed for unbeatable changeover precision and radial run-out accuracy in conjunction with outstanding stability. The following chapters contain suitable exchangeable heads for a whole host of applications.

Exchangeable heads

→ Solid carbide drills

Solid carbide NC spot drills

Ø 8, 10, 12, 16, 20 mm
NOF 2


SIG 90°


SIG 120°


SIG 142°

→ Reamers and countersinks

Exchangeable reaming heads

Ø 8,00 – 30,20 mm


Through hole

Ø 12,20 – 30,20 mm


Blind hole

→ Solid carbide milling cutters

Solid carbide shoulder mills
Ø 8, 10, 12, 16, 20 mm /
ZEFP 3+4


Type PCR UNI


Type PCR ALU


Type N

Solid carbide torus cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 3+4


Type W


Type N

Solid carbide roughing-finishing milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 4+6


Type NF

Solid carbide finish milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide ball-nosed end mills
Ø 10, 12, 16, 20 mm / ZEFP 4


Type N

Solid carbide high-feed cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide quarter round cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide deburring cutters
Ø 10, 12, 16, 20 mm / ZEFP 4+6


Type N


Type N

NOF / ZEFP = Number of cutting edges

Holders

→ Adapters and accessories

OAL 60 – 90 mm


Conical 87° / steel


Cylindrical* / steel

OAL 85 – 120 mm


Conical 87° / steel


Cylindrical* / steel


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 110 – 150 mm


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 150 – 200 mm


Conical 87° / solid carbide


Cylindrical* / steel


Cylindrical* / solid carbide

OAL 200 – 250 mm


Cylindrical* / steel

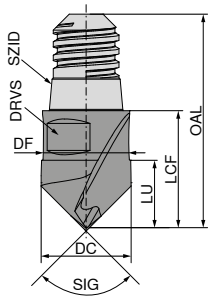

Cylindrical* / solid carbide

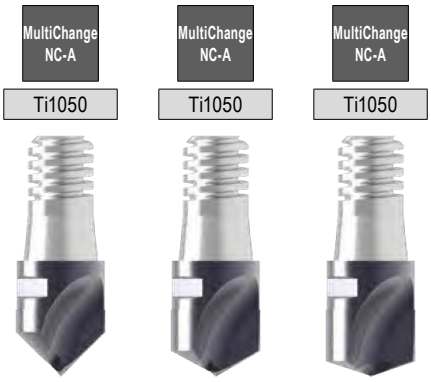
* Only suitable for milling to a certain degree

CoreLine – NC spot drills

▲ SZID = Coupling size
▲ NOF = Number of cutting edges

NOF = 2





DC mm	SZID	LU mm	DF mm	LCF mm	OAL mm	NOF	DRVS mm	Tightening torque Nm	$a_{p\,max.}$ mm	SIG 90° Solid carbide EH 10 709 ...	SIG 120° Solid carbide EH 10 712 ...	SIG 142° Solid carbide EH 10 714 ...
8	06	6.0	7.8	11	20.4	2	6	5	4	**080**	**080**	**080**
10	08	7.5	9.8	13	26.9	2	8	12,5	5	**100**	**100**	**100**
12	10	9.0	11.8	16	30.1	2	10	15	6	**120**	**120**	**120**
16	12	12.0	15.8	20	37.3	2	13	20	8	**160**	**160**	**160**
20	16	15.0	19.8	25	47.2	2	16	25	10	**200**	**200**	**200**
P										●	●	●
M										●	●	●
K										●	●	●
N										●	●	●
S												
H												
O												

→ Find the cutting data standard values here.

Coupling sizes 06 and 08 must be installed using a torque key.
In unstable applications, the machining parameters must be reduced.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values – WTX – UNI

Index	10 600 ... / 10 601 ... / 10 602 ... / 10 606 ... / 10 607 ... / 10 608 ...											
	3xD / 5xD											
	without IK	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14	Ø >14–16	Ø >16–18	Ø >18–20
	v_c (m/min)	f (mm/rev)										
P.1.1	125	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	0,47	0,50	0,52
P.1.2	110	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.3	110	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.4	105	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.5	105	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.1	110	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	0,47	0,50	0,52
P.2.2	105	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.3	105	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.4	90	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.1	100	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.2	85	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.3	55	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	110	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	0,55	0,58	0,61
K.1.2	95	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	0,55	0,58	0,61
K.2.1	95	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.2.2	90	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.3.1	95	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.3.2	90	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1	30	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
H.1.2												
H.1.3												
H.1.4												
H.2.1	30	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
H.3.1	30	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – UNI, WTX – Quattro

Index	WTX-UNI 10 603 ... / 10 604 ... / 10 605 ... / 10 609 ... / 10 610 ... / 10 611 ... – WTX-Quattro 10 612 ...											
	3xD / 5xD											
	With through coolant	Ø ≤3	Ø >3-4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14	Ø >14–16	Ø >16–18	Ø >18–20
	v_c (m/min)	f (mm/rev)										
P.1.1	155	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	0,47	0,50	0,52
P.1.2	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.3	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.4	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.1.5	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.1	140	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	0,47	0,50	0,52
P.2.2	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.3	130	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.2.4	110	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.1	125	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.2	105	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.3.3	70	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
P.4.1	60	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
P.4.2	40	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
M.1.1	50	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
M.2.1	50	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
M.3.1	50	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
K.1.1	130	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	0,55	0,58	0,61
K.1.2	120	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	0,55	0,58	0,61
K.2.1	120	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.2.2	110	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.3.1	120	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
K.3.2	110	0,14	0,17	0,19	0,21	0,26	0,31	0,35	0,40	0,42	0,44	0,47
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1	35	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
H.1.2												
H.1.3												
H.1.4												
H.2.1	35	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
H.3.1	35	0,07	0,08	0,09	0,10	0,12	0,13	0,15	0,17	0,18	0,19	0,20
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Quattro

Index	WTX-Quattro 10 613 ... / 10 614 ...											
	8xD / 12xD											
	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14	Ø >14–16	Ø >16–18	Ø >18–20
	v_c (m/min)	f (mm/rev)										
P.1.1	120	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	0,42	0,44	0,47
P.1.2	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.1.3	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.1.4	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.1.5	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.2.1	105	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	0,42	0,44	0,47
P.2.2	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.2.3	100	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.2.4	80	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.3.1	95	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.3.2	75	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
P.3.3												
P.4.1	50	0,06	0,08	0,09	0,10	0,13	0,15	0,18	0,20	0,22	0,23	0,24
P.4.2	35	0,06	0,08	0,09	0,10	0,13	0,15	0,18	0,20	0,22	0,23	0,24
M.1.1	40	0,06	0,08	0,09	0,10	0,13	0,15	0,18	0,20	0,22	0,23	0,24
M.2.1	40	0,06	0,08	0,09	0,10	0,13	0,15	0,18	0,20	0,22	0,23	0,24
M.3.1	40	0,06	0,08	0,09	0,10	0,13	0,15	0,18	0,20	0,22	0,23	0,24
K.1.1	100	0,15	0,18	0,20	0,23	0,29	0,34	0,40	0,45	0,49	0,52	0,55
K.1.2	85	0,15	0,18	0,20	0,23	0,29	0,34	0,40	0,45	0,49	0,52	0,55
K.2.1	85	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
K.2.2	80	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
K.3.1	85	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
K.3.2	80	0,11	0,13	0,15	0,18	0,22	0,26	0,31	0,35	0,36	0,38	0,40
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – Type VA

Index	10 731 ..., 10 734 ... 3xD							10 740 ..., 10 745 ... 5xD						
	without IK	With through coolant	Ø 2–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20	without IK	With through coolant	Ø 2–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20
	v_c (m/min)		f (mm/rev)					v_c (m/min)		f (mm/rev)				
P.1.1	100	110	0,09	0,13	0,18	0,22	0,25	100	110	0,09	0,13	0,18	0,22	0,25
P.1.2	95	105	0,09	0,13	0,17	0,21	0,24	95	105	0,09	0,13	0,17	0,21	0,24
P.1.3	90	100	0,09	0,12	0,16	0,20	0,23	90	100	0,09	0,12	0,16	0,20	0,23
P.1.4	85	95	0,08	0,12	0,16	0,19	0,22	85	95	0,08	0,12	0,16	0,19	0,22
P.1.5	80	90	0,08	0,11	0,15	0,18	0,20	80	90	0,08	0,11	0,15	0,18	0,20
P.2.1	95	110	0,11	0,16	0,21	0,26	0,29	95	110	0,11	0,16	0,21	0,26	0,29
P.2.2	85	100	0,10	0,14	0,19	0,24	0,27	85	100	0,10	0,14	0,19	0,24	0,27
P.2.3	75	90	0,09	0,13	0,17	0,21	0,24	75	90	0,09	0,13	0,17	0,21	0,24
P.2.4	60	70	0,09	0,12	0,16	0,19	0,21	60	70	0,09	0,12	0,16	0,19	0,21
P.3.1	65	75	0,09	0,13	0,17	0,21	0,24	65	75	0,09	0,13	0,17	0,21	0,24
P.3.2	55	60	0,08	0,11	0,14	0,17	0,20	55	60	0,08	0,11	0,14	0,17	0,20
P.3.3	45	60	0,06	0,09	0,11	0,14	0,15	45	60	0,06	0,09	0,11	0,14	0,15
P.4.1	45	60	0,06	0,09	0,11	0,14	0,16	45	60	0,06	0,09	0,11	0,14	0,16
P.4.2	45	60	0,06	0,09	0,11	0,14	0,16	45	60	0,06	0,09	0,11	0,14	0,16
M.1.1	**35**	**55**	0,08	0,11	0,14	0,18	0,20	**35**	**55**	0,08	0,11	0,14	0,18	0,20
M.2.1	**30**	**50**	0,06	0,09	0,12	0,15	0,17	**30**	**50**	0,06	0,09	0,12	0,15	0,17
M.3.1	**30**	**50**	0,06	0,09	0,12	0,15	0,17	**30**	**50**	0,06	0,09	0,12	0,15	0,17
K.1.1	85	120	0,15	0,24	0,33	0,41	0,47	85	120	0,15	0,24	0,33	0,41	0,47
K.1.2	75	100	0,14	0,20	0,27	0,33	0,37	75	100	0,14	0,20	0,27	0,33	0,37
K.2.1	100	160	0,15	0,22	0,31	0,38	0,43	100	160	0,15	0,22	0,31	0,38	0,43
K.2.2	75	100	0,14	0,20	0,27	0,33	0,37	75	100	0,14	0,20	0,27	0,33	0,37
K.3.1	80	90	0,15	0,21	0,29	0,35	0,40	80	90	0,15	0,21	0,29	0,35	0,40
K.3.2	70	80	0,12	0,17	0,23	0,28	0,32	70	80	0,12	0,17	0,23	0,28	0,32
N.1.1	220	330	0,10	0,16	0,22	0,30	0,33	220	330	0,10	0,16	0,22	0,30	0,33
N.1.2	200	300	0,09	0,12	0,20	0,25	0,30	200	300	0,09	0,12	0,20	0,25	0,30
N.2.1	180	250	0,11	0,15	0,26	0,33	0,39	180	250	0,11	0,15	0,26	0,33	0,39
N.2.2	150	220	0,11	0,15	0,26	0,33	0,39	150	220	0,11	0,15	0,26	0,33	0,39
N.2.3	120	180	0,11	0,15	0,26	0,33	0,39	120	180	0,11	0,15	0,26	0,33	0,39
N.3.1	160	200	0,15	0,24	0,33	0,41	0,47	160	200	0,15	0,24	0,33	0,41	0,47
N.3.2	90	120	0,14	0,20	0,27	0,33	0,37	90	120	0,14	0,20	0,27	0,33	0,37
N.3.3	100	140	0,12	0,15	0,21	0,25	0,28	100	140	0,12	0,15	0,21	0,25	0,28
N.4.1														
S.1.1	**20**	**30**	0,06	0,09	0,11	0,14	0,16	**20**	**30**	0,06	0,09	0,11	0,14	0,16
S.1.2	**15**	**20**	0,04	0,06	0,08	0,10	0,11	**15**	**20**	0,04	0,06	0,08	0,10	0,11
S.2.1	**15**	**20**	0,04	0,06	0,08	0,10	0,11	**15**	**20**	0,04	0,06	0,08	0,10	0,11
S.2.2	**10**	**15**	0,05	0,08	0,10	0,13	0,14	**10**	**15**	0,05	0,08	0,10	0,13	0,14
S.2.3	**10**	**15**	0,04	0,06	0,08	0,10	0,11	**10**	**15**	0,04	0,06	0,08	0,10	0,11
S.3.1														
S.3.2	**20**	**30**	0,06	0,09	0,12	0,15	0,17	**20**	**30**	0,06	0,09	0,12	0,15	0,17
S.3.3	**15**	**25**	0,05	0,08	0,10	0,13	0,14	**15**	**25**	0,05	0,08	0,10	0,13	0,14
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1														
O.1.2														
O.2.1														
O.2.2														
O.3.1														

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type VA

Index	10 770 ... 8xD With through coolant	Ø 3–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20
	v_c (m/min)	f (mm/rev)				
P.1.1	110	0,09	0,13	0,18	0,22	0,25
P.1.2	105	0,09	0,13	0,17	0,21	0,24
P.1.3	100	0,09	0,12	0,16	0,20	0,23
P.1.4	95	0,08	0,12	0,16	0,19	0,22
P.1.5	90	0,08	0,11	0,15	0,18	0,20
P.2.1	110	0,11	0,16	0,21	0,26	0,29
P.2.2	100	0,10	0,14	0,19	0,24	0,27
P.2.3	90	0,09	0,13	0,17	0,21	0,24
P.2.4	70	0,09	0,12	0,16	0,19	0,21
P.3.1	75	0,09	0,13	0,17	0,21	0,24
P.3.2	60	0,08	0,11	0,14	0,17	0,20
P.3.3	60	0,06	0,09	0,11	0,14	0,15
P.4.1	60	0,06	0,09	0,11	0,14	0,16
P.4.2	60	0,06	0,09	0,11	0,14	0,16
M.1.1	**55**	0,08	0,11	0,14	0,18	0,20
M.2.1	**50**	0,06	0,09	0,12	0,15	0,17
M.3.1	**50**	0,06	0,09	0,12	0,15	0,17
K.1.1	120	0,15	0,24	0,33	0,41	0,47
K.1.2	100	0,14	0,20	0,27	0,33	0,37
K.2.1	160	0,15	0,22	0,31	0,38	0,43
K.2.2	100	0,14	0,20	0,27	0,33	0,37
K.3.1	90	0,15	0,21	0,29	0,35	0,40
K.3.2	80	0,12	0,17	0,23	0,28	0,32
N.1.1	330	0,10	0,16	0,22	0,30	0,33
N.1.2	300	0,09	0,12	0,20	0,25	0,30
N.2.1	250	0,11	0,15	0,26	0,33	0,39
N.2.2	220	0,11	0,15	0,26	0,33	0,39
N.2.3	180	0,11	0,15	0,26	0,33	0,39
N.3.1	200	0,15	0,24	0,33	0,41	0,47
N.3.2	120	0,14	0,20	0,27	0,33	0,37
N.3.3	140	0,12	0,15	0,21	0,25	0,28
N.4.1						
S.1.1	**30**	0,06	0,09	0,11	0,14	0,16
S.1.2	**20**	0,04	0,06	0,08	0,10	0,11
S.2.1	**20**	0,04	0,06	0,08	0,10	0,11
S.2.2	**15**	0,05	0,08	0,10	0,13	0,14
S.2.3	**15**	0,04	0,06	0,08	0,10	0,11
S.3.1						
S.3.2	**30**	0,06	0,09	0,12	0,15	0,17
S.3.3	**25**	0,05	0,08	0,10	0,13	0,14
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – H

Index	10 777 ...								
	3xD								
	without IK	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14
	v_c (m/min)	f (mm/rev)							
P.1.1	80	0,05	0,07	0,08	0,10	0,14	0,18	0,21	0,24
P.1.2	70	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21
P.1.3	70	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21
P.1.4	70	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21
P.1.5	80	0,05	0,07	0,08	0,10	0,14	0,18	0,21	0,24
P.2.1	75	0,05	0,07	0,08	0,10	0,14	0,18	0,21	0,24
P.2.2	70	0,05	0,06	0,08	0,09	0,13	0,16	0,19	0,22
P.2.3	70	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21
P.2.4	70	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21
P.3.1									
P.3.2									
P.3.3									
P.4.1									
P.4.2									
M.1.1									
M.2.1									
M.3.1									
K.1.1	**85**	0,08	0,10	0,13	0,15	0,19	0,23	0,27	0,34
K.1.2	**80**	0,08	0,10	0,13	0,15	0,19	0,23	0,27	0,34
K.2.1	**85**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25
K.2.2	**80**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25
K.3.1	**85**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25
K.3.2	**80**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1	**30**	0,04	0,05	0,05	0,06	0,07	0,08	0,09	0,10
H.1.2	**15**	0,04	0,05	0,05	0,06	0,07	0,08	0,09	0,10
H.1.3	**10**	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07
H.1.4	**10**	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – ISO-S

Index	10 786 ..., 10 787 ...											
	3xD / 5xD											
	With through coolant	> Ø 2,5–3	> Ø 3–4	> Ø 4–5	> Ø 5–6	> Ø 6–8	> Ø 8–10	> Ø 10–12	> Ø 12–14	> Ø 14–16	> Ø 16–18	> Ø 18–20
	v_c (m/min)	f (mm/rev)										
P.1.1												
P.1.2	130	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.1.3	130	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.1.4	115	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.1.5	115	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.2.1												
P.2.2												
P.2.3	115	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.2.4	90	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.3.1												
P.3.2												
P.3.3	55	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
P.4.1	75	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.2	65	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.1.1	**70**	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.2.1	**70**	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.3.1	**70**	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1	**45**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.1.2	**45**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.2.1	**40**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.2.2	**40**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.2.3	**40**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.3.1	**55**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.3.2	**45**	0,02	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,18	0,20	0,22
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – AL

Index	10 791 ... / 10 799 ...											
	5xD											
	With through coolant	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)										
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1	360	0,15	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.1.2	400	0,15	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.2.1	360	0,20	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.2	400	0,20	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.3	350	0,15	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.3.1	200	0,08	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.2	200	0,08	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.3	160	0,08	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – AL

Index	10 792 ... 8xD With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1											
P.1.2											
P.1.3											
P.1.4											
P.1.5											
P.2.1											
P.2.2											
P.2.3											
P.2.4											
P.3.1											
P.3.2											
P.3.3											
P.4.1											
P.4.2											
M.1.1											
M.2.1											
M.3.1											
K.1.1											
K.1.2											
K.2.1											
K.2.2											
K.3.1											
K.3.2											
N.1.1	320	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.1.2	360	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.2.1	320	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.2	360	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.3	310	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.3.1	160	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.2	160	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.3	140	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – AL

Index	10 793 ...										
	12xD										
	With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1											
P.1.2											
P.1.3											
P.1.4											
P.1.5											
P.2.1											
P.2.2											
P.2.3											
P.2.4											
P.3.1											
P.3.2											
P.3.3											
P.4.1											
P.4.2											
M.1.1											
M.2.1											
M.3.1											
K.1.1											
K.1.2											
K.2.1											
K.2.2											
K.3.1											
K.3.2											
N.1.1	250	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.1.2	280	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.2.1	250	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.2	280	0,23	0,25	0,28	0,32	0,35	0,38	0,45	0,50	0,55	0,60
N.2.3	245	0,20	0,23	0,25	0,29	0,32	0,35	0,40	0,45	0,50	0,55
N.3.1	150	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.2	150	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.3.3	120	0,11	0,13	0,15	0,19	0,23	0,26	0,30	0,34	0,38	0,42
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											



The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Speed UNI

Index	10 781... / 10 771... / 10 782...					
	3xD / 5xD / 8xD					
	With through coolant	Ø 3–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20
	v_c (m/min)	f (mm/rev)				
P.1.1	185	0,17	0,24	0,33	0,40	0,45
P.1.2	180	0,16	0,23	0,31	0,38	0,43
P.1.3	170	0,16	0,22	0,30	0,36	0,41
P.1.4	160	0,15	0,21	0,28	0,35	0,39
P.1.5	155	0,14	0,20	0,27	0,33	0,37
P.2.1	185	0,20	0,29	0,39	0,47	0,53
P.2.2	170	0,18	0,26	0,35	0,43	0,49
P.2.3	155	0,17	0,24	0,32	0,39	0,44
P.2.4	120	0,16	0,21	0,28	0,34	0,38
P.3.1	130	0,16	0,23	0,32	0,39	0,44
P.3.2	100	0,14	0,20	0,26	0,32	0,36
P.3.3	100	0,12	0,16	0,20	0,25	0,28
P.4.1	100	0,11	0,16	0,21	0,25	0,29
P.4.2	100	0,11	0,16	0,21	0,25	0,29
M.1.1	65	0,08	0,12	0,16	0,19	0,22
M.2.1	60	0,07	0,10	0,14	0,17	0,19
M.3.1	60	0,07	0,10	0,14	0,17	0,19
K.1.1	150	0,18	0,28	0,40	0,49	0,56
K.1.2	125	0,16	0,24	0,32	0,39	0,45
K.2.1	200	0,18	0,27	0,37	0,46	0,52
K.2.2	125	0,16	0,24	0,32	0,39	0,45
K.3.1	115	0,18	0,25	0,34	0,42	0,48
K.3.2	100	0,15	0,21	0,28	0,34	0,38
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – Speed VA

Index	10 773 ... / 10 701 ... / 10 774 ...					
	5xD / 8xD / 12xD					
	With through coolant	Ø 3–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20
	v_c (m/min)	f (mm/rev)				
P.1.1	165	0,12	0,17	0,23	0,28	0,31
P.1.2	160	0,11	0,16	0,22	0,26	0,30
P.1.3	150	0,11	0,15	0,20	0,25	0,28
P.1.4	145	0,10	0,15	0,19	0,24	0,27
P.1.5	135	0,10	0,14	0,18	0,23	0,26
P.2.1	165	0,14	0,20	0,27	0,33	0,37
P.2.2	150	0,13	0,18	0,24	0,30	0,34
P.2.3	135	0,11	0,16	0,22	0,27	0,30
P.2.4	105	0,11	0,15	0,19	0,24	0,27
P.3.1	115	0,11	0,16	0,22	0,27	0,30
P.3.2	90	0,10	0,13	0,18	0,22	0,25
P.3.3	90	0,08	0,11	0,14	0,17	0,19
P.4.1	70	0,08	0,11	0,14	0,18	0,20
P.4.2	70	0,08	0,11	0,14	0,18	0,20
M.1.1	80	0,09	0,13	0,18	0,22	0,25
M.2.1	75	0,08	0,11	0,15	0,19	0,21
M.3.1	75	0,08	0,11	0,15	0,19	0,21
K.1.1	150	0,15	0,24	0,33	0,41	0,47
K.1.2	125	0,14	0,20	0,27	0,33	0,37
K.2.1	200	0,15	0,22	0,31	0,38	0,43
K.2.2	125	0,14	0,20	0,27	0,33	0,37
K.3.1	115	0,15	0,21	0,29	0,35	0,40
K.3.2	100	0,12	0,17	0,23	0,28	0,32
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2	145	0,14	0,20	0,27	0,33	0,37
N.3.3						
N.4.1						
S.1.1	35	0,07	0,10	0,14	0,17	0,19
S.1.2	25	0,05	0,07	0,10	0,12	0,14
S.2.1	25	0,05	0,07	0,10	0,12	0,14
S.2.2	20	0,06	0,09	0,12	0,15	0,17
S.2.3	20	0,05	0,07	0,10	0,12	0,14
S.3.1						
S.3.2	35	0,08	0,11	0,15	0,18	0,20
S.3.3	30	0,06	0,09	0,12	0,15	0,17
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – Type 180

Index	10 720 ...					
	3xD					
	With through coolant	Ø 3–5	Ø 5–8	Ø 8–12	Ø 12–16	Ø 16–20
	v_c (m/min)	f (mm/rev)				
P.1.1	90	0,09	0,13	0,18	0,22	0,25
P.1.2	85	0,09	0,13	0,17	0,21	0,24
P.1.3	80	0,09	0,12	0,16	0,20	0,23
P.1.4	75	0,08	0,12	0,16	0,19	0,22
P.1.5	70	0,08	0,11	0,15	0,18	0,20
P.2.1	90	0,11	0,16	0,21	0,26	0,29
P.2.2	80	0,10	0,14	0,19	0,24	0,27
P.2.3	70	0,09	0,13	0,17	0,21	0,24
P.2.4	55	0,09	0,12	0,16	0,19	0,21
P.3.1	60	0,09	0,13	0,17	0,21	0,24
P.3.2	50	0,08	0,11	0,14	0,17	0,20
P.3.3	50	0,06	0,09	0,11	0,14	0,15
P.4.1	50	0,06	0,09	0,11	0,14	0,16
P.4.2	50	0,06	0,09	0,11	0,14	0,16
M.1.1	45	0,06	0,09	0,11	0,14	0,16
M.2.1	40	0,05	0,07	0,10	0,12	0,14
M.3.1	40	0,05	0,07	0,10	0,12	0,14
K.1.1	95	0,12	0,19	0,26	0,33	0,38
K.1.2	80	0,11	0,16	0,21	0,26	0,30
K.2.1	130	0,12	0,18	0,25	0,30	0,35
K.2.2	80	0,11	0,16	0,21	0,26	0,30
K.3.1	70	0,12	0,17	0,23	0,28	0,32
K.3.2	65	0,10	0,14	0,18	0,22	0,25
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

Application tip:

Drilling with feed reduction

1. Multiply feed f in mm/rev by correction factor A_k
2. Drill with reduced feed until the tool cuts 0.25xD across the entire diameter
3. Retract from the hole again with double feed f in mm/rev – only for inclined workpiece surfaces

   This step is essential to enable the drill to cut freely!
4. Finish drilling hole with feed f in mm/rev without peck drilling

Correction factors A_k for f in mm/rev when drilling		
Inclination workpiece surface	A_k to 3xD (10 720 ...)	A_k to 5xD (10 721 ...)
15°	0,5	0,25
30°	0,4	Not recommended
45°	0,25	Not recommended

For drilling on flat surfaces (inclination 0°) with type 180 5xD, we recommend using a pilot drill (e.g., WTX – UNI 3xD).

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Feed UNI

Index	10 789 ..., 10 794 ..., 10 796 ...								
	5xD / 8xD / 12xD								
	With through coolant	Ø 4–6	Ø 6–7	Ø 7–8	Ø 8–10	Ø 10–12	Ø 12–15	Ø 15–17	Ø 17–20
	v_c (m/min)	f (mm/rev)							
P.1.1	125	0,28	0,34	0,37	0,42	0,48	0,54	0,59	0,63
P.1.2	120	0,27	0,32	0,35	0,40	0,46	0,52	0,56	0,60
P.1.3	115	0,25	0,31	0,34	0,38	0,44	0,49	0,54	0,57
P.1.4	110	0,24	0,29	0,32	0,36	0,41	0,47	0,51	0,54
P.1.5	105	0,23	0,27	0,30	0,34	0,39	0,44	0,48	0,52
P.2.1	125	0,33	0,40	0,44	0,50	0,57	0,64	0,70	0,75
P.2.2	115	0,30	0,36	0,40	0,45	0,51	0,58	0,63	0,68
P.2.3	105	0,27	0,32	0,36	0,41	0,46	0,52	0,57	0,61
P.2.4	80	0,25	0,29	0,32	0,36	0,41	0,46	0,50	0,54
P.3.1	85	0,27	0,32	0,36	0,41	0,46	0,52	0,57	0,61
P.3.2	70	0,23	0,27	0,30	0,33	0,38	0,43	0,47	0,50
P.3.3	70	0,18	0,22	0,24	0,26	0,30	0,33	0,36	0,38
P.4.1	70	0,18	0,21	0,24	0,27	0,30	0,34	0,38	0,40
P.4.2	70	0,18	0,21	0,24	0,27	0,30	0,34	0,38	0,40
M.1.1	55	0,13	0,16	0,18	0,20	0,23	0,26	0,28	0,30
M.2.1	50	0,11	0,14	0,15	0,17	0,20	0,22	0,24	0,26
M.3.1	50	0,11	0,14	0,15	0,17	0,20	0,22	0,24	0,26
K.1.1	140	0,38	0,47	0,53	0,61	0,70	0,80	0,89	0,95
K.1.2	115	0,32	0,39	0,44	0,50	0,57	0,64	0,70	0,75
K.2.1	185	0,37	0,45	0,50	0,57	0,66	0,75	0,82	0,88
K.2.2	115	0,32	0,39	0,44	0,50	0,57	0,64	0,70	0,75
K.3.1	105	0,35	0,42	0,47	0,53	0,61	0,69	0,76	0,81
K.3.2	90	0,29	0,35	0,38	0,43	0,49	0,55	0,60	0,64
N.1.1	380	0,28	0,34	0,37	0,42	0,48	0,54	0,59	0,63
N.1.2	345	0,25	0,31	0,34	0,38	0,44	0,49	0,54	0,57
N.2.1	290	0,32	0,39	0,44	0,50	0,57	0,64	0,70	0,75
N.2.2	255	0,32	0,39	0,44	0,50	0,57	0,64	0,70	0,75
N.2.3	205	0,32	0,39	0,44	0,50	0,57	0,64	0,70	0,75
N.3.1	230	0,38	0,47	0,53	0,61	0,70	0,80	0,89	0,95
N.3.2	140	0,24	0,29	0,33	0,37	0,43	0,48	0,53	0,57
N.3.3									
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1									
H.1.2									
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – HFDS – high-feed drill

Index	10 798 ...					
	5xD					
	With through coolant	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16
	v_c (m/min)	f (mm/rev)				
P.1.1	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.1.2	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.1.3	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.1.4	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.1.5	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.2.1	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.2.2	100	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.2.3	90	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.2.4	90	0,3–0,4	0,5–0,6	0,7–0,8	0,8–0,9	0,8–0,9
P.3.1	85	0,2–0,3	0,3–0,4	0,5–0,6	0,6–0,7	0,6–0,7
P.3.2	70	0,2–0,3	0,3–0,4	0,5–0,6	0,6–0,7	0,6–0,7
P.3.3	70	0,2–0,3	0,3–0,4	0,5–0,6	0,6–0,7	0,6–0,7
P.4.1	65	0,2–0,3	0,3–0,4	0,5–0,6	0,6–0,7	0,6–0,7
P.4.2	65	0,2–0,3	0,3–0,4	0,5–0,6	0,6–0,7	0,6–0,7
M.1.1	65	0,2–0,25	0,3–0,4	0,5–0,6	0,6–0,6	0,6–0,6
M.2.1	65	0,2–0,25	0,3–0,4	0,5–0,6	0,6–0,6	0,6–0,6
M.3.1	55	0,2–0,25	0,3–0,4	0,5–0,6	0,6–0,6	0,6–0,6
K.1.1	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
K.1.2	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
K.2.1	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
K.2.2	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
K.3.1	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
K.3.2	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
N.3.2	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
N.3.3	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
N.4.1	130	0,4–0,6	0,5–0,7	0,6–0,8	0,7–0,9	0,7–0,9
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1	110	0,6	0,6	0,8	0,9	1,0

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – Deep UNI

Index	11 116 ... 16xD									11 120 ... 20xD								
	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14
	v_c (m/min)	f (mm/rev)								v_c (m/min)	f (mm/rev)							
P.1.1	110	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	110	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
P.1.2	105	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	100	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
P.1.3	105	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	100	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
P.1.4	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.1.5	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.2.1	105	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	105	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
P.2.2	105	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.2.3	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	95	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.2.4	80	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	80	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.3.1	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	100	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.3.2	85	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	80	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31
P.3.3																		
P.4.1	80	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	75	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.4.2	55	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	55	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
M.1.1	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
M.2.1	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
M.3.1	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	60	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
K.1.1	115	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	110	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52
K.1.2	110	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	105	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52
K.2.1	115	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	110	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44
K.2.2	110	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	105	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44
K.3.1	115	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	110	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44
K.3.2	110	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44	105	0,16	0,19	0,21	0,24	0,29	0,34	0,39	0,44
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1	40	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	35	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14
S.3.2	30	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	25	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values are guideline values that must be corrected according to the usage conditions.

All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please note the strategy and cutting data for the production of deep holes.

→ Find further information on machining here

Cutting data standard values – WTX – Deep UNI

Index	11 125 ...									11 130 ...								
	25xD									30xD								
	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	Ø >8–10	Ø >10–12	Ø >12–14
	v_c (m/min)	f (mm/rev)								v_c (m/min)	f (mm/rev)							
P.1.1	100	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32	95	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32
P.1.2	90	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32	85	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32
P.1.3	90	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32	85	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32
P.1.4	90	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	85	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.1.5	90	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	85	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.2.1	95	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32	90	0,12	0,14	0,15	0,17	0,21	0,25	0,28	0,32
P.2.2	90	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	85	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.2.3	85	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	80	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.2.4	70	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	70	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.3.1	90	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	80	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.3.2	70	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26	70	0,08	0,10	0,11	0,13	0,16	0,19	0,23	0,26
P.3.3																		
P.4.1	70	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22	65	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22
P.4.2	50	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22	45	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22
M.1.1	55	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22	50	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22
M.2.1	55	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22	50	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22
M.3.1	55	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22	50	0,06	0,07	0,09	0,10	0,13	0,16	0,19	0,22
K.1.1	100	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	90	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52
K.1.2	95	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52	85	0,19	0,22	0,25	0,28	0,34	0,40	0,46	0,52
K.2.1	100	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	80	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
K.2.2	95	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	85	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
K.3.1	100	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	90	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
K.3.2	95	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39	85	0,13	0,16	0,18	0,20	0,25	0,30	0,34	0,39
N.1.1																		
N.1.2																		
N.2.1																		
N.2.2																		
N.2.3																		
N.3.1																		
N.3.2																		
N.3.3																		
N.4.1																		
S.1.1																		
S.1.2																		
S.2.1																		
S.2.2																		
S.2.3																		
S.3.1																		
S.3.2																		
S.3.3																		
H.1.1																		
H.1.2																		
H.1.3																		
H.1.4																		
H.2.1																		
H.3.1																		
O.1.1																		
O.1.2																		
O.2.1																		
O.2.2																		
O.3.1																		

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All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please note the strategy and cutting data for the production of deep holes.

→ Find further information on machining here

Cutting data standard values – WTX – Deep UNI

Index	11 140 ...						11 150 ...					
	40xD						50xD					
	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8	With through coolant	Ø ≤3	Ø >3–4	Ø >4–5	Ø >5–6	Ø >6–8
	v_c (m/min)	f (mm/rev)					v_c (m/min)	f (mm/rev)				
P.1.1	80	0,08	0,10	0,11	0,13	0,16	70	0,08	0,10	0,11	0,13	0,16
P.1.2	70	0,08	0,10	0,11	0,13	0,16	55	0,08	0,10	0,11	0,13	0,16
P.1.3	70	0,08	0,10	0,11	0,13	0,16	55	0,08	0,10	0,11	0,13	0,16
P.1.4	70	0,06	0,07	0,09	0,10	0,13	55	0,06	0,07	0,09	0,10	0,13
P.1.5	70	0,06	0,07	0,09	0,10	0,13	55	0,06	0,07	0,09	0,10	0,13
P.2.1	75	0,08	0,10	0,11	0,13	0,16	65	0,08	0,10	0,11	0,13	0,16
P.2.2	70	0,06	0,07	0,09	0,10	0,13	60	0,06	0,07	0,09	0,10	0,13
P.2.3	65	0,06	0,07	0,09	0,10	0,13	55	0,06	0,07	0,09	0,10	0,13
P.2.4	55	0,06	0,07	0,09	0,10	0,13	50	0,06	0,07	0,09	0,10	0,13
P.3.1	65	0,06	0,07	0,09	0,10	0,13	55	0,06	0,07	0,09	0,10	0,13
P.3.2	55	0,06	0,07	0,09	0,10	0,13	55	0,06	0,07	0,09	0,10	0,13
P.3.3												
P.4.1	55	0,04	0,05	0,06	0,08	0,10	50	0,04	0,05	0,06	0,08	0,10
P.4.2	40	0,04	0,05	0,06	0,08	0,10	35	0,04	0,05	0,06	0,08	0,10
M.1.1	45	0,04	0,05	0,06	0,08	0,10	40	0,04	0,05	0,06	0,08	0,10
M.2.1	45	0,04	0,05	0,06	0,08	0,10	40	0,04	0,05	0,06	0,08	0,10
M.3.1	45	0,04	0,05	0,06	0,08	0,10	40	0,04	0,05	0,06	0,08	0,10
K.1.1	80	0,13	0,16	0,18	0,20	0,25	65	0,13	0,16	0,18	0,20	0,25
K.1.2	75	0,13	0,16	0,18	0,20	0,25	60	0,13	0,16	0,18	0,20	0,25
K.2.1	80	0,11	0,13	0,15	0,16	0,20	65	0,11	0,13	0,15	0,16	0,20
K.2.2	75	0,11	0,13	0,15	0,16	0,20	60	0,11	0,13	0,15	0,16	0,20
K.3.1	80	0,11	0,13	0,15	0,16	0,20	65	0,11	0,13	0,15	0,16	0,20
K.3.2	75	0,11	0,13	0,15	0,16	0,20	60	0,11	0,13	0,15	0,16	0,20
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

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All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please note the strategy and cutting data for the production of deep holes.

→ Find further information on machining here

Cutting data standard values – WTX – Deep AL

Index	11 017 ... 16xD								11 021 ... 20xD							
	With through coolant	Ø 2–3	Ø > 3–4	Ø > 4–5	Ø > 5–6	Ø > 6–8	Ø > 8–10	Ø > 10–12	With through coolant	Ø 2–3	Ø > 3–4	Ø > 4–5	Ø > 5–6	Ø > 6–8	Ø > 8–10	Ø > 10–12
	v_c (m/min)	f (mm/rev)							v_c (m/min)	f (mm/rev)						
P.1.1																
P.1.2																
P.1.3																
P.1.4																
P.1.5																
P.2.1																
P.2.2																
P.2.3																
P.2.4																
P.3.1																
P.3.2																
P.3.3																
P.4.1																
P.4.2																
M.1.1																
M.2.1																
M.3.1																
K.1.1																
K.1.2																
K.2.1																
K.2.2																
K.3.1																
K.3.2																
N.1.1	**160**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**150**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.1.2	**180**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**170**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.2.1	**160**	0,08	0,11	0,13	0,15	0,19	0,23	0,26	**150**	0,08	0,11	0,13	0,15	0,19	0,23	0,26
N.2.2	**190**	0,08	0,11	0,13	0,15	0,19	0,23	0,26	**180**	0,08	0,11	0,13	0,15	0,19	0,23	0,26
N.2.3	**140**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**130**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.3.1	**115**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**100**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.3.2	**115**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**100**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.3.3	**90**	0,06	0,08	0,10	0,13	0,16	0,18	0,22	**80**	0,06	0,08	0,10	0,13	0,16	0,18	0,22
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
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O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values are guideline values that must be corrected according to the usage conditions.

All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please note the strategy and cutting data for the production of deep holes.

→ Find further information on machining here

Cutting data standard values – WTX – Deep AL

Index	11 026 ... 25xD								11 031 ... 30xD							
	With through coolant	Ø 2–3	Ø > 3–4	Ø > 4–5	Ø > 5–6	Ø > 6–8	Ø > 8–10	Ø > 10–12	With through coolant	Ø 2–3	Ø > 3–4	Ø > 4–5	Ø > 5–6	Ø > 6–8	Ø > 8–10	Ø > 10–12
	v_c (m/min)	f (mm/rev)							v_c (m/min)	f (mm/rev)						
P.1.1																
P.1.2																
P.1.3																
P.1.4																
P.1.5																
P.2.1																
P.2.2																
P.2.3																
P.2.4																
P.3.1																
P.3.2																
P.3.3																
P.4.1																
P.4.2																
M.1.1																
M.2.1																
M.3.1																
K.1.1																
K.1.2																
K.2.1																
K.2.2																
K.3.1																
K.3.2																
N.1.1	130	0,06	0,08	0,10	0,13	0,16	0,18	0,22	120	0,04	0,05	0,07	0,08	0,12	0,15	0,18
N.1.2	150	0,06	0,08	0,10	0,13	0,16	0,18	0,22	140	0,04	0,05	0,07	0,08	0,12	0,15	0,18
N.2.1	130	0,08	0,11	0,13	0,15	0,19	0,23	0,26	120	0,08	0,11	0,13	0,15	0,19	0,23	0,26
N.2.2	160	0,08	0,11	0,13	0,15	0,19	0,23	0,26	150	0,08	0,11	0,13	0,15	0,19	0,23	0,26
N.2.3	120	0,06	0,08	0,10	0,13	0,16	0,18	0,22	110	0,04	0,05	0,07	0,08	0,12	0,15	0,18
N.3.1	90	0,06	0,08	0,10	0,13	0,16	0,18	0,22	80	0,04	0,05	0,07	0,08	0,12	0,15	0,18
N.3.2	90	0,06	0,08	0,10	0,13	0,16	0,18	0,22	80	0,04	0,05	0,07	0,08	0,12	0,15	0,18
N.3.3	75	0,06	0,08	0,10	0,13	0,16	0,18	0,22	70	0,01	0,01	0,02	0,02	0,03	0,04	0,05
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1																
S.3.2																
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H.1.1																
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H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values are guideline values that must be corrected according to the usage conditions.

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→ Find further information on machining here

Cutting data standard values – Type Mini

Index	11 770 ...				
	5xD				
	without IK	≤ Ø 1,0	> Ø 1,0–1,5	> Ø 1,5–2,0	> Ø 2,0–2,9
	v_c (m/min)	f (mm/rev)			
P.1.1	75	0,01	0,01	0,013	0,015
P.1.2	65	0,02	0,02	0,025	0,03
P.1.3	65	0,01	0,01	0,013	0,015
P.1.4	65	0,01	0,01	0,013	0,015
P.1.5	70	0,01	0,01	0,013	0,015
P.2.1	70	0,01	0,01	0,013	0,015
P.2.2	65	0,01	0,01	0,013	0,015
P.2.3	65	0,02	0,02	0,025	0,03
P.2.4	65	0,01	0,01	0,013	0,015
P.3.1					
P.3.2					
P.3.3					
P.4.1					
P.4.2					
M.1.1					
M.2.1					
M.3.1					
K.1.1	**70**	0,01	0,01	0,013	0,015
K.1.2	**70**	0,01	0,01	0,013	0,015
K.2.1	**70**	0,01	0,01	0,013	0,015
K.2.2	**70**	0,01	0,01	0,013	0,015
K.3.1	**70**	0,01	0,01	0,013	0,015
K.3.2	**70**	0,01	0,01	0,013	0,015
N.1.1	**200**	0,01	0,01	0,013	0,015
N.1.2	**200**	0,01	0,01	0,013	0,015
N.2.1	**160**	0,01	0,01	0,013	0,015
N.2.2	**180**	0,01	0,01	0,013	0,015
N.2.3	**130**	0,01	0,01	0,013	0,015
N.3.1	**160**	0,01	0,01	0,013	0,015
N.3.2	**160**	0,01	0,01	0,013	0,015
N.3.3	**100**	0,01	0,01	0,013	0,015
N.4.1	**200**	0,01	0,01	0,013	0,015
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1	30	0,01	0,01	0,013	0,015
S.3.2	20	0,01	0,01	0,013	0,015
S.3.3					
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values for WTX – Micropilot

Index	10 692 ...						
	2,5xD						
	without IK	≤ Ø 1	> Ø 1–1,25	> Ø 1,25–1,5	> Ø 1,5–2	> Ø 2–2,5	> Ø 2,5–3
	v_c (m/min)	f (mm/rev)					
P.1.1	**70**	0,010	0,013	0,015	0,019	0,022	0,025
P.1.2	**60**	0,010	0,013	0,015	0,019	0,022	0,025
P.1.3	**60**	0,010	0,013	0,015	0,019	0,022	0,025
P.1.4	**60**	0,010	0,013	0,015	0,019	0,022	0,025
P.1.5	60	0,010	0,013	0,015	0,019	0,022	0,025
P.2.1	**70**	0,010	0,013	0,015	0,019	0,022	0,025
P.2.2	**60**	0,010	0,013	0,015	0,019	0,022	0,025
P.2.3	60	0,010	0,013	0,015	0,019	0,022	0,025
P.2.4							
P.3.1	**60**	0,010	0,013	0,015	0,019	0,022	0,025
P.3.2	50	0,010	0,013	0,015	0,019	0,022	0,025
P.3.3							
P.4.1	**50**	0,005	0,006	0,007	0,010	0,013	0,015
P.4.2	**35**	0,005	0,006	0,007	0,010	0,013	0,015
M.1.1	40	0,005	0,006	0,007	0,010	0,013	0,015
M.2.1	40	0,005	0,006	0,007	0,010	0,013	0,015
M.3.1	40	0,005	0,006	0,007	0,010	0,013	0,015
K.1.1	**70**	0,010	0,013	0,015	0,019	0,022	0,025
K.1.2	**70**	0,010	0,013	0,015	0,019	0,022	0,025
K.2.1	**70**	0,010	0,013	0,015	0,019	0,022	0,025
K.2.2	**70**	0,010	0,013	0,015	0,019	0,022	0,025
K.3.1	**70**	0,010	0,013	0,015	0,019	0,022	0,025
K.3.2	**70**	0,010	0,013	0,015	0,019	0,022	0,025
N.1.1							
N.1.2							
N.2.1							
N.2.2							
N.2.3							
N.3.1							
N.3.2							
N.3.3							
N.4.1							
S.1.1	**15**	0,005	0,006	0,007	0,010	0,013	0,015
S.1.2	**15**	0,005	0,006	0,007	0,010	0,013	0,015
S.2.1	10	0,005	0,006	0,007	0,010	0,013	0,015
S.2.2	10	0,005	0,006	0,007	0,010	0,013	0,015
S.2.3	10	0,005	0,006	0,007	0,010	0,013	0,015
S.3.1	**30**	0,005	0,006	0,007	0,010	0,013	0,015
S.3.2	**20**	0,005	0,006	0,007	0,010	0,013	0,015
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

→ Find further information on machining here

Cutting data standard values – WTX – Micro

Index	10 693 ...							
	5xD							
	With through coolant	MMS	≤ Ø 1,0	> Ø 1,0–1,25	> Ø 1,25–1,5	> Ø 1,5–2,0	> Ø 2,0–2,5	> Ø 2,5–3,0
	v_c (m/min)		f (mm/rev)					
P.1.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
P.1.2	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.3	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.4	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.5	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
P.2.2	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.3	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.4								
P.3.1	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.3.2	50	34	0,028	0,034	0,045	0,070	0,095	0,115
P.3.3								
P.4.1	50		0,015	0,018	0,024	0,040	0,060	0,080
P.4.2	35		0,015	0,018	0,024	0,040	0,060	0,080
M.1.1	40		0,015	0,018	0,024	0,040	0,060	0,080
M.2.1	40		0,015	0,018	0,024	0,040	0,060	0,080
M.3.1	40		0,015	0,018	0,024	0,040	0,060	0,080
K.1.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.1.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.2.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.2.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.3.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.3.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1	15		0,015	0,018	0,024	0,040	0,060	0,080
S.1.2	15		0,015	0,018	0,024	0,040	0,060	0,080
S.2.1	10		0,015	0,018	0,024	0,040	0,060	0,080
S.2.2	10		0,015	0,018	0,024	0,040	0,060	0,080
S.2.3								
S.3.1	30		0,015	0,018	0,024	0,040	0,060	0,080
S.3.2	20		0,015	0,018	0,024	0,040	0,060	0,080
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Micro

Index	10 694 ..., 10 695 ...							
	8xD / 12xD							
	With through coolant	MMS	≤ Ø 1,0	> Ø 1,0–1,25	> Ø 1,25–1,5	> Ø 1,5–2,0	> Ø 2,0–2,5	> Ø 2,5–3,0
	v_c (m/min)		f (mm/rev)					
P.1.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
P.1.2	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.3	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.4	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.1.5	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
P.2.2	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.3	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.2.4								
P.3.1	60	43	0,028	0,034	0,045	0,070	0,095	0,115
P.3.2	50	34	0,028	0,034	0,045	0,070	0,095	0,115
P.3.3								
P.4.1	50		0,015	0,018	0,024	0,040	0,060	0,080
P.4.2	35		0,015	0,018	0,024	0,040	0,060	0,080
M.1.1	40		0,015	0,018	0,024	0,040	0,060	0,080
M.2.1	40		0,015	0,018	0,024	0,040	0,060	0,080
M.3.1	40		0,015	0,018	0,024	0,040	0,060	0,080
K.1.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.1.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.2.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.2.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.3.1	70	51	0,028	0,034	0,045	0,070	0,095	0,115
K.3.2	70	51	0,028	0,034	0,045	0,070	0,095	0,115
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1	15		0,015	0,018	0,024	0,040	0,060	0,080
S.1.2	15		0,015	0,018	0,024	0,040	0,060	0,080
S.2.1	10		0,015	0,018	0,024	0,040	0,060	0,080
S.2.2	10		0,015	0,018	0,024	0,040	0,060	0,080
S.2.3								
S.3.1	30		0,015	0,018	0,024	0,040	0,060	0,080
S.3.2	20		0,015	0,018	0,024	0,040	0,060	0,080
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Micro

Index	10 696 ..., 10 697 ..., 10 698 ..., 10 699 ...						
	16xD / 20xD / 25xD / 30xD						
	With through coolant	≤ Ø 1,0	> Ø 1,0–1,25	> Ø 1,25–1,5	> Ø 1,5–2,0	> Ø 2,0–2,5	> Ø 2,5–3,0
	v_c (m/min)	f (mm/rev)					
P.1.1	58	0,028	0,034	0,045	0,070	0,095	0,115
P.1.2	50	0,028	0,034	0,045	0,070	0,095	0,115
P.1.3	50	0,028	0,034	0,045	0,070	0,095	0,115
P.1.4	50	0,028	0,034	0,045	0,070	0,095	0,115
P.1.5	50	0,028	0,034	0,045	0,070	0,095	0,115
P.2.1	58	0,028	0,034	0,045	0,070	0,095	0,115
P.2.2	50	0,028	0,034	0,045	0,070	0,095	0,115
P.2.3	50	0,028	0,034	0,045	0,070	0,095	0,115
P.2.4							
P.3.1	50	0,028	0,034	0,045	0,070	0,095	0,115
P.3.2	42	0,028	0,034	0,045	0,070	0,095	0,115
P.3.3							
P.4.1	42	0,015	0,018	0,024	0,040	0,060	0,080
P.4.2	30	0,015	0,018	0,024	0,040	0,060	0,080
M.1.1	34	0,015	0,018	0,024	0,040	0,060	0,080
M.2.1	34	0,015	0,018	0,024	0,040	0,060	0,080
M.3.1	34	0,015	0,018	0,024	0,040	0,060	0,080
K.1.1	58	0,028	0,034	0,045	0,070	0,095	0,115
K.1.2	58	0,028	0,034	0,045	0,070	0,095	0,115
K.2.1	58	0,028	0,034	0,045	0,070	0,095	0,115
K.2.2	58	0,028	0,034	0,045	0,070	0,095	0,115
K.3.1	58	0,028	0,034	0,045	0,070	0,095	0,115
K.3.2	58	0,028	0,034	0,045	0,070	0,095	0,115
N.1.1							
N.1.2							
N.2.1							
N.2.2							
N.2.3							
N.3.1							
N.3.2							
N.3.3							
N.4.1							
S.1.1							
S.1.2							
S.2.1							
S.2.2							
S.2.3							
S.3.1							
S.3.2							
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please note the strategy and cutting data for the production of deep holes.

→ Find further information on machining here

Cutting data standard values – WTX – BR

Index	10 760 ... / 10 761 ... / 10 762 ...										
	3xD / 5xD										
	With through coolant	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20
	v_c (m/min)	f (mm/rev)									
P.1.1	90	0,09	0,11	0,13	0,16	0,18	0,20	0,22	0,24	0,25	0,26
P.1.2	85	0,09	0,11	0,12	0,15	0,17	0,19	0,21	0,23	0,24	0,25
P.1.3	80	0,09	0,10	0,12	0,14	0,16	0,18	0,20	0,21	0,23	0,24
P.1.4	75	0,08	0,10	0,11	0,13	0,16	0,17	0,19	0,20	0,22	0,22
P.1.5	70	0,08	0,09	0,10	0,13	0,15	0,17	0,18	0,19	0,20	0,21
P.2.1	90	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,29	0,31
P.2.2	80	0,10	0,12	0,14	0,17	0,19	0,22	0,24	0,25	0,27	0,28
P.2.3	70	0,09	0,11	0,12	0,15	0,17	0,20	0,21	0,23	0,24	0,25
P.2.4	55	0,09	0,10	0,11	0,14	0,16	0,17	0,19	0,20	0,21	0,22
P.3.1	60	0,09	0,11	0,12	0,15	0,17	0,20	0,21	0,23	0,24	0,25
P.3.2	50	0,08	0,09	0,10	0,12	0,14	0,16	0,17	0,19	0,20	0,21
P.3.3	50	0,06	0,07	0,08	0,10	0,11	0,12	0,14	0,14	0,15	0,16
P.4.1	50	0,06	0,07	0,08	0,10	0,11	0,13	0,14	0,15	0,16	0,17
P.4.2	50	0,06	0,07	0,08	0,10	0,11	0,13	0,14	0,15	0,16	0,17
M.1.1											
M.2.1											
M.3.1											
K.1.1	95	0,12	0,15	0,18	0,22	0,26	0,30	0,33	0,35	0,38	0,39
K.1.2	80	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,30	0,31
K.2.1	130	0,12	0,15	0,17	0,21	0,25	0,28	0,30	0,33	0,35	0,36
K.2.2	80	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,30	0,31
K.3.1	70	0,12	0,14	0,16	0,20	0,23	0,26	0,28	0,30	0,32	0,33
K.3.2	65	0,10	0,12	0,13	0,16	0,18	0,21	0,22	0,24	0,25	0,26
N.1.1	265	0,09	0,11	0,13	0,16	0,18	0,20	0,22	0,24	0,25	0,26
N.1.2	240	0,09	0,10	0,12	0,14	0,16	0,18	0,20	0,21	0,23	0,24
N.2.1	200	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,30	0,31
N.2.2	175	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,30	0,31
N.2.3	145	0,11	0,13	0,15	0,18	0,21	0,24	0,26	0,28	0,30	0,31
N.3.1	160	0,12	0,15	0,18	0,22	0,26	0,30	0,33	0,35	0,38	0,39
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Feed BR

Index	10 707 ...,10 711 ..., 10 713 ..., 10 719 ...											
	3xD / 5xD											
	With through coolant	With external coolant	MMS	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20
	v_c (m/min)			f (mm/rev)								
P.1.1	75	70	70	0.19	0.22	0.25	0.31	0.36	0.40	0.44	0.47	0.52
P.1.2	75	65	65	0.18	0.21	0.24	0.30	0.34	0.39	0.42	0.45	0.50
P.1.3	70	65	65	0.17	0.20	0.23	0.28	0.33	0.37	0.40	0.43	0.47
P.1.4	65	60	60	0.16	0.19	0.22	0.27	0.31	0.35	0.38	0.41	0.45
P.1.5	65	55	55	0.16	0.18	0.21	0.25	0.29	0.33	0.36	0.39	0.43
P.2.1	75	65	65	0.22	0.26	0.30	0.37	0.43	0.48	0.52	0.56	0.62
P.2.2	70	60	60	0.20	0.24	0.27	0.33	0.39	0.43	0.47	0.51	0.56
P.2.3	65	55	55	0.18	0.22	0.25	0.30	0.35	0.39	0.43	0.46	0.50
P.2.4	50	40	40	0.17	0.20	0.22	0.27	0.31	0.35	0.38	0.40	0.44
P.3.1	55	45	45	0.18	0.21	0.24	0.30	0.35	0.39	0.43	0.46	0.50
P.3.2	40	40	40	0.15	0.18	0.20	0.25	0.29	0.32	0.35	0.37	0.41
P.3.3	40	30	35	0.13	0.15	0.16	0.20	0.23	0.25	0.27	0.29	0.32
P.4.1	40	30	35	0.12	0.14	0.16	0.20	0.23	0.26	0.28	0.30	0.33
P.4.2	40	30	35	0.12	0.14	0.16	0.20	0.23	0.26	0.28	0.30	0.33
M.1.1												
M.2.1												
M.3.1												
K.1.1	100	70	70	0.25	0.30	0.35	0.45	0.53	0.60	0.66	0.71	0.79
K.1.2	85	65	65	0.22	0.26	0.30	0.37	0.43	0.48	0.53	0.56	0.62
K.2.1	135	85	100	0.24	0.29	0.34	0.42	0.49	0.56	0.61	0.66	0.72
K.2.2	85	65	65	0.22	0.26	0.30	0.37	0.43	0.48	0.53	0.56	0.62
K.3.1	75	70	70	0.23	0.28	0.32	0.39	0.46	0.52	0.57	0.61	0.67
K.3.2	70	60	60	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.48	0.53
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC UNI

Index	11 706 ..., 11 707 ..., 11 709 ..., 11 710 ...																
	3xD / 5xD																
	without IK	≤ Ø 1	Ø 1–1,25	Ø 1,25–1,5	Ø 1,5–2	Ø 2–2,5	Ø 2,5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	90	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.1.2	75	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.3	75	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.4	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.1.5	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.1	80	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.2.2	70	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.2.3	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.4	55	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.1	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.2	55	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.3																	
P.4.1																	
P.4.2																	
M.1.1																	
M.2.1																	
M.3.1																	
K.1.1	90	0,04	0,05	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.1.2	75	0,04	0,05	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.2.1	75	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.2.2	70	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.1	75	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.2	70	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
N.1.1																	
N.1.2																	
N.2.1																	
N.2.2																	
N.2.3																	
N.3.1																	
N.3.2																	
N.3.3																	
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1																	
S.3.2																	
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC UNI

Index	11 700 ..., 11 701 ..., 11 702 ..., 11 703 ...																	
	3xD / 5xD																	
	With through coolant	≤ Ø 1	Ø 1–1,25	Ø 1,25–1,5	Ø 1,5–2	Ø 2–2,5	Ø 2,5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)																
P.1.1	115	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.1.2	95	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.3	95	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.4	85	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.1.5	85	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.1	95	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.2.2	85	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.2.3	85	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.4	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.1	85	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.2	70	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.3	40	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.1	50	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.2	30	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.1.1	35	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.2.1	35	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.3.1	35	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
K.1.1	115	0,04	0,05	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.1.2	95	0,04	0,05	0,06	0,08	0,10	0,13	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.2.1	95	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.2.2	90	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.1	95	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.2	90	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
N.1.1	200	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
N.1.2	200	0,03	0,03	0,04	0,05	0,07	0,08	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
N.2.1	160	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
N.2.2	160	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
N.2.3	140	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
N.3.1	120	0,02	0,02	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,18
N.3.2	120	0,02	0,02	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,18
N.3.3	100	0,02	0,02	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,13	0,14	0,15	0,16	0,18
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1																	
S.3.2																	
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1																	
O.1.2																	
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC UNI

Index	11 704 ...										
	8xD										
	With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1	100	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.1.2	80	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.3	80	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.4	75	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.1.5	75	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.1	80	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.2.2	75	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.2.3	75	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.4	60	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.1	75	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.2	60	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.3	35	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.1	40	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.2	25	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.1.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.2.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.3.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
K.1.1	100	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.1.2	80	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.2.1	80	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.2.2	75	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.1	80	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.2	75	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC UNI

Index	11 705 ...										
	12xD										
	With through coolant	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)									
P.1.1	90	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.1.2	75	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.3	75	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.1.4	70	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.1.5	70	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.1	80	0,13	0,16	0,19	0,22	0,25	0,28	0,31	0,34	0,36	0,38
P.2.2	70	0,12	0,15	0,18	0,21	0,24	0,27	0,30	0,32	0,35	0,37
P.2.3	70	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.2.4	55	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.1	70	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.2	55	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.3.3	35	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.1	40	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
P.4.2	25	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.1.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.2.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
M.3.1	30	0,06	0,08	0,10	0,12	0,14	0,15	0,18	0,20	0,23	0,25
K.1.1	90	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.1.2	75	0,16	0,18	0,22	0,25	0,29	0,33	0,37	0,40	0,43	0,46
K.2.1	75	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.2.2	70	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.1	75	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
K.3.2	70	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,30	0,34	0,38
N.1.1											
N.1.2											
N.2.1											
N.2.2											
N.2.3											
N.3.1											
N.3.2											
N.3.3											
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC VA

Index	11 711 ..., 11 712 ... 3xD																
	without IK	≤ Ø 1	Ø 1–1,25	Ø 1,25–1,5	Ø 1,5–2	Ø 2–2,5	Ø 2,5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	75	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.1.2																	
P.1.3																	
P.1.4																	
P.1.5																	
P.2.1	65	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.2.2	60	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.2.3																	
P.2.4																	
P.3.1																	
P.3.2																	
P.3.3																	
P.4.1	**45**	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.4.2	**30**	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.1.1	**35**	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.2.1	**35**	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.3.1	**35**	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
K.1.1																	
K.1.2																	
K.2.1																	
K.2.2																	
K.3.1																	
K.3.2																	
N.1.1	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.1.2	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.1	130	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.2	130	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.3	110	0,03	0,04	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
N.3.1	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.3.2	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.3.3	225	0,03	0,04	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1																	
S.2.2																	
S.2.3																	
S.3.1	30	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.3.2	20	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1	100	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,2	0,21
O.1.2	80	0,002	0,004	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,13	0,14	0,15
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC VA

Index	11 713 ..., 11 714 ..., 11 715 ..., 11 716 ...																
	3xD / 5xD																
	With through coolant	≤ Ø 1	Ø 1–1,25	Ø 1,25–1,5	Ø 1,5–2	Ø 2–2,5	Ø 2,5–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)															
P.1.1	85	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.1.2																	
P.1.3																	
P.1.4																	
P.1.5																	
P.2.1	75	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.2.2	65	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.2.3																	
P.2.4																	
P.3.1																	
P.3.2																	
P.3.3																	
P.4.1	55	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
P.4.2	40	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.1.1	45	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.2.1	45	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
M.3.1	45	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
K.1.1																	
K.1.2																	
K.2.1																	
K.2.2																	
K.3.1																	
K.3.2																	
N.1.1	200	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.1.2	200	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.1	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.2	160	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.2.3	140	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,2	0,23	0,24	0,26	0,27
N.3.1	200	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.3.2	200	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,16	0,20	0,24	0,27	0,31	0,32	0,34	0,36
N.3.3	280	0,03	0,03	0,04	0,05	0,07	0,08	0,10	0,11	0,12	0,15	0,18	0,20	0,23	0,24	0,26	0,27
N.4.1																	
S.1.1																	
S.1.2																	
S.2.1	15	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.2.2	15	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.2.3	15	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.3.1	35	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.3.2	25	0,002	0,004	0,01	0,01	0,01	0,02	0,03	0,03	0,04	0,06	0,07	0,09	0,10	0,11	0,12	0,12
S.3.3																	
H.1.1																	
H.1.2																	
H.1.3																	
H.1.4																	
H.2.1																	
H.3.1																	
O.1.1	120	0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,11	0,13	0,15	0,17	0,19	0,20	0,21
O.1.2	100	0,002	0,004	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,13	0,14	0,15
O.2.1																	
O.2.2																	
O.3.1																	

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type N – Twist drills

Index	10 700 ..., 10 710 ...														
	3xD / 5xD														
	without IK	≤ Ø 1	Ø 1–1,5	Ø 1,5–2	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)													
P.1.1	75	0,03	0,05	0,07	0,10	0,12	0,14	0,16	0,2	0,24	0,28	0,31	0,35	0,40	0,45
P.1.2	65	0,03	0,05	0,07	0,10	0,12	0,14	0,16	0,2	0,24	0,28	0,31	0,35	0,40	0,45
P.1.3	65	0,03	0,05	0,07	0,10	0,12	0,14	0,16	0,2	0,24	0,28	0,31	0,35	0,40	0,45
P.1.4	65	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.1.5	65	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.2.1	70	0,03	0,05	0,07	0,10	0,12	0,14	0,16	0,20	0,24	0,28	0,31	0,35	0,40	0,45
P.2.2	65	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.2.3	65	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.2.4	50	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.3.1	65	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.3.2	50	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
P.3.3															
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
K.1.2	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
K.2.1	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
K.2.2	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
K.3.1	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
K.3.2	70	0,03	0,04	0,05	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23	0,26	0,29	0,33
N.1.1	200	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
N.1.2	200	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
N.2.1	160	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
N.2.2	160	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
N.2.3	130	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
N.3.1	160	0,003	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14	0,16	0,18	0,20
N.3.2	160	0,003	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14	0,16	0,18	0,20
N.3.3	100	0,003	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14	0,16	0,18	0,20
N.4.1	200	0,01	0,01	0,01	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,15	0,18	0,20
S.1.1															
S.1.2															
S.2.1															
S.2.2															
S.2.3															
S.3.1	30	0,002	0,003	0,003	0,01	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10
S.3.2	20	0,002	0,003	0,003	0,01	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,10
S.3.3															
H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Solid carbide NC spot drills, center drills

Index	10 709 ..., 10 712 ..., 10 714 ... MultiChange					
	without IK	Ø 8	Ø 10	Ø 12	Ø 16	Ø 20
	v_c (m/min)	f (mm/rev)				
P.1.1	160	0,08	0,10	0,11	0,14	0,16
P.1.2	160	0,08	0,10	0,11	0,14	0,16
P.1.3	160	0,08	0,10	0,11	0,14	0,16
P.1.4	160	0,08	0,10	0,11	0,14	0,16
P.1.5	130	0,08	0,09	0,11	0,13	0,15
P.2.1	145	0,08	0,10	0,11	0,14	0,16
P.2.2	100	0,07	0,08	0,10	0,12	0,14
P.2.3	80	0,07	0,08	0,10	0,12	0,14
P.2.4	80	0,07	0,08	0,10	0,12	0,14
P.3.1	95	0,08	0,09	0,11	0,13	0,16
P.3.2	95	0,08	0,09	0,11	0,13	0,16
P.3.3	95	0,08	0,09	0,11	0,13	0,16
P.4.1	65	0,04	0,05	0,05	0,07	0,08
P.4.2	65	0,04	0,05	0,05	0,07	0,08
M.1.1	45	0,05	0,06	0,07	0,08	0,10
M.2.1	45	0,05	0,06	0,07	0,08	0,10
M.3.1	40	0,04	0,05	0,06	0,07	0,08
K.1.1	175	0,13	0,16	0,19	0,24	0,27
K.1.2	160	0,11	0,14	0,16	0,20	0,23
K.2.1	130	0,09	0,11	0,13	0,17	0,19
K.2.2	130	0,09	0,11	0,13	0,17	0,19
K.3.1	160	0,11	0,14	0,16	0,20	0,23
K.3.2	130	0,09	0,11	0,13	0,17	0,19
N.1.1	600	0,13	0,16	0,19	0,24	0,27
N.1.2	400	0,14	0,17	0,20	0,25	0,29
N.2.1	320	0,15	0,18	0,21	0,26	0,30
N.2.2	320	0,15	0,18	0,21	0,26	0,30
N.2.3	230	0,16	0,19	0,23	0,28	0,33
N.3.1	175	0,11	0,13	0,15	0,19	0,22
N.3.2	230	0,11	0,13	0,15	0,19	0,22
N.3.3	175	0,11	0,13	0,15	0,19	0,22
N.4.1	290	0,07	0,08	0,09	0,12	0,14
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

10 708 ... ZB							
without IK	Ø 0,5–1,5	Ø 1,5–2	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8
v_c (m/min)	f (mm/rev)						
75	0,03	0,04	0,05	0,07	0,08	0,10	0,12
65	0,03	0,04	0,05	0,07	0,08	0,10	0,12
65	0,03	0,03	0,04	0,05	0,06	0,08	0,10
65	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,04	0,05	0,07	0,08	0,10	0,12
65	0,03	0,03	0,04	0,05	0,06	0,08	0,10
65	0,03	0,04	0,05	0,07	0,08	0,10	0,12
65	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
70	0,03	0,03	0,04	0,05	0,06	0,08	0,10
200	0,01	0,01	0,01	0,01	0,02	0,02	0,03
200	0,01	0,01	0,01	0,01	0,02	0,02	0,03
160	0,01	0,01	0,01	0,01	0,02	0,02	0,03
180	0,01	0,01	0,01	0,01	0,02	0,02	0,03
130	0,01	0,01	0,01	0,01	0,02	0,02	0,03
160	0,01	0,01	0,01	0,01	0,01	0,01	0,02
160	0,01	0,01	0,01	0,01	0,01	0,01	0,02
100	0,01	0,01	0,01	0,01	0,01	0,01	0,02

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Solid carbide NC spot drills

Index	10 702 ..., 10 703 ..., 10 704 ...											
	NC-A											
	without IK	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)										
P.1.1	70	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.20	0.24	0.28	0.31
P.1.2	60	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.20	0.24	0.28	0.31
P.1.3	60	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
P.1.4	60	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
P.1.5	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
P.2.1	65	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.20	0.24	0.28	0.31
P.2.2	60	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
P.2.3	60	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.20	0.24	0.28	0.31
P.2.4	60	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	65	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.27
K.1.2	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
K.2.1	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
K.2.2	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
K.3.1	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
K.3.2	65	0.04	0.05	0.06	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23
N.1.1	**200**	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
N.1.2	**200**	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
N.2.1	**160**	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
N.2.2	**180**	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
N.2.3	**130**	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
N.3.1	**160**	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.11	0.14
N.3.2	**160**	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.11	0.14
N.3.3	**100**	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.11	0.14
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												



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Cutting data standard values – Solid carbide NC-A TiAlN

Index	10 716 ..., 10 717 ..., 10 718 ... NC-A TiAlN											
	without IK	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16	Ø 16–18	Ø 18–20
	v_c (m/min)	f (mm/rev)										
P.1.1	75	0,05	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24	0,28	0,31
P.1.2	65	0,05	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24	0,28	0,31
P.1.3	65	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
P.1.4	65	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
P.1.5	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
P.2.1	70	0,05	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24	0,28	0,31
P.2.2	65	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
P.2.3	65	0,05	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24	0,28	0,31
P.2.4	65	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	70	0,04	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26
K.1.2	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
K.2.1	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
K.2.2	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
K.3.1	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
K.3.2	70	0,04	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18	0,20	0,23
N.1.1	200	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13
N.1.2	200	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13
N.2.1	160	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13
N.2.2	180	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13
N.2.3	130	0,01	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13
N.3.1	160	0,01	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14
N.3.2	160	0,01	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14
N.3.3	100	0,01	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09	0,11	0,14
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1	28	0,02	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,08
H.1.2	16	0,02	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07	0,08	0,08
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Solid carbide NC-A TiAlN

Index	10 724 ..., 10 726 ..., 10 727 ... NC-A TiAlN								
	without IK	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16
	v_c (m/min)	f (mm/rev)							
P.1.1	75	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24
P.1.2	65	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24
P.1.3	65	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
P.1.4	65	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
P.1.5	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
P.2.1	70	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24
P.2.2	65	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
P.2.3	65	0,07	0,08	0,10	0,12	0,14	0,16	0,20	0,24
P.2.4	65	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
P.3.1									
P.3.2									
P.3.3									
P.4.1									
P.4.2									
M.1.1									
M.2.1									
M.3.1									
K.1.1	70	0,05	0,06	0,08	0,10	0,13	0,15	0,18	0,20
K.1.2	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
K.2.1	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
K.2.2	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
K.3.1	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
K.3.2	70	0,05	0,06	0,08	0,10	0,11	0,13	0,15	0,18
N.1.1	200	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09
N.1.2	200	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09
N.2.1	160	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09
N.2.2	180	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09
N.2.3	130	0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09
N.3.1	160	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09
N.3.2	160	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09
N.3.3	100	0,01	0,01	0,01	0,02	0,03	0,04	0,06	0,09
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1	30	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07
H.1.2	15	0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,07
H.1.3									
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

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Cutting data standard values – Type WPC Step UNI

Index	10 721 ..., 10 722 ..., 10 723 ..., 10 724 ...										
	WPC Step UNI										
	without IK	With through coolant	Ø 2–3	Ø 3–4	Ø 4–5	Ø 5–6	Ø 6–8	Ø 8–10	Ø 10–12	Ø 12–14	Ø 14–16
	v_c (m/min)		f (mm/rev)								
P.1.1	90	115	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34
P.1.2	75	95	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32
P.1.3	75	95	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32
P.1.4	70	85	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.1.5	70	85	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.2.1	80	95	0.09	0.13	0.16	0.19	0.22	0.25	0.28	0.31	0.34
P.2.2	70	85	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32
P.2.3	70	85	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.2.4	55	70	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.3.1	70	85	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.3.2	55	70	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.3.3		40	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.4.1		50	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
P.4.2		30	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
M.1.1		35	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
M.2.1		35	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
M.3.1		35	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
K.1.1	90	115	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40
K.1.2	75	95	0.13	0.16	0.18	0.22	0.25	0.29	0.33	0.37	0.40
K.2.1	75	95	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30
K.2.2	70	90	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30
K.3.1	75	95	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30
K.3.2	70	90	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30
N.1.1		200	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32
N.1.2		200	0.08	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.32
N.2.1		160	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23	0.26
N.2.2		160	0.08	0.10	0.11	0.13	0.15	0.18	0.20	0.23	0.26
N.2.3		140	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.18	0.20
N.3.1		120	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15
N.3.2		120	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15
N.3.3		100	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.15
N.4.1											
S.1.1											
S.1.2											
S.2.1											
S.2.2											
S.2.3											
S.3.1											
S.3.2											
S.3.3											
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1											
O.1.2											
O.2.1											
O.2.2											
O.3.1											

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Cutting data standard values – WTX – Change

Index	10 919 ...					
	UNI					
	v_c (m/min)	≥ Ø 12–15,7	> Ø 15,7–20	> Ø 20–25	> Ø 25–32	> Ø 32–41
		f (mm/rev)				
P.1.1	120	0,27	0,31	0,34	0,36	0,36
P.1.2	115	0,26	0,30	0,32	0,34	0,35
P.1.3	110	0,25	0,28	0,31	0,32	0,33
P.1.4	105	0,24	0,27	0,29	0,31	0,31
P.1.5	100	0,22	0,25	0,28	0,29	0,30
P.2.1	120	0,32	0,37	0,40	0,42	0,43
P.2.2	110	0,29	0,33	0,36	0,38	0,39
P.2.3	100	0,26	0,30	0,33	0,35	0,35
P.2.4	75	0,23	0,26	0,29	0,30	0,31
P.3.1	85	0,26	0,30	0,33	0,35	0,35
P.3.2	65	0,22	0,25	0,27	0,28	0,29
P.3.3	65	0,17	0,19	0,21	0,22	0,22
P.4.1	65	0,17	0,20	0,22	0,23	0,23
P.4.2	65	0,17	0,20	0,22	0,23	0,23
M.1.1						
M.2.1						
M.3.1						
K.1.1	110	0,37	0,42	0,46	0,49	0,50
K.1.2	90	0,29	0,33	0,36	0,38	0,39
K.2.1	145	0,34	0,39	0,42	0,45	0,46
K.2.2	90	0,29	0,33	0,36	0,38	0,39
K.3.1	80	0,35	0,40	0,44	0,46	0,47
K.3.2	70	0,28	0,32	0,34	0,36	0,37
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

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Cutting data standard values – WTX – Change

Index	10 923 ...					
	P					
	v_c (m/min)	≥ Ø 12–15,7	> Ø 15,7–20	> Ø 20–25	> Ø 25–32	> Ø 32–41
		f (mm/rev)				
P.1.1	120	0,32	0,36	0,39	0,41	0,42
P.1.2	115	0,30	0,34	0,37	0,39	0,40
P.1.3	110	0,29	0,32	0,35	0,37	0,38
P.1.4	105	0,27	0,31	0,34	0,35	0,36
P.1.5	100	0,26	0,29	0,32	0,34	0,34
P.2.1	120	0,37	0,42	0,46	0,49	0,49
P.2.2	110	0,34	0,38	0,42	0,44	0,45
P.2.3	100	0,30	0,35	0,38	0,40	0,40
P.2.4	75	0,27	0,30	0,33	0,35	0,35
P.3.1	85	0,30	0,35	0,38	0,40	0,40
P.3.2	65	0,25	0,28	0,31	0,32	0,33
P.3.3	65	0,19	0,22	0,24	0,25	0,25
P.4.1	65	0,20	0,23	0,25	0,26	0,27
P.4.2	65	0,20	0,23	0,25	0,26	0,27
M.1.1						
M.2.1						
M.3.1						
K.1.1	110	0,41	0,47	0,51	0,54	0,55
K.1.2	90	0,33	0,37	0,41	0,43	0,43
K.2.1	145	0,38	0,43	0,47	0,50	0,51
K.2.2	90	0,33	0,37	0,41	0,43	0,43
K.3.1	80	0,35	0,40	0,44	0,46	0,47
K.3.2	70	0,28	0,32	0,34	0,36	0,37
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						



The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – Change

Index	10 921 ... VA					10 924 ... GG				
		≥ Ø 12–15,7	> Ø 15,7–20	> Ø 20–25	> Ø 25–32		≥ Ø 12–15,7	> Ø 15,7–20	> Ø 20–25	> Ø 25–32
	v_c (m/min)	f (mm/rev)				v_c (m/min)	f (mm/rev)			
P.1.1	110	0,25	0,28	0,30	0,32					
P.1.2	105	0,24	0,27	0,29	0,31					
P.1.3	100	0,22	0,25	0,28	0,29					
P.1.4	95	0,21	0,24	0,26	0,28					
P.1.5	90	0,20	0,23	0,25	0,26					
P.2.1	110	0,29	0,33	0,36	0,38					
P.2.2	100	0,26	0,30	0,33	0,35					
P.2.3	90	0,24	0,27	0,29	0,31					
P.2.4	70	0,21	0,24	0,26	0,27					
P.3.1	75	0,24	0,27	0,30	0,31					
P.3.2	60	0,19	0,22	0,24	0,25					
P.3.3	60	0,15	0,17	0,18	0,19					
P.4.1	60	0,16	0,18	0,19	0,20					
P.4.2	60	0,16	0,18	0,19	0,20					
M.1.1	55	0,20	0,23	0,25	0,26					
M.2.1	50	0,17	0,19	0,21	0,22					
M.3.1	50	0,17	0,19	0,21	0,22					
K.1.1	**95**	0,37	0,42	0,46	0,49	**120**	0,49	0,56	0,62	0,65
K.1.2	**80**	0,29	0,33	0,36	0,38	**100**	0,39	0,45	0,49	0,51
K.2.1	**130**	0,34	0,39	0,42	0,45	**160**	0,45	0,52	0,57	0,60
K.2.2	**80**	0,29	0,33	0,36	0,38	**100**	0,39	0,45	0,49	0,51
K.3.1	**70**	0,32	0,36	0,39	0,41	**90**	0,42	0,48	0,52	0,55
K.3.2	**65**	0,25	0,28	0,31	0,33	**80**	0,34	0,38	0,41	0,44
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1	**30**	0,14	0,16	0,17	0,18					
S.1.2	**20**	0,10	0,11	0,12	0,13					
S.2.1	**20**	0,10	0,11	0,12	0,13					
S.2.2	**15**	0,12	0,14	0,15	0,16					
S.2.3	**15**	0,10	0,11	0,12	0,13					
S.3.1	**40**	0,17	0,20	0,22	0,23					
S.3.2	**30**	0,15	0,17	0,18	0,19					
S.3.3	25	0,12	0,14	0,15	0,16					
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – Change

Index	10 922 ... AL				
		≥ Ø 12–15,7	> Ø 15,7–20	> Ø 20–25	> Ø 25–32
	v_c (m/min)	f (mm/rev)			
P.1.1					
P.1.2					
P.1.3					
P.1.4					
P.1.5					
P.2.1					
P.2.2					
P.2.3					
P.2.4					
P.3.1					
P.3.2					
P.3.3					
P.4.1					
P.4.2					
M.1.1					
M.2.1					
M.3.1					
K.1.1					
K.1.2					
K.2.1					
K.2.2					
K.3.1					
K.3.2					
N.1.1	330	0,27	0,31	0,34	0,36
N.1.2	300	0,25	0,28	0,31	0,32
N.2.1	250	0,33	0,37	0,41	0,43
N.2.2	220	0,33	0,37	0,41	0,43
N.2.3	180	0,33	0,37	0,41	0,43
N.3.1	200	0,41	0,47	0,51	0,54
N.3.2	120	0,33	0,37	0,41	0,43
N.3.3	140	0,25	0,28	0,31	0,32
N.4.1					
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1					
S.3.2					
S.3.3					
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – Type WPC Change

Index	11 910 ...				
	UNI				
		Ø 14–16	> Ø 16–20	> Ø 20–25	> Ø 25–30
	v_c (m/min)	f (mm/rev)			
P.1.1	100	0,22	0,25	0,28	0,32
P.1.2	100	0,27	0,31	0,35	0,39
P.1.3	100	0,27	0,31	0,35	0,39
P.1.4	90	0,25	0,28	0,32	0,35
P.1.5	90	0,25	0,28	0,32	0,35
P.2.1	100	0,25	0,28	0,32	0,35
P.2.2	100	0,25	0,28	0,32	0,35
P.2.3	100	0,25	0,28	0,32	0,35
P.2.4	80	0,21	0,24	0,27	0,30
P.3.1	70	0,20	0,22	0,25	0,28
P.3.2	70	0,18	0,21	0,24	0,26
P.3.3	60	0,17	0,19	0,22	0,24
P.4.1	55	0,17	0,19	0,22	0,24
P.4.2	55	0,17	0,19	0,22	0,24
M.1.1					
M.2.1					
M.3.1					
K.1.1	110	0,37	0,42	0,47	0,53
K.1.2	100	0,31	0,35	0,39	0,44
K.2.1	100	0,37	0,42	0,47	0,53
K.2.2	90	0,31	0,35	0,39	0,44
K.3.1	100	0,37	0,42	0,47	0,53
K.3.2	90	0,31	0,35	0,39	0,44
N.1.1					
N.1.2					
N.2.1					
N.2.2					
N.2.3					
N.3.1					
N.3.2					
N.3.3					
N.4.1					
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1					
S.3.2					
S.3.3					
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Cutting data standard values – WTX – Change Feed

Index	10 925 ...							
	UNI							
	With through coolant	With external coolant	MMS	≥ Ø 14,0	> Ø 17,5	> Ø 21,5	> Ø 26,0	Ø 32,0
	v_c (m/min)			f (mm/rev)				
P.1.1	100	90	90	0,45	0,51	0,55	0,58	0,60
P.1.2	95	85	85	0,43	0,48	0,53	0,55	0,57
P.1.3	90	80	80	0,41	0,46	0,50	0,53	0,54
P.1.4	85	75	75	0,39	0,44	0,48	0,50	0,51
P.1.5	80	75	75	0,37	0,42	0,45	0,47	0,49
P.2.1	100	85	85	0,54	0,60	0,65	0,69	0,71
P.2.2	90	75	75	0,49	0,55	0,59	0,62	0,64
P.2.3	80	70	70	0,44	0,49	0,53	0,56	0,58
P.2.4	65	55	55	0,39	0,43	0,47	0,49	0,51
P.3.1	70	60	60	0,44	0,49	0,53	0,56	0,58
P.3.2	55	50	50	0,36	0,40	0,43	0,46	0,47
P.3.3	55	40	45	0,28	0,31	0,33	0,35	0,36
P.4.1	55	40	45	0,29	0,32	0,35	0,37	0,38
P.4.2	55	40	45	0,29	0,32	0,35	0,37	0,38
M.1.1								
M.2.1								
M.3.1								
K.1.1	110	75	75	0,68	0,77	0,83	0,88	0,90
K.1.2	90	70	70	0,54	0,61	0,66	0,69	0,71
K.2.1	145	90	110	0,63	0,71	0,77	0,81	0,83
K.2.2	90	70	70	0,54	0,61	0,66	0,69	0,71
K.3.1	80	70	70	0,58	0,65	0,71	0,75	0,77
K.3.2	70	65	65	0,46	0,52	0,56	0,59	0,61
N.1.1								
N.1.2								
N.2.1								
N.2.2								
N.2.3								
N.3.1								
N.3.2								
N.3.3								
N.4.1								
S.1.1								
S.1.2								
S.2.1								
S.2.2								
S.2.3								
S.3.1								
S.3.2								
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1								
O.1.2								
O.2.1								
O.2.2								
O.3.1								

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material, and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Important application criteria for WTX drills

Axial offset
The axial offset between rotating workpiece and stationary tool may be max. 0.04 mm. A greater axial offset reduces the tool life and the hole quality and can lead to tool breakage.

Run-out error
The run-out error should not exceed 0.015 mm for rotating tools.

Coolant
With internally cooled tools, the pressure should be min. 20 bar.
We recommend high-quality semi-synthetic or emulsion cooling lubricants with min. 10% oil content and EP additives. This allows you to achieve better tool life, higher tolerance accuracy, and better surface quality.
A fine filter system is also recommended to prevent possible blockages in the coolant holes.

Drilling into solid material
Due to the geometrical design, our solid carbide drills are ideal for drilling into solid material.
The solid carbide drills ≤ 12xD can be used to drill holes into solid material without the need for "centering" and "pre-drilling".

Slot exit
A safety distance of min. 1 to 1.5xD must be kept between the workpiece and slot exit in order to be able to guarantee optimum chip removal and prevent a chip jam and tool breakage.

Evacuation process
To be avoided due to the risk of breakage caused by residual chips or chips flushed into the hole.

Follow-on tools
For a smaller Ø in the same hole, follow-on tools need a point angle < previous tool to ensure self-centering.

Interrupted cut
For angled entry and exit or transverse holes, the feed must be reduced.

Drill exit
To prevent significant burr formation, reduce v_c and f.

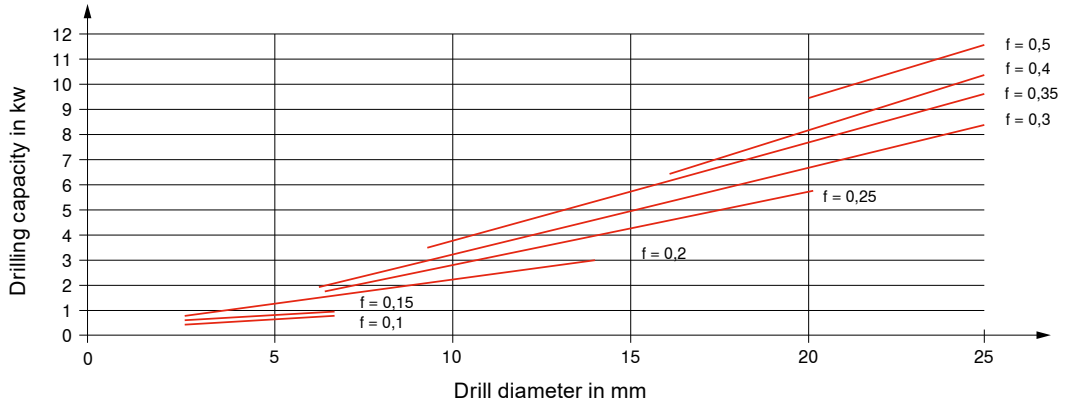
Workpiece clamping
To prevent tool breakage, make sure the workpiece is clamped correctly without vibrations or workpiece deflection.

Tool clamping
Optimum clamping ensures high alignment and fit accuracy (IT7-8).
The high surface quality frequently means there is no need for a reaming operation.

Machine dimensioning
Please see performance chart.

Cutting speeds table
The lower limits of the feed rows should not be undercut in order to obtain controlled chip breakage (comma-shaped chip).

Feed rate f in mm/rev.
Drilling capacity relative to the diameter: v_c = 80 m/min
Tensile strength of the material = 600 N/mm²



Solid carbide deep hole drill WTX – Deep UNI – Recommended application

Machining strategy

1 Producing the pilot hole



- Recommended pilot hole depth approx. 3xD
- The point angle and diameter tolerance of the pilot drill must be matched to the deep hole drill (→ tolerances and angles)
- When drilling on radii, uneven or angled surfaces, we also recommend milling the workpiece surface beforehand; this must be perpendicular to the entry angle of the hole
- Recommended pilot drills (3xD or 5xD): WTX UNI for steels and cast iron materials, WTX VA for stainless steels

2 Move the deep hole drill into the pilot hole



- Insert the deep hole drill without coolant pressure at low speed (n = 200–300 rpm) into the pilot hole (reverse rotation sometimes possible)
- For horizontal deep hole drilling operations from 40xD, insert the deep hole drill into the hole at 200 rpm in counter-clockwise rotation; this prevents sagging of the deep hole drill
- Entry speed approx. v_f = 1,000 mm/min
- Stop feed approx. 1–2 mm before reaching the bottom of the pilot hole and switch on cooling lubricant, then increase the speed as smoothly as possible

3 Deep hole drilling



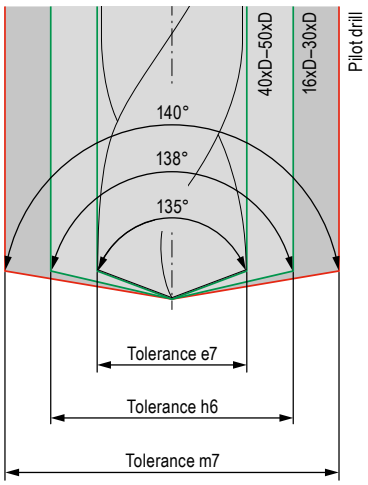
- Drill to the desired hole depth without chip removal
- For through holes and when drilling through transverse holes, reduce feed by 50% before exiting the hole
- After reaching the hole depth, retract the tool approx. 1xD
- From a hole depth of 40xD, we recommend additional intermediate machining. WTX Deep UNI deep hole drills in lengths from 16xD to 30xD are suitable for this purpose

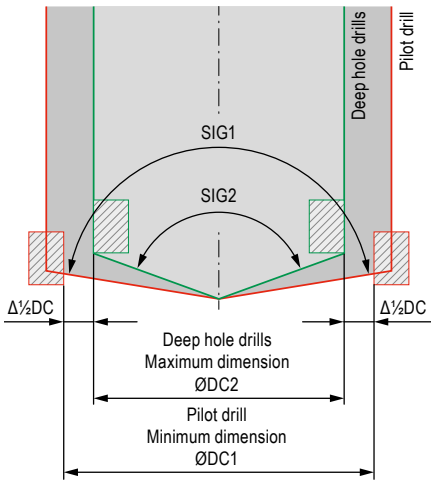
4 Retracting the drill



- Reduce the speed continuously to n = 200–300 rpm
- Exit speed approx. v_f = 1,000 mm/min
- Turn off coolant before exiting the hole

Tolerances and angles





ISO tolerances for shafts and holes					
Tolerance	DC (mm)				Tool
	≤ 3	> 3 – 6	> 6 – 10	> 10 – 14	
m7 (µm)	+12 +2	+16 +4	+21 +6	+25 +7	Pilot drill WTX-UNI, WTX-VA
h7 (µm)	0 -10	0 -12	0 -15	0 -18	Deep hole drills 16xD–30xD
e7 (µm)	-14 -24	-20 -32	-25 -40	-32 -50	Deep hole drills > 30xD

The following must apply to use the pilot and deep hole drill consecutively and without collisions:

Δ DC = ØDC1 (pilot drill) – ØDC2 (deep hole drill) > 0
and
Δ SIG = SIG1 (pilot drill) – SIG2 (deep hole drill) > 0

For horizontal deep drilling operations from 40xD, move the deep hole drill into the hole counter-clockwise at 200 rpm. This prevents sagging of the deep hole drill.

Never move deep hole drills freely at full speed in the machine compartment.

Solid carbide deep hole drill WTX – Deep AL – Recommended application

Machining strategy

1 Producing the pilot hole



- Recommended pilot hole depth approx. 3xD
- The point angle and diameter tolerance of the pilot drill must be matched to the deep hole drilling tool. (Please note the information on tolerances and angles.)
- When drilling on radii, uneven or angled surfaces, we also recommend milling the workpiece surface beforehand. This must be perpendicular to the entry angle of the hole.
- Recommended pilot drills (3xD or 5xD): WTX VA / WPC VA for non-ferrous metals

2 Move the deep hole drill into the pilot hole



- Insert the deep hole drill without coolant pressure at low speed (n = 200–300 rpm) into the pilot hole (reverse rotation sometimes possible)
- Entry speed approx. v_f = 1,000 mm/min
- Stop feed approx. 1–2 mm before reaching the bottom of the pilot hole and switch on cooling lubricant, then increase the speed as smoothly as possible

3 Deep hole drilling



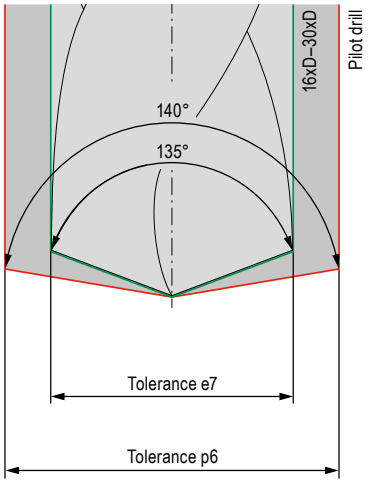
- Drill to the desired hole depth without chip removal
- For through holes and when drilling through transverse holes, reduce feed by 50% before exiting the hole
- After reaching the hole depth, retract the tool approx. 1xD

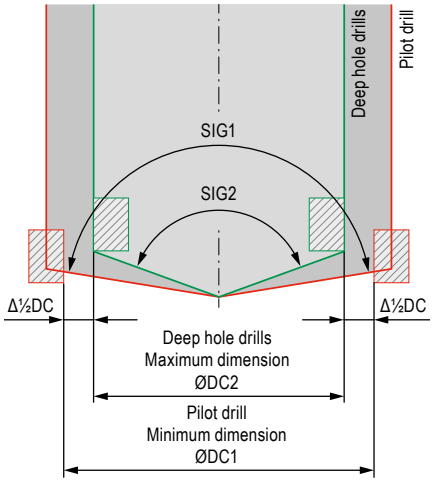
4 Retracting the drill



- Reduce the speed continuously to n = 200–300 rpm
- Exit speed approx. v_f = 1,000 mm/min
- Turn off coolant before exiting the hole

Tolerances and angles





ISO tolerances for shafts and holes					
Tolerance	DC (mm)				Tool
	≤ 3	> 3 – 6	> 6 – 10	> 10 – 18	
p6 (µm)	+12 +6	+20 +12	+24 +15	+29 +18	Pilot drill WTX-AL
m7 (µm)	+12 +2	+16 +4	+21 +6	+25 +7	Pilot drill WTX-VA
h7 (µm)	0 -10	0 -12	0 -15	0 -18	Deep hole drills 16xD–30xD

The following must apply to use the pilot and deep hole drill consecutively and without collisions:

Δ DC = ØDC1 (pilot drill) – ØDC2 (deep hole drill) > 0
and
Δ SIG = SIG1 (pilot drill) – SIG2 (deep hole drill) > 0

Never move deep hole drills freely at full speed in the machine compartment.

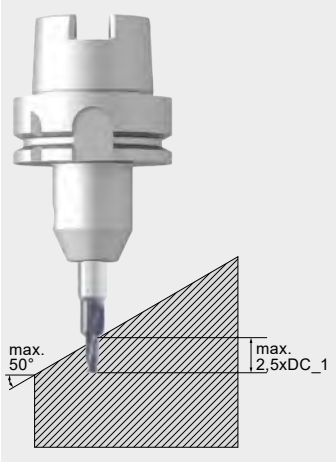
WTX – Micropilot application recommendations

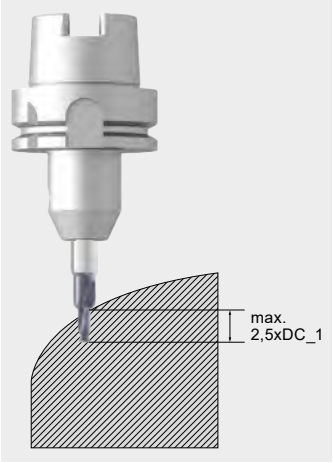
General information

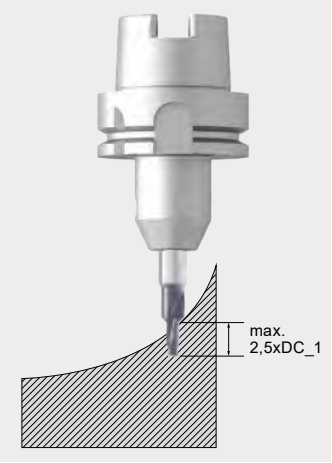
We recommend using the tool with external cooling. Check that the coolant is applied directly at the tool tip, as this will ensure adequate cooling and chip clearance. Refer to our cutting data recommendations when using the tool.

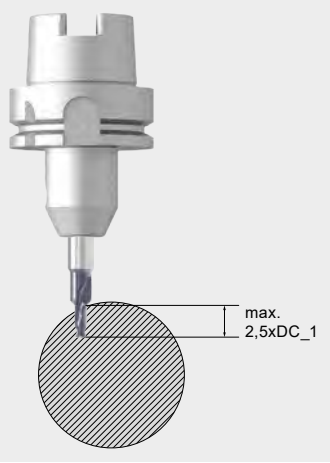
1. Pilot hole on angled or curved surfaces

Produce pilot holes in a single step up to a maximum hole depth of 2.5xD. Angled or curved surfaces can be machined up to a maximum pitch of 50° without prior spot facing. Countersinks cannot be made at the drill entrance on angled or curved surfaces.



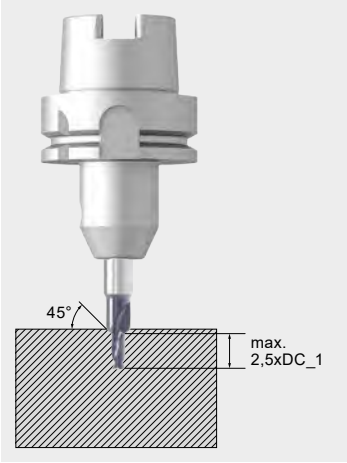






2. Pilot hole with 90° chamfer

Pilot holes can be drilled in a single step. If necessary, a 90° chamfer can also be produced at the drill entrance (for flat spot drilling applications) after reaching a hole depth of 2.5xD.

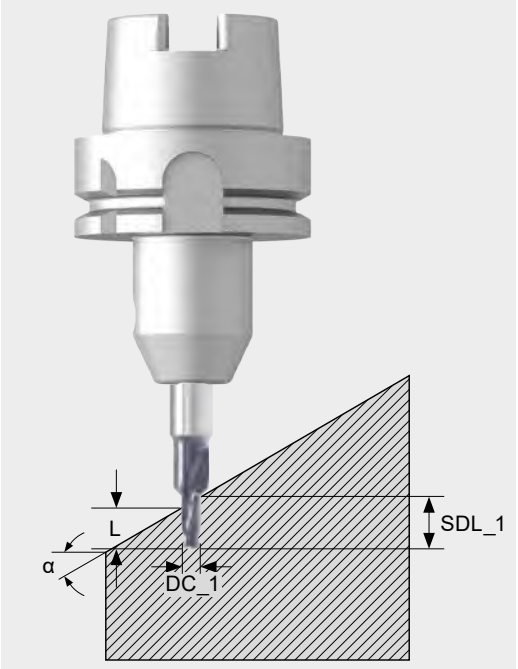


Calculating the pilot hole depth for angled drilling applications

In angled drilling applications, the remaining depth of the pilot hole changes depending on the angle of inclination. This can be calculated using the following formula:

$$L = SDL_1 - (DC_1 \times \tan(\alpha))$$

DC_1 = Cutting diameter
SDL_1 = Step length (max. 2.5xDC_1)
α = Angle of inclination of component surface (max. 50°)
L = Remaining pilot hole depth

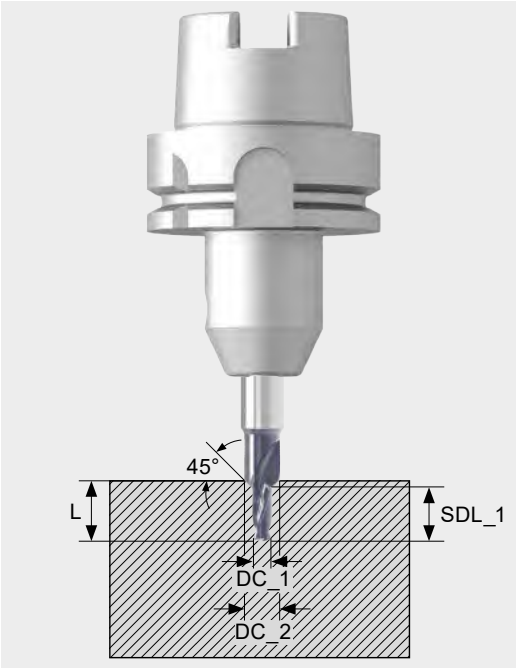


Calculating the maximum hole depth with 90° countersink

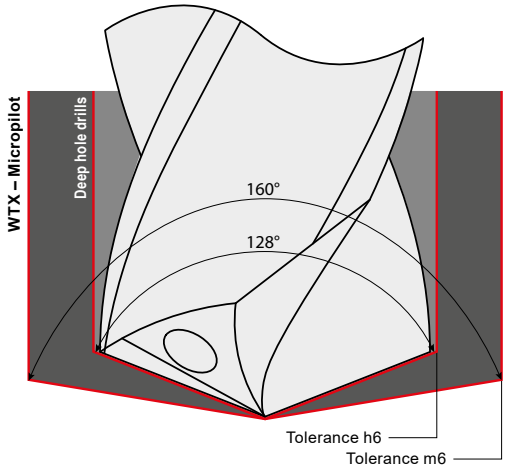
Use the following formula to find the maximum hole depth incl. 90° countersink.

$$L = \left(\frac{DC_2 - DC_1}{2}\right) + SDL_1$$

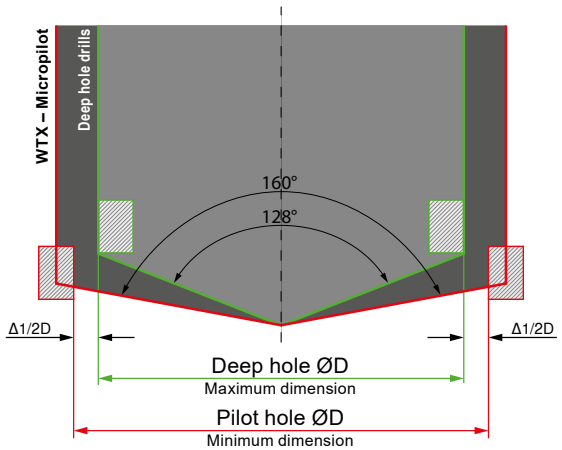
DC_1 = Cutting diameter
DC_2 = Maximum countersink diameter
SDL_1 = Step length (max. 2.5xDC_1)
L = Maximum hole depth including countersink



Tolerances and angles



The following must apply to use the pilot and deep hole drill consecutively and without collisions: ΔD = ØD (pilot hole) – ØD (deep hole) > 0

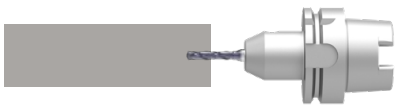


WTX – Micro—recommended application

General information

- During vertical machining, a pilot hole is not required for regular and straight surfaces from Ø 1.0 mm up to a length of 12xD due to the excellent self-centering. A pilot drill is needed for horizontal machining and jobs on uneven and angled surfaces.
  The WTX – Micropilot (10 692 ...) and WTX – Micro 5xD (10 693 ...) are suitable pilot drills for these applications.
- To guarantee problem-free insertion of the deep hole drill in the pilot hole, a 90° countersink is recommended during horizontal machining. This can be produced using the WTX – Micropilot or alternatively with a suitable NC countersink.
- During vertical machining, drills from Ø 1.0 mm up to a length of 12xD can also be operated outside the pilot hole without a reduction in speed.
- For through holes, the feed per revolution must be reduced by 50% before exiting the hole.
- For long-chipping materials, pecking may be required every 3xD from a hole depth of 10xD. Peck drilling (retraction) should occur at the pilot hole depth.
- Due to the small through coolant Ø for micro drills, effective filtration of the cooling medium is of the utmost importance.
  Drill < Ø 2.0 mm, filter ≤ 0.010 mm
  Drill < Ø 3.0 mm, filter ≤ 0.020 mm
- Over time, suspended particles and particulate matter in the cooling medium will prevent an effective flow of coolant. Regular replacement of the coolant is therefore recommended.
- A suitable clamping device with maximum radial run-out accuracy and balance quality is required for process-secure production.
  Radial run-out accuracy ≤ 0.003 mm
  Suitable for high-speed ranges
- To guarantee a process-secure drilling process, a coolant pressure of minimum 30 bar is required.

1 Producing the pilot hole



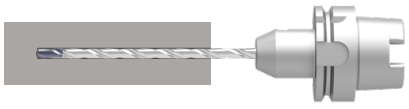
- Pilot hole depth: min. 2xD
- It must be ensured that the prepared pilot hole is free from chips to avoid blocking of the micro deep hole drill cutting edges

2 Entering the pilot hole with a deep hole drill



- Speed 300 rpm (reverse rotation sometimes possible)
- Entry speed approx. 1,000 mm/min
- Switch on cooling
- Increase parameters 0.5–1.0 mm before reaching the bottom of the pilot hole

3 Deep hole drilling



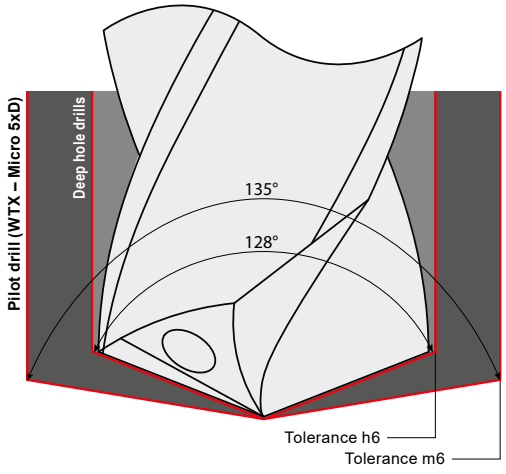
- At hole depth without pecking

4 Retracting the drill

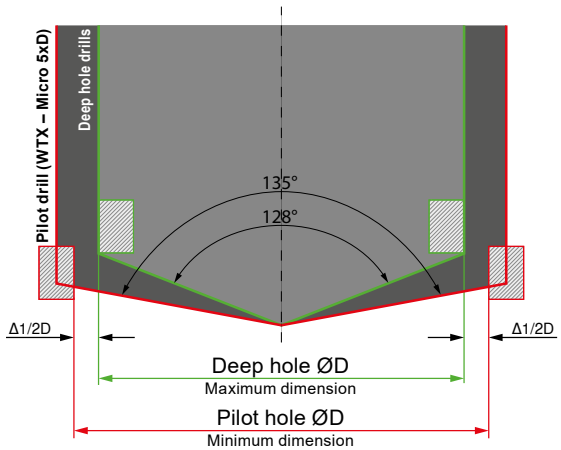


- Retract drill approx. 1xD
- Reduce speed to 300 rpm
- Exit speed approx. 1,000 mm/min
- Switch off emulsion before exiting the hole

Tolerances and angles



The following must apply to use the pilot and deep hole drill consecutively and without collisions: ΔD = ØD (pilot hole) – ØD (deep hole) > 0



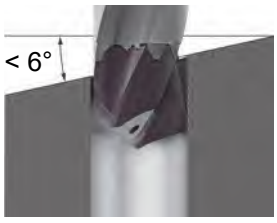
Application notes for WTX – Change Feed and WTX – Change exchangeable head drills

Coolant conditions

Coolant pressure dependent on hole depth:

with thru coolant		With external cooling		Without coolant supply
				
1xD: 8 bar	✓	1xD: 8 bar	✓	
3xD: 8 bar	✓	3xD: 8 bar	✓	
5xD: 12 bar	✓	5xD: 12 bar	✗	Max. hole depth: 3xD
8xD: 25 bar	✓	8xD: 25 bar	✗	
12xD: 25 bar	✓	12xD: 25 bar	✗	

Max. entry and exit angle for the WTX – Change





When entering and exiting angled surfaces, reduce v_f by 50%.

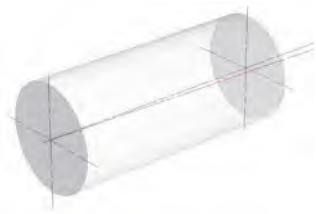
Exiting a through hole

▲ WTX – Change Feed and WTX – Change

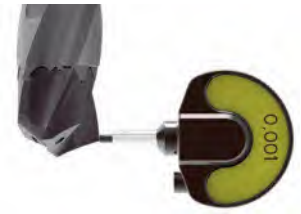


For through holes, it must be ensured that the exchangeable head does not fully protrude from the hole.

Radial run-out accuracy

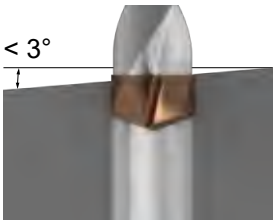


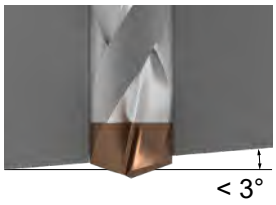
max. 0,02 mm



max. 0,04 mm

Max. entry and exit angle for the WTX – Change

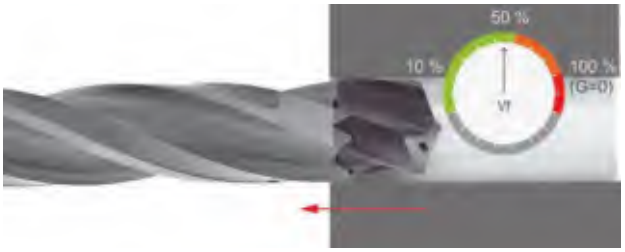




When entering and exiting angled surfaces, reduce v_f by 50%.

Do not retract at rapid feed rate

For withdrawal, a rate of 5 times the value of the feed rate is recommended.



Machining situations



Hole is off center Chisel edge is engaged

WTX – Change Feed ✓
WTX – Change ✓



Hole is off center Chisel edge is not engaged

WTX – Change Feed ✗
WTX – Change ✗



Breakthrough at counterbore

WTX – Change Feed ✓
WTX – Change ✗



Hole on center and smaller Ø

WTX – Change Feed ✓
WTX – Change ✓



Hole on center and same Ø

WTX – Change Feed ✗
WTX – Change ✗

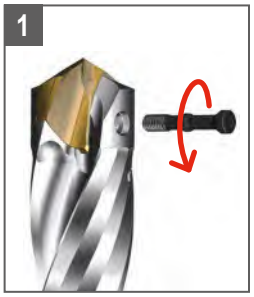


Hole on center and larger Ø

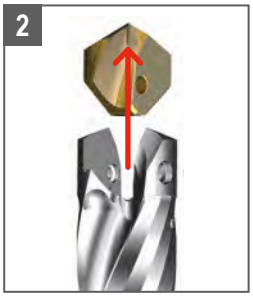
WTX – Change Feed ✗
WTX – Change ✗

Application notes for WPC – Change indexable insert drill

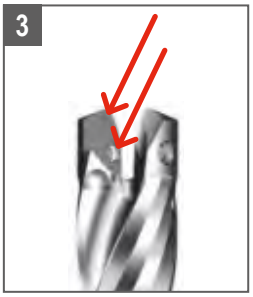
Assembling the indexable insert



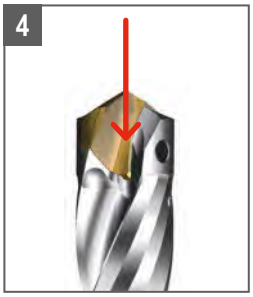
Loosen the clamping screw anti-clockwise using a TORX PLUS® screwdriver (screwdriver not included in the scope of supply).



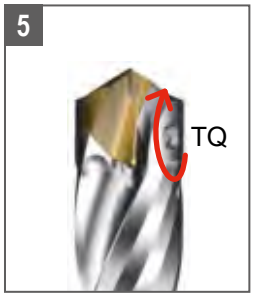
Remove the indexable insert from the insert seat.



Clean the insert seat and screw thread with compressed air.



Insert the new indexable insert in the insert seat.



Insert clamping screw from correct side and tighten clockwise with the specified torque. Observe the change interval of the clamping screw!

Notes

- Only insert indexable inserts in the diameter range designated for the respective holder.
- The clamping screw must also be replaced every fifth time you replace the indexable insert.
- The tightening torque and item number of the clamping screw are labeled on the holder.
- Use only original spare parts.

Clamping screws and tightening torques

Diameter range	Article no. Clamping screw	Drive	Tightening torque TQ
14,00–15,99 mm	**11 950 00100**	08IP	0,9 Nm
16,00–17,99 mm	**11 950 00200**	08IP	1,2 Nm
18,00–21,99 mm	**11 950 00300**	10IP	2,2 Nm
22,00–23,99 mm	**11 950 00400**	10IP	3,2 Nm
24,00–25,99 mm	**11 950 00500**	15IP	5,0 Nm
26,00–30,00 mm	**11 950 00600**	20IP	6,0 Nm

Notes on boring technology



Solid drilling



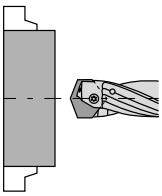
Stack plate drilling: stable clamping of closely spaced stack plates required.



When drilling into angled surfaces < 3°, reduce the feed by approx. 50%.
For an angled drill entrance > 3°, prior spot facing is required.



When exiting at an angle < 3°, reduce the feed by approx. 50%.
Machining angled drill exits > 3° is not recommended.



When machining with a stationary tool (turning machines), a precise center position of the tool in relation to the rotational axis of the workpiece must be ensured. Maximum permissible offset ± 0.02 mm.



To achieve optimal results, we recommend using the tool with thro' coolant only. The recommended minimum coolant pressure should be 12 bar.

Recommendations for solid carbide drilling operations

Reasons for ...	Solutions ...
... Built-up edge	
v_c too low	Increase v_c
Excessive honing of main cutting edge	Minimize cutting edge
Uncoated cutting edge	Coat
... Corners broken off	
Unstable conditions	Change clamping
Excessive run-out error	Optimize run-out
Interrupted cut	Reduce feed
... Significant flank wear	
v_c too high	Reduce v_c
Feed too low	Increase feed
Clearance angle too small	Increase clearance angle
... Scoring on the tool flanks	
Unstable conditions	Change clamping
Excessive run-out error	Correct run-out
Interrupted cut	Reduce feed
Abrasive materials	Thicker emulsion or oil
... Round chamfer wear	
Unstable conditions	More stable clamping
Excessive run-out error	Check run-out
Taper too small	Increase taper
Emulsion incorrect or too thin	Thicker emulsion or oil
... Fractures on the main cutting edge	
Unstable conditions	More stable clamping
Interrupted cut	Reduce feed
Incorrect tool type	Optimize tool
Max. wear width exceeded	Change tool earlier
... Heavy wear at chisel edge	
v_c too low	Increase v_c
Feed too high	Reduce feed
Excessive honing of main cutting edge	Optimize cutting edge
... Fractures at intersections, drill point, main cutting edge	
Clearance angle too small	Increase clearance angle
Excessive honing of main cutting edge	Optimize cutting edge
Incorrect tool	Different tool
... Plastic deformation of cutting corner	
v_c too high	Reduce v_c
Insufficient emulsion	Increase coolant quantity
Incorrect or no corner reduction	Correct corner reduction
... Poor surface quality	
Excessive run-out error	Check run-out
Cooling too low	More emulsion
Unstable conditions	Change clamping
... Heavy burring on hole exit	
Feed too high	Reduce feed
Excessive honing of main cutting edge	Minimize cutting edge

Further information
cutting.tools/de/tips-solid-carbide-drilling

Coatings

DLC DRAGONSKIN

- Diamond-like carbon coating
- Specifically for machining non-ferrous metals
- Maximum application temperature: 400 °C

DPA54 DRAGONSKIN

- Special multilayer coating
- High hardness and heat resistance
- Maximum application temperature: 800 °C

DPA74S DRAGONSKIN

- AlTiN nanolayer coating
- High resistance to oxidation and elevated-temperature hardness
- Maximum application temperature: 1000 °C

DPX14S DRAGONSKIN

- TiAlN nanolayer coating
- Coefficient of friction (dry, against steel) = 0.35
- Maximum application temperature: 1000 °C

DPX64U DRAGONSKIN

- Special TiAlN monolayer coating
- Perfected for hardened materials
- Optimized coating and surface structure
- Maximum application temperature: 800 °C

DPX74M DRAGONSKIN

- Universal AlCrN-based monolayer coating developed for micro tools
- High oxidation, heat and wear resistance
- Maximum application temperature 1100 °C

DPX74S DRAGONSKIN

- Special TiAlN nanolayer coating
- Maximum application temperature: 1000 °C

Ti700

- TiAlN multilayer coating
- Maximum application temperature: 1100 °C

Ti750

- TiAlN nanolayer coating
- Maximum application temperature: 1000 °C

Ti800

- AlTiN nanolayer coating
- Maximum application temperature: 1100 °C

Ti1050

- Ti multilayer coating
- $HV_{0.005}$ = 3300
- Coefficient of friction (against steel) = 0.3–0.5
- Maximum application temperature: 900 °C

TiALN

- TiAlN multilayer coating
- Maximum application temperature: 900 °C

TiB

- TiB monolayer coating
- Specifically for machining aluminum
- Maximum application temperature: 900 °C

TiSi

- TiSi multilayer coating
- Maximum application temperature: 800 °C

TPX74S

- TiAlN-based PVD multilayer coating
- Universally applicable with high wear resistance
- Maximum application temperature 900 °C



CERATIZIT GROUP

Indexable drilling



Content overview

→ Explanation of symbols
→ Application tips
→ Toolfinder
→ Overview – Indexable inserts
→ Cutting data

Technical information

→ Maximum adjustment range
→ Coding example, coolant supply
→ Indexable drilling – Problems / possible causes / solutions
→ Centron – Drilling instructions + problems / possible causes / solutions
→ Overview of chip breakers and grades, application

Explanation of symbols


Solid drilling


Core drilling


Drilling through a cross hole


Stack plate drilling


Chain drilling


Entering on uneven surfaces


Entering on an edge


Center drill entering on convex surfaces


Angled drill entrance


Entering on pointed contours


Drilling through a center or pre-op


Left-hand cutting

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat-resistant
H	Hardened steel
O	Non-metal materials

● = Main application
○ = Secondary application

C	Cylindrical shank with clamping flat. Guarantees optimum clamping of the tool and can be clamped in every standard adapter.
K	Drill with combi shank. This drill shank has two clamping flats (DIN 6535HE, DIN 6595) that guarantee pull-out protection and good face contact of the drill. Both Weldon and Whistle Notch adapters can be used.
PSC	Drill with polygonal shank. The polygonal shank offers the best rigidity during the transmission of force from the drill to the adapter. The tapered polygonal shape easily absorbs torsional forces and bending forces.
ABS	Drill with ABS connection. The ABS connection is a modular coupling system for rotating tools and stationary tools, and offers a number of advantages, such as improved force transmission. Technical information and spare parts → Adapters and accessories
	Drill with through coolant supply. The through coolant system guarantees a reduction in heat at the cutting edges of the tool as well as improved chip removal.

Application tips

Pentron



- High-performance indexable drill for process-secure drilling
- Process-secure drilling even in challenging machining situations
- Four usable cutting edges on each indexable insert
- Alternative cutting materials for higher cutting speeds
- Alternative geometries for improved chip control
- Cutting edge geometry for burr-minimizing drilling

Pentron CS



- Modular Pentron program extension
- Diameter range 64 – 96 mm
- Base body plus cartridge solution e.g., for Ø 64 – 66 mm

Trigon



- Precision indexable drill for flexible machining with changing requirements such as changing materials / unstable workpieces, clamping, and machines
- Excellent positional accuracy due to the arrow shape of the indexable insert
- Up to 3 mm adjustment range on diameter
- Wide range of cutting materials and cutting edge geometries

Centron



- Process-secure and cost-effective drilling of Ø 20 – 81 mm for larger hole depths
- Hole depth of up to 9xD in virtually all material groups (up to 14xD on request)
- Adjustment range + 1 mm in diameter from Ø 65 – 81 mm
- Precise drilling without precentering

MaxiDrill 900



- Indexable drill for general drilling applications
- Bore diameter 12 – 63 mm
- Four usable cutting edges on each indexable insert from Ø 14 mm
- The same external and internal indexable insert, easy to use
- Universal cutting edge geometry
- Two cutting materials (PVD, CVD)

A variety of adapters are available for fine adjustment of the drilling tools.



→ Adjuster for tools with ABS connection

- Precise adjustment using micrometric adjusting spindle
- Max. adjustment range 3 mm on diameter
- Graduation of scale 1 line = 0.02 mm on diameter
- Stable clamping of the top section after adjustment using four clamping screws arranged on the face



→ Eccentric adjuster for tools with ABS connection

- Easy to adjust using the scale on the tool:
- Clamp the tool in the eccentric adjuster, slightly loosen the ABS screw, adjust to the desired degree using the scale, tighten the ABS screw
- 1 line is equivalent to 0.02 mm in diameter
- Adjustment ± 0.25 mm in diameter
- High RPM possible



→ Eccentric sleeve for indexable insert drill adapter

- Using eccentric sleeves, the diameter of the hole can be varied and adjusted by ± 0.3 mm with ease

Toolfinder

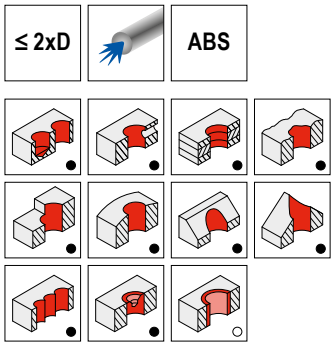
	Usable length	Ø DC	Shank	Direction of cut	Solid drilling	Core drilling	Drilling through a cross hole	Stack plate drilling	Entering on uneven surfaces	Spot drilling an edge	Entering on convex surfaces	Angled drill entrance	Entering on pointed contours	Chain drilling	Drilling through a center or pre-op
Pentron		10 20 30 40 50 60 70 80 90 mm													
	2xD	Ø 14-65 mm $^{+0,2}_{-0,1}$	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
		Ø 14-46 mm $^{+0,2}_{-0,1}$	→ C	R											
	3xD	Ø 14-65 mm $^{+0,2}_{-0,1}$	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
		Ø 14-46 mm $^{+0,2}_{-0,1}$	→ C	R											
		Ø 14-37 mm $^{+0,2}_{-0,1}$	→ PSC	R											
	4xD	Ø 14-46 mm $^{+0,3}_{-0,1}$	→ ABS	R	●	–	●	●	○	●	○	●	●	○	●
			→ C	R											
	5xD	Ø 14-46 mm $^{+0,35}_{-0,1}$	→ ABS	R	●	–	●	○	○	●	○	●	○	–	○
			→ C	R											
Pentron CS	3xD	Ø 64-96 mm ±0,2	→ ABS	R	●	–	●	○	●	●	●	●	●	●	●
Pentron	92 mm	Ø 38-57 mm ±0,2	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
			→ C	R											
	145 mm	Ø 38-57 mm ±0,2	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
			→ C	R											
Pentron		0.400" 0.800" 1.200" 1.600" 2.000" 2.400" 2.800" 3.200" 3.600"													
	2xD	Ø 0.562"-2.500" $^{+0.008}_{-0.004}$	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
		Ø 0.562"-1.750" $^{+0.008}_{-0.004}$	→ C	R											
	3xD	Ø 0.562"-2.500" $^{+0.008}_{-0.004}$	→ ABS	R	●	○	●	●	●	●	●	●	●	●	●
		Ø 0.562"-1.750" $^{+0.008}_{-0.004}$	→ C	R											
		Ø 0.875"-1.687" $^{+0.008}_{-0.004}$	→ PSC	R											
	4xD	Ø 0.562"-1.687" $^{+0.012}_{-0.004}$	→ ABS	R	●	–	●	●	○	●	○	●	●	○	●
		Ø 0.562"-1.750" $^{+0.012}_{-0.004}$	→ C	R											
	5xD	Ø 0.562"-1.687" $^{+0.014}_{-0.004}$	→ ABS	R	●	–	●	○	○	●	○	●	○	–	○
		Ø 0.562"-1.750" $^{+0.014}_{-0.004}$	→ C	R											
Centron		10 20 30 40 50 60 70 80 90 mm													
	4xD 6xD 9xD	Ø 20-81 mm $^{+0,3}_{-0,1}$	→ ABS	R	●	–	○	–	●	–	○	–	–	○	●
Centron		0.400" 0.800" 1.200" 1.600" 2.000" 2.400" 2.800" 3.200" 3.600"													
	4xD 6xD 9xD	Ø 0.812"-2.500" $^{+0.012}_{-0.004}$	→ ABS	R	●	–	○	–	●	–	○	–	–	○	●
Centron V464		70 80 90 100 110 120 130 140 150 mm													
		Ø 80-155 mm +5	→ ABS-T	R	●	–	○	–	○	–	○	○	–	–	○

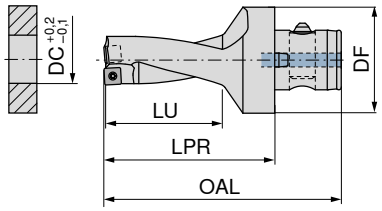
	Usable length	Ø DC	Shank	Direction of cut	Solid drilling	Core drilling	Drilling through a cross hole	Stack plate drilling	Entering on uneven surfaces	Spot drilling an edge	Entering on convex surfaces	Angled drill entrance	Entering on pointed contours	Chain drilling	Drilling through a center or pre-op
Trigon		10 20 30 40 50 60 70 80 90 mm													
	2xD	Ø 14-44 mm ±0,1 / Ø 45-82 mm $^{+0,3}_{-0,1}$	→ ABS	R											
		Ø 14-44 mm ±0,1	→ K	R	●	●	●	–	●	○	●	●	○	●	○
		Ø 14-44 mm ±0,1	→ ABS	L											
	3xD	Ø 14-44 mm ±0,1 / Ø 45-82 mm $^{+0,3}_{-0,1}$	→ ABS	R											
		Ø 14-44 mm ±0,1	→ K	R	●	●	●	–	●	○	●	●	○	●	○
		Ø 14-44 mm ±0,1	→ ABS	L											
	4xD	Ø 14-44 mm ±0,1	→ ABS	R											
		Ø 14-35 mm ±0,1	→ K	R	●	–	○	–	○	–	○	○	–	○	○
Trigon Adjustable	3xD	Ø 39,5-82 mm $^{+0,1}_{-0,5}$	→ ABS	R	●	○	○	–	○	–	○	○	–	○	○
Trigon	92 mm	Ø 38-57 mm ±0,2	→ ABS	R											
			→ C	R	●	●	●	–	●	○	●	●	○	●	○
	145 mm	Ø 38-57 mm ±0,2	→ ABS	R											
			→ C	R	●	●	●	–	●	○	●	●	○	●	○
Trigon		0.400" 0.800" 1.200" 1.600" 2.000" 2.400" 2.800" 3.200" 3.600"													
	2xD	Ø 0.562"-1.750" ±0.004 / Ø 1.781"-3.250" $^{+0.012}_{-0.004}$	→ ABS	R	●	●	●	–	●	○	●	●	○	●	○
	2,5xD	Ø 0.562"-1.750" ±0.004 / Ø 1.812"-3.250" $^{+0.012}_{-0.004}$	→ C	R	●	●	●	–	●	○	●	●	○	●	○
	3xD	Ø 0.562"-1.750" ±0.004 / Ø 1.781"-3.250" $^{+0.012}_{-0.004}$	→ ABS	R	●	●	●	–	●	○	●	●	○	●	○
	4xD	Ø 0.562"-1.750" ±0.004	→ ABS	R											
		Ø 0.562"-1.750" ±0.004	→ C	R	●	–	○	–	○	–	○	○	–	○	○
MaxiDrill 900		10 20 30 40 50 60 70 80 90 mm													
	2xD	Ø 12-63 mm $^{+0,3}_{-0,1}$	→ C	R	●	○	●	●	●	●	●	●	●	○	●
	3xD	Ø 12-63 mm $^{+0,3}_{-0,1}$	→ C	R	●	○	●	●	●	●	●	●	●	○	●
	4xD	Ø 12-54 mm $^{+0,35}_{-0,1}$	→ C	R	●	○	●	○	○	●	●	●	●	○	●
	5xD	Ø 12-41 mm $^{+0,4}_{-0,1}$	→ C	R	●	○	●	○	○	●	●	●	●	○	●
V50		70 80 90 100 110 120 130 140 150 mm													
		Ø 83-118 mm ±0,4	→	R	●	–	○	–	○	–	○	○	–	–	○
Centron Powerline		10 20 30 40 50 60 70 80 90 mm													
	4xD 6xD 9xD	Ø 20-39,2 mm $^{+0,3}_{-0,1}$	→ ABS	R	●	–	○	–	○	–	○	○	–	–	–

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.140.R.04-ABS50	U42 51400	**14**	50	86	28	55	0,38	2	SOGX 040204	**14095**
KUB-P.2D.145.R.04-ABS50	U42 51450	**14.5**	50	89	30	58	0,38	2	SOGX 040204	**14595**
KUB-P.2D.150.R.04-ABS50	U42 51500	**15**	50	89	30	58	0,38	2	SOGX 040204	**15095**
KUB-P.2D.155.R.04-ABS50	U42 51550	**15.5**	50	93	32	62	0,38	2	SOGX 040204	**15595**
KUB-P.2D.160.R.04-ABS50	U42 51600	**16**	50	93	32	62	0,38	2	SOGX 040204	**16095**
KUB-P.2D.165.R.05-ABS50	U42 51650	**16.5**	50	96	34	65	0,62	2	SOGX 050204	**16595**
KUB-P.2D.170.R.05-ABS50	U42 51700	**17**	50	96	34	65	0,62	2	SOGX 050204	**17095**
KUB-P.2D.175.R.05-ABS50	U42 51750	**17.5**	50	98	36	67	0,62	2	SOGX 050204	**17595**
KUB-P.2D.180.R.05-ABS50	U42 51800	**18**	50	98	36	67	0,62	2	SOGX 050204	**18095**
KUB-P.2D.185.R.06-ABS50	U42 51850	**18.5**	50	101	38	70	1,01	2	SOGX 060206	**18595**
KUB-P.2D.190.R.06-ABS50	U42 51900	**19**	50	101	38	70	1,01	2	SOGX 060206	**19095**
KUB-P.2D.195.R.06-ABS50	U42 51950	**19.5**	50	103	40	72	1,01	2	SOGX 060206	**19595**
KUB-P.2D.200.R.06-ABS50	U42 52000	**20**	50	103	40	72	1,01	2	SOGX 060206	**20095**
KUB-P.2D.205.R.07-ABS50	U42 52050	**20.5**	50	105	42	74	1,01	2	SOGX 07T208	**20595**
KUB-P.2D.210.R.07-ABS50	U42 52100	**21**	50	105	42	74	1,01	2	SOGX 07T208	**21095**
KUB-P.2D.215.R.07-ABS50	U42 52150	**21.5**	50	107	44	76	1,01	2	SOGX 07T208	**21595**
KUB-P.2D.220.R.07-ABS50	U42 52200	**22**	50	107	44	76	1,01	2	SOGX 07T208	**22095**
KUB-P.2D.225.R.07-ABS50	U42 52250	**22.5**	50	109	46	78	1,01	2	SOGX 07T208	**22595**
KUB-P.2D.230.R.07-ABS50	U42 52300	**23**	50	109	46	78	1,01	2	SOGX 07T208	**23095**
KUB-P.2D.235.R.08-ABS50	U42 52350	**23.5**	50	111	48	80	1,28	2	SOGX 080308	**23595**
KUB-P.2D.240.R.08-ABS50	U42 52400	**24**	50	111	48	80	1,28	2	SOGX 080308	**24095**
KUB-P.2D.245.R.08-ABS50	U42 52450	**24.5**	50	114	50	83	1,28	2	SOGX 080308	**24595**
KUB-P.2D.250.R.08-ABS50	U42 52500	**25**	50	114	50	83	1,28	2	SOGX 080308	**25095**
KUB-P.2D.255.R.08-ABS50	U42 52550	**25.5**	50	116	52	85	1,28	2	SOGX 080308	**25595**
KUB-P.2D.260.R.08-ABS50	U42 52600	**26**	50	116	52	85	1,28	2	SOGX 080308	**26095**
KUB-P.2D.265.R.09-ABS50	U42 52650	**26.5**	50	119	54	88	2,25	2	SOGX 09T308	**26595**
KUB-P.2D.270.R.09-ABS50	U42 52700	**27**	50	119	54	88	2,25	2	SOGX 09T308	**27095**
KUB-P.2D.275.R.09-ABS50	U42 52750	**27.5**	50	121	56	90	2,25	2	SOGX 09T308	**27595**
KUB-P.2D.280.R.09-ABS50	U42 52800	**28**	50	121	56	90	2,25	2	SOGX 09T308	**28095**
KUB-P.2D.285.R.09-ABS50	U42 52850	**28.5**	50	124	58	93	2,25	2	SOGX 09T308	**28595**
KUB-P.2D.290.R.09-ABS50	U42 52900	**29**	50	124	58	93	2,25	2	SOGX 09T308	**29095**
KUB-P.2D.295.R.09-ABS50	U42 52950	**29.5**	50	126	60	95	2,25	2	SOGX 09T308	**29595**
KUB-P.2D.300.R.09-ABS50	U42 53000	**30**	50	126	60	95	2,25	2	SOGX 09T308	**30095**
KUB-P.2D.305.R.10-ABS63	U42 63050	**30.5**	63	139	62	101	2,8	2	SOGX 100408	**30596**
KUB-P.2D.310.R.10-ABS63	U42 63100	**31**	63	139	62	101	2,8	2	SOGX 100408	**31096**
KUB-P.2D.315.R.10-ABS63	U42 63150	**31.5**	63	141	64	103	2,8	2	SOGX 100408	**31596**
KUB-P.2D.320.R.10-ABS63	U42 63200	**32**	63	141	64	103	2,8	2	SOGX 100408	**32096**
KUB-P.2D.325.R.10-ABS63	U42 63250	**32.5**	63	144	66	106	2,8	2	SOGX 100408	**32596**
KUB-P.2D.330.R.10-ABS63	U42 63300	**33**	63	144	66	106	2,8	2	SOGX 100408	**33096**

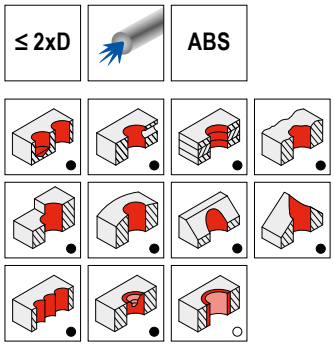
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

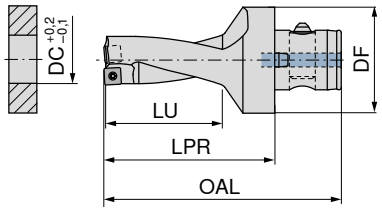
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.335.R.11-ABS63	U42 63350	**33.5**	63	146	68	108	2,8	2	SOGX 110408	**33596**
KUB-P.2D.340.R.11-ABS63	U42 63400	**34**	63	146	68	108	2,8	2	SOGX 110408	**34096**
KUB-P.2D.345.R.11-ABS63	U42 63450	**34.5**	63	149	70	111	2,8	2	SOGX 110408	**34596**
KUB-P.2D.350.R.11-ABS63	U42 63500	**35**	63	149	70	111	2,8	2	SOGX 110408	**35096**
KUB-P.2D.355.R.11-ABS63	U42 63550	**35.5**	63	152	72	113	2,8	2	SOGX 110408	**35596**
KUB-P.2D.360.R.11-ABS63	U42 63600	**36**	63	152	72	113	2,8	2	SOGX 110408	**36096**
KUB-P.2D.365.R.11-ABS63	U42 63650	**36.5**	63	154	74	116	2,8	2	SOGX 110408	**36596**
KUB-P.2D.370.R.11-ABS63	U42 63700	**37**	63	154	74	116	2,8	2	SOGX 110408	**37096**
KUB-P.2D.375.R.12-ABS63	U42 63750	**37.5**	63	156	76	118	6,25	2	SOGX 120408	**37596**
KUB-P.2D.380.R.12-ABS63	U42 63800	**38**	63	156	76	118	6,25	2	SOGX 120408	**38096**
KUB-P.2D.385.R.12-ABS63	U42 63850	**38.5**	63	159	78	121	6,25	2	SOGX 120408	**38596**
KUB-P.2D.390.R.12-ABS63	U42 63900	**39**	63	159	78	121	6,25	2	SOGX 120408	**39096**
KUB-P.2D.395.R.12-ABS63	U42 63950	**39.5**	63	161	80	123	6,25	2	SOGX 120408	**39596**
KUB-P.2D.400.R.12-ABS63	U42 64000	**40**	63	161	80	123	6,25	2	SOGX 120408	**40096**
KUB-P.2D.405.R.12-ABS63	U42 64050	**40.5**	63	164	82	126	6,25	2	SOGX 120408	**40596**
KUB-P.2D.410.R.12-ABS63	U42 64100	**41**	63	164	82	126	6,25	2	SOGX 120408	**41096**
KUB-P.2D.415.R.12-ABS63	U42 64150	**41.5**	63	166	84	128	6,25	2	SOGX 120408	**41596**
KUB-P.2D.420.R.12-ABS63	U42 64200	**42**	63	166	84	128	6,25	2	SOGX 120408	**42096**
KUB-P.2D.425.R.13-ABS63	U42 64250	**42.5**	63	169	86	131	6,25	2	SOGX 130508	**42596**
KUB-P.2D.430.R.13-ABS63	U42 64300	**43**	63	169	86	131	6,25	2	SOGX 130508	**43096**
KUB-P.2D.435.R.13-ABS63	U42 64350	**43.5**	63	171	88	133	6,25	2	SOGX 130508	**43596**
KUB-P.2D.440.R.13-ABS63	U42 64400	**44**	63	171	88	133	6,25	2	SOGX 130508	**44096**
KUB-P.2D.445.R.13-ABS63	U42 64450	**44.5**	63	174	90	136	6,25	2	SOGX 130508	**44596**
KUB-P.2D.450.R.13-ABS63	U42 64500	**45**	63	174	90	136	6,25	2	SOGX 130508	**45096**
KUB-P.2D.455.R.13-ABS63	U42 64550	**45.5**	63	173	92	135	6,25	2	SOGX 130508	**45596**
KUB-P.2D.460.R.13-ABS63	U42 64600	**46**	63	173	92	135	6,25	2	SOGX 130508	**46096**
KUB-P.2D.470.R.08-ABS63	U42 64700	**47**	63	187	94	149	1,28	4	SOGX 080308	**47096**
KUB-P.2D.480.R.08-ABS63	U42 64800	**48**	63	189	96	151	1.28	4	SOGX 080308	**48096**
KUB-P.2D.490.R.08-ABS63	U42 64900	**49**	63	191	98	153	1,28	4	SOGX 080308	**49096**
KUB-P.2D.500.R.08-ABS63	U42 65000	**50**	63	193	100	155	1,28	4	SOGX 080308	**50096**
KUB-P.2D.510.R.08-ABS63	U42 65100	**51**	63	195	102	157	1,28	4	SOGX 080308	**51096**
KUB-P.2D.520.R.08-ABS63	U42 65200	**52**	63	197	104	159	1,28	4	SOGX 080308	**52096**
KUB-P.2D.530.R.10-ABS63	U42 65300	**53**	63	199	106	161	2,8	4	SOGX 100408	**53096**
KUB-P.2D.540.R.10-ABS63	U42 65400	**54**	63	201	108	163	2,8	4	SOGX 100408	**54096**
KUB-P.2D.550.R.10-ABS80	U42 75500	**55**	80	208	110	165	2,8	4	SOGX 100408	**55098**
KUB-P.2D.560.R.10-ABS80	U42 75600	**56**	80	210	112	167	2,8	4	SOGX 100408	**56098**
KUB-P.2D.570.R.10-ABS80	U42 75700	**57**	80	212	114	169	2,8	4	SOGX 100408	**57098**
KUB-P.2D.580.R.10-ABS80	U42 75800	**58**	80	214	116	171	2,8	4	SOGX 100408	**58098**
KUB-P.2D.590.R.10-ABS80	U42 75900	**59**	80	216	118	173	2,8	4	SOGX 100408	**59098**
KUB-P.2D.600.R.10-ABS80	U42 76000	**60**	80	218	120	175	2,8	4	SOGX 100408	**60098**
KUB-P.2D.610.R.10-ABS80	U42 76100	**61**	80	220	122	177	2,8	4	SOGX 100408	**61098**
KUB-P.2D.620.R.10-ABS80	U42 76200	**62**	80	222	124	179	2,8	4	SOGX 100408	**62098**

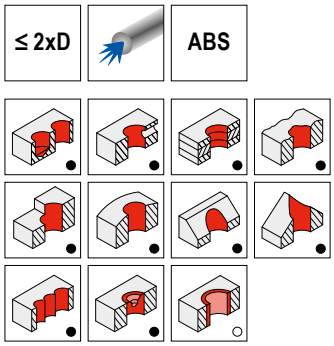
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

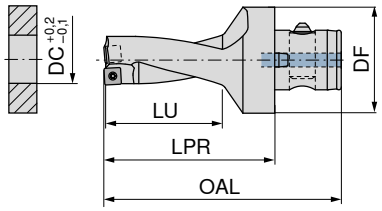
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.630.R.10-ABS80	U42 76300	**63**	80	224	126	181	2,8	4	SOGX 100408	**63098**
KUB-P.2D.640.R.10-ABS80	U42 76400	**64**	80	226	128	183	2,8	4	SOGX 100408	**64098**
KUB-P.2D.650.R.10-ABS80	U42 76500	**65**	80	228	130	185	2,8	4	SOGX 100408	**65098**



→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

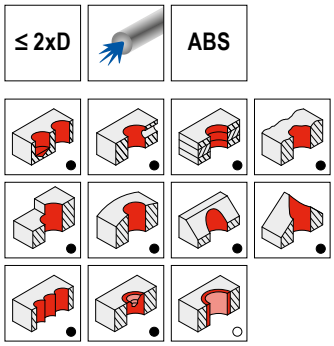

Clamping screw

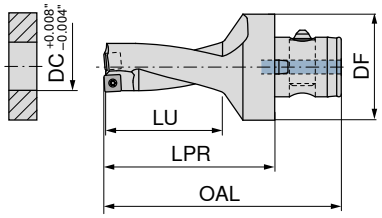
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 872 ...
KUB-P.2D.0562.R.04-ABS50-F	U42 51430	**0.562**	1.969	3.504	1.181	2.283	0,38	2	SOGX 040204	**14395**
KUB-P.2D.0593.R.04-ABS50-F	U42 51510	**0.593**	1.969	3.661	1.260	2.441	0,38	2	SOGX 040204	**15195**
KUB-P.2D.0625.R.04-ABS50-F	U42 51590	**0.625**	1.969	3.661	1.260	2.441	0,38	2	SOGX 040204	**15995**
KUB-P.2D.0656.R.05-ABS50-F	U42 51670	**0.656**	1.969	3.780	1.339	2.559	0,62	2	SOGX 050204	**16795**
KUB-P.2D.0703.R.05-ABS50-F	U42 51790	**0.703**	1.969	3.858	1.417	2.638	0,62	2	SOGX 050204	**17995**
KUB-P.2D.0718.R.06-ABS50-F	U42 51820	**0.718**	1.969	3.976	1.496	2.756	1,01	2	SOGX 060206	**18295**
KUB-P.2D.0750.R.06-ABS50-F	U42 51910	**0.750**	1.969	4.055	1.575	2.835	1,01	2	SOGX 060206	**19195**
KUB-P.2D.0765.R.06-ABS50-F	U42 51940	**0.765**	1.969	4.055	1.575	2.835	1,01	2	SOGX 060206	**19495**
KUB-P.2D.0781.R.06-ABS50-F	U42 51980	**0.781**	1.969	4.055	1.575	2.835	1,01	2	SOGX 060206	**19895**
KUB-P.2D.0812.R.07-ABS50-F	U42 52060	**0.812**	1.969	4.134	1.654	2.913	1,01	2	SOGX 07T208	**20695**
KUB-P.2D.0843.R.07-ABS50-F	U42 52140	**0.843**	1.969	4.213	1.732	2.992	1,01	2	SOGX 07T208	**21495**
KUB-P.2D.0875.R.07-ABS50-F	U42 52220	**0.875**	1.969	4.291	1.811	3.071	1,01	2	SOGX 07T208	**22295**
KUB-P.2D.0937.R.08-ABS50-F	U42 52380	**0.937**	1.969	4.370	1.890	3.150	1,28	2	SOGX 080308	**23895**
KUB-P.2D.0968.R.08-ABS50-F	U42 52460	**0.968**	1.969	4.488	1.969	3.268	1,28	2	SOGX 080308	**24695**
KUB-P.2D.1000.R.08-ABS50-F	U42 52540	**1.000**	1.969	4.567	2.047	3.346	1,28	2	SOGX 080308	**25495**
KUB-P.2D.1031.R.09-ABS50-F	U42 52620	**1.031**	1.969	4.685	2.126	3.465	2,25	2	SOGX 09T308	**26295**
KUB-P.2D.1109.R.09-ABS50-F	U42 52820	**1.109**	1.969	4.882	2.283	3.661	2,25	2	SOGX 09T308	**28295**
KUB-P.2D.1125.R.09-ABS50-F	U42 52860	**1.125**	1.969	4.882	2.283	3.661	2,25	2	SOGX 09T308	**28695**
KUB-P.2D.1165.R.09-ABS50-F	U42 52940	**1.156**	1.969	4.961	2.362	3.740	2,25	2	SOGX 09T308	**29495**
KUB-P.2D.1187.R.10-ABS63-F	U42 63020	**1.187**	2.480	5.472	2.441	3.976	2,8	2	SOGX 100408	**30196**
KUB-P.2D.1218.R.10-ABS63-F	U42 63090	**1.218**	2.480	5.472	2.441	3.976	2,8	2	SOGX 100408	**30996**
KUB-P.2D.1250.R.10-ABS63-F	U42 63180	**1.250**	2.480	5.551	2.520	4.055	2,8	2	SOGX 100408	**31896**
KUB-P.2D.1312.R.11-ABS63-F	U42 63330	**1.312**	2.480	5.748	2.677	4.252	2,8	2	SOGX 110408	**33396**
KUB-P.2D.1328.R.11-ABS63-F	U42 63370	**1.328**	2.480	5.748	2.677	4.252	2,8	2	SOGX 110408	**33796**
KUB-P.2D.1375.R.11-ABS63-F	U42 63490	**1.375**	2.480	5.866	2.756	4.370	2,8	2	SOGX 110408	**34996**
KUB-P.2D.1406.R.11-ABS63-F	U42 63570	**1.406**	2.480	5.945	2.835	4.449	2,8	2	SOGX 110408	**35796**
KUB-P.2D.1469.R.12-ABS63-F	U42 63730	**1.469**	2.480	6.142	2.992	4.646	6,25	2	SOGX 120408	**37396**
KUB-P.2D.1500.R.12-ABS63-F	U42 63810	**1.500**	2.480	6.260	3.071	4.764	6,25	2	SOGX 120408	**38196**
KUB-P.2D.1531.R.12-ABS63-F	U42 63890	**1.531**	2.480	6.260	3.071	4.764	6,25	2	SOGX 120408	**38996**
KUB-P.2D.1562.R.12-ABS63-F	U42 63970	**1.562**	2.480	6.339	3.150	4.843	6,25	2	SOGX 120408	**39796**
KUB-P.2D.1625.R.12-ABS63-F	U42 64130	**1.625**	2.480	6.535	3.307	5.039	6,25	2	SOGX 120408	**41396**
KUB-P.2D.1656.R.13-ABS63-F	U42 64210	**1.656**	2.480	6.654	3.386	5.157	6,25	2	SOGX 130508	**42196**
KUB-P.2D.1687.R.13-ABS63-F	U42 64280	**1.687**	2.480	6.654	3.386	5.157	6,25	2	SOGX 130508	**42896**
KUB-P.2D.1781.R.13-ABS63-F	U42 64520	**1.781**	2.480	6.811	3.622	5.315	6,25	2	SOGX 130508	**45296**

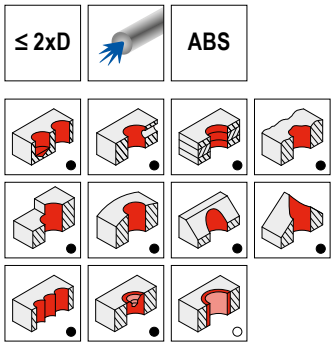
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

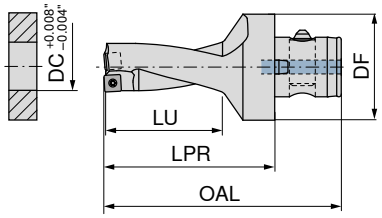
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Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 872 ...
KUB-P.2D.1875.R.08-ABS63-F	U42 64760	**1.875**	2.480	7.441	3.780	5.945	1,28	4	SOGX 080308	**47696**
KUB-P.2D.1937.R.08-ABS63-F	U42 64920	**1.937**	2.480	7.598	3.937	6.102	1,28	4	SOGX 080308	**49296**
KUB-P.2D.1975.R.08-ABS63-F	U42 65020	**1.975**	2.480	7.677	4.016	6.181	1,28	4	SOGX 080308	**50296**
KUB-P.2D.2000.R.08-ABS63-F	U42 65080	**2.000**	2.480	7.677	4.016	6.181	1,28	4	SOGX 080308	**50896**
KUB-P.2D.2062.R.10-ABS63-F	U42 65240	**2.062**	2.480	7.835	4.173	6.339	2,8	4	SOGX 100408	**52496**
KUB-P.2D.2250.R.10-ABS80-F	U42 75720	**2.250**	3.150	8.425	4.567	6.732	2,8	4	SOGX 100408	**57298**
KUB-P.2D.2281.R.10-ABS80-F	U42 75790	**2.281**	3.150	8.425	4.567	6.732	2,8	4	SOGX 100408	**57998**
KUB-P.2D.2375.R.10-ABS80-F	U42 76030	**2.375**	3.150	8.661	4.803	6.969	2,8	4	SOGX 100408	**60398**
KUB-P.2D.2437.R.10-ABS80-F	U42 76190	**2.437**	3.150	8.740	4.882	7.047	2,8	4	SOGX 100408	**61998**
KUB-P.2D.2500.R.10-ABS80-F	U42 76350	**2.500**	3.150	8.898	5.039	7.205	2,8	4	SOGX 100408	**63598**

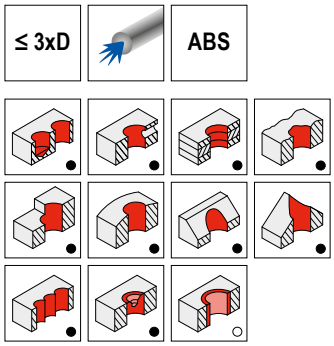
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

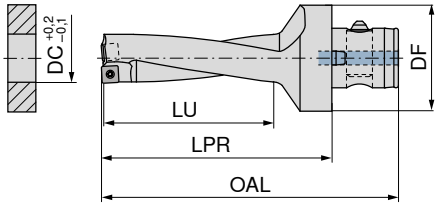
Spare parts Indexable insert		 Key AS **80 950 ...**		 Screwdriver AS **80 950 ...**		 Clamping screw AS **10 950 ...**
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.140.R.04-ABS50	U43 51400	**14**	50	100	42	69	0,38	2	SOGX 040204	**14095**
KUB-P.3D.145.R.04-ABS50	U43 51450	**14.5**	50	104	45	73	0,38	2	SOGX 040204	**14595**
KUB-P.3D.150.R.04-ABS50	U43 51500	**15**	50	104	45	73	0,38	2	SOGX 040204	**15095**
KUB-P.3D.155.R.04-ABS50	U43 51550	**15.5**	50	109	48	78	0,38	2	SOGX 040204	**15595**
KUB-P.3D.160.R.04-ABS50	U43 51600	**16**	50	109	48	78	0,38	2	SOGX 040204	**16095**
KUB-P.3D.165.R.05-ABS50	U43 51650	**16.5**	50	113	51	82	0,62	2	SOGX 050204	**16595**
KUB-P.3D.170.R.05-ABS50	U43 51700	**17**	50	113	51	82	0,62	2	SOGX 050204	**17095**
KUB-P.3D.175.R.05-ABS50	U43 51750	**17.5**	50	116	54	85	0,62	2	SOGX 050204	**17595**
KUB-P.3D.180.R.05-ABS50	U43 51800	**18**	50	116	54	85	0,62	2	SOGX 050204	**18095**
KUB-P.3D.185.R.06-ABS50	U43 51850	**18.5**	50	120	57	89	1,01	2	SOGX 060206	**18595**
KUB-P.3D.190.R.06-ABS50	U43 51900	**19**	50	120	57	89	1,01	2	SOGX 060206	**19095**
KUB-P.3D.195.R.06-ABS50	U43 51950	**19.5**	50	123	60	92	1,01	2	SOGX 060206	**19595**
KUB-P.3D.200.R.06-ABS50	U43 52000	**20**	50	123	60	92	1,01	2	SOGX 060206	**20095**
KUB-P.3D.205.R.07-ABS50	U43 52050	**20.5**	50	126	63	95	1,01	2	SOGX 07T208	**20595**
KUB-P.3D.210.R.07-ABS50	U43 52100	**21**	50	126	63	95	1,01	2	SOGX 07T208	**21095**
KUB-P.3D.215.R.07-ABS50	U43 52150	**21.5**	50	129	66	98	1,01	2	SOGX 07T208	**21595**
KUB-P.3D.220.R.07-ABS50	U43 52200	**22**	50	129	66	98	1,01	2	SOGX 07T208	**22095**
KUB-P.3D.225.R.07-ABS50	U43 52250	**22.5**	50	132	69	101	1,01	2	SOGX 07T208	**22595**
KUB-P.3D.230.R.07-ABS50	U43 52300	**23**	50	132	69	101	1,01	2	SOGX 07T208	**23095**
KUB-P.3D.235.R.08-ABS50	U43 52350	**23.5**	50	135	72	104	1,28	2	SOGX 080308	**23595**
KUB-P.3D.240.R.08-ABS50	U43 52400	**24**	50	135	72	104	1,28	2	SOGX 080308	**24095**
KUB-P.3D.245.R.08-ABS50	U43 52450	**24.5**	50	139	75	108	1,28	2	SOGX 080308	**24595**
KUB-P.3D.250.R.08-ABS50	U43 52500	**25**	50	139	75	108	1,28	2	SOGX 080308	**25095**
KUB-P.3D.255.R.08-ABS50	U43 52550	**25.5**	50	142	78	111	1,28	2	SOGX 080308	**25595**
KUB-P.3D.260.R.08-ABS50	U43 52600	**26**	50	142	78	111	1,28	2	SOGX 080308	**26095**
KUB-P.3D.265.R.09-ABS50	U43 52650	**26.5**	50	146	81	115	2,25	2	SOGX 09T308	**26595**
KUB-P.3D.270.R.09-ABS50	U43 52700	**27**	50	146	81	115	2,25	2	SOGX 09T308	**27095**
KUB-P.3D.275.R.09-ABS50	U43 52750	**27.5**	50	149	84	118	2,25	2	SOGX 09T308	**27595**
KUB-P.3D.280.R.09-ABS50	U43 52800	**28**	50	149	84	118	2,25	2	SOGX 09T308	**28095**
KUB-P.3D.285.R.09-ABS50	U43 52850	**28.5**	50	153	87	122	2,25	2	SOGX 09T308	**28595**
KUB-P.3D.290.R.09-ABS50	U43 52900	**29**	50	153	87	122	2,25	2	SOGX 09T308	**29095**
KUB-P.3D.295.R.09-ABS50	U43 52950	**29.5**	50	156	90	125	2,25	2	SOGX 09T308	**29595**
KUB-P.3D.300.R.09-ABS50	U43 53000	**30**	50	156	90	125	2,25	2	SOGX 09T308	**30095**
KUB-P.3D.305.R.10-ABS63	U43 63050	**30.5**	63	170	93	132	2,8	2	SOGX 100408	**30596**
KUB-P.3D.310.R.10-ABS63	U43 63100	**31**	63	170	93	132	2,8	2	SOGX 100408	**31096**
KUB-P.3D.315.R.10-ABS63	U43 63150	**31.5**	63	173	96	135	2,8	2	SOGX 100408	**31596**
KUB-P.3D.320.R.10-ABS63	U43 63200	**32**	63	173	96	135	2,8	2	SOGX 100408	**32096**
KUB-P.3D.325.R.10-ABS63	U43 63250	**32.5**	63	177	99	139	2,8	2	SOGX 100408	**32596**
KUB-P.3D.330.R.10-ABS63	U43 63300	**33**	63	177	99	139	2,8	2	SOGX 100408	**33096**

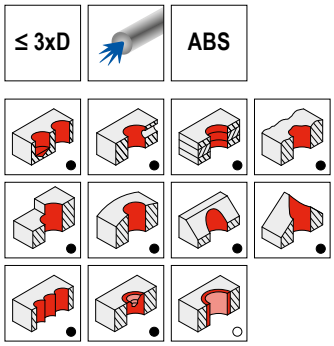
→ Find suitable indexable inserts here.
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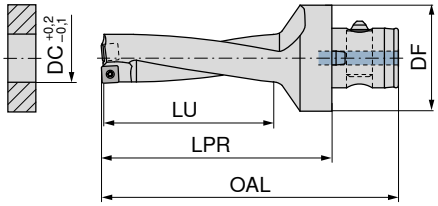
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.335.R.11-ABS63	U43 63350	**33.5**	63	180	102	142	2,8	2	SOGX 110408	**33596**
KUB-P.3D.340.R.11-ABS63	U43 63400	**34**	63	180	102	142	2,8	2	SOGX 110408	**34096**
KUB-P.3D.345.R.11-ABS63	U43 63450	**34.5**	63	184	105	146	2,8	2	SOGX 110408	**34596**
KUB-P.3D.350.R.11-ABS63	U43 63500	**35**	63	184	105	146	2,8	2	SOGX 110408	**35096**
KUB-P.3D.355.R.11-ABS63	U43 63550	**35.5**	63	187	108	149	2,8	2	SOGX 110408	**35596**
KUB-P.3D.360.R.11-ABS63	U43 63600	**36**	63	187	108	149	2,8	2	SOGX 110408	**36096**
KUB-P.3D.365.R.11-ABS63	U43 63650	**36.5**	63	191	111	153	2,8	2	SOGX 110408	**36596**
KUB-P.3D.370.R.11-ABS63	U43 63700	**37**	63	191	111	153	2,8	2	SOGX 110408	**37096**
KUB-P.3D.375.R.12-ABS63	U43 63750	**37.5**	63	194	114	156	6,25	2	SOGX 120408	**37596**
KUB-P.3D.380.R.12-ABS63	U43 63800	**38**	63	194	114	156	6,25	2	SOGX 120408	**38096**
KUB-P.3D.385.R.12-ABS63	U43 63850	**38.5**	63	198	117	160	6,25	2	SOGX 120408	**38596**
KUB-P.3D.390.R.12-ABS63	U43 63900	**39**	63	198	117	160	6,25	2	SOGX 120408	**39096**
KUB-P.3D.395.R.12-ABS63	U43 63950	**39.5**	63	201	120	163	6,25	2	SOGX 120408	**39596**
KUB-P.3D.400.R.12-ABS63	U43 64000	**40**	63	201	120	163	6,25	2	SOGX 120408	**40096**
KUB-P.3D.405.R.12-ABS63	U43 64050	**40.5**	63	205	123	167	6,25	2	SOGX 120408	**40596**
KUB-P.3D.410.R.12-ABS63	U43 64100	**41**	63	205	123	167	6,25	2	SOGX 120408	**41096**
KUB-P.3D.415.R.12-ABS63	U43 64150	**41.5**	63	208	126	170	6,25	2	SOGX 120408	**41596**
KUB-P.3D.420.R.12-ABS63	U43 64200	**42**	63	208	126	170	6,25	2	SOGX 120408	**42096**
KUB-P.3D.425.R.13-ABS63	U43 64250	**42.5**	63	212	129	174	6,25	2	SOGX 130508	**42596**
KUB-P.3D.430.R.13-ABS63	U43 64300	**43**	63	212	129	174	6,25	2	SOGX 130508	**43096**
KUB-P.3D.435.R.13-ABS63	U43 64350	**43.5**	63	215	132	177	6,25	2	SOGX 130508	**43596**
KUB-P.3D.440.R.13-ABS63	U43 64400	**44**	63	215	132	177	6,25	2	SOGX 130508	**44096**
KUB-P.3D.445.R.13-ABS63	U43 64450	**44.5**	63	219	135	181	6,25	2	SOGX 130508	**44596**
KUB-P.3D.450.R.13-ABS63	U43 64500	**45**	63	219	135	181	6,25	2	SOGX 130508	**45096**
KUB-P.3D.455.R.13-ABS63	U43 64550	**45.5**	63	219	138	181	6,25	2	SOGX 130508	**45596**
KUB-P.3D.460.R.13-ABS63	U43 64600	**46**	63	219	138	181	6,25	2	SOGX 130508	**46096**
KUB-P.3D.470.R.08-ABS63	U43 64700	**47**	63	234	141	196	1,28	4	SOGX 080308	**47096**
KUB-P.3D.480.R.08-ABS63	U43 64800	**48**	63	237	144	199	1,28	4	SOGX 080308	**48096**
KUB-P.3D.490.R.08-ABS63	U43 64900	**49**	63	240	147	202	1,28	4	SOGX 080308	**49096**
KUB-P.3D.500.R.08-ABS63	U43 65000	**50**	63	243	150	205	1,28	4	SOGX 080308	**50096**
KUB-P.3D.510.R.08-ABS63	U43 65100	**51**	63	246	153	208	1,28	4	SOGX 080308	**51096**
KUB-P.3D.520.R.08-ABS63	U43 65200	**52**	63	249	156	211	1,28	4	SOGX 080308	**52096**
KUB-P.3D.530.R.10-ABS63	U43 65300	**53**	63	252	159	214	2,8	4	SOGX 100408	**53096**
KUB-P.3D.540.R.10-ABS63	U43 65400	**54**	63	255	162	217	2,8	4	SOGX 100408	**54096**
KUB-P.3D.550.R.10-ABS80	U43 75500	**55**	80	263	165	220	2,8	4	SOGX 100408	**55098**
KUB-P.3D.560.R.10-ABS80	U43 75600	**56**	80	266	168	223	2,8	4	SOGX 100408	**56098**
KUB-P.3D.570.R.10-ABS80	U43 75700	**57**	80	269	171	226	2,8	4	SOGX 100408	**57098**
KUB-P.3D.580.R.10-ABS80	U43 75800	**58**	80	272	174	229	2,8	4	SOGX 100408	**58098**
KUB-P.3D.590.R.10-ABS80	U43 75900	**59**	80	275	177	232	2,8	4	SOGX 100408	**59098**
KUB-P.3D.600.R.10-ABS80	U43 76000	**60**	80	278	180	235	2,8	4	SOGX 100408	**60098**
KUB-P.3D.610.R.10-ABS80	U43 76100	**61**	80	281	183	238	2,8	4	SOGX 100408	**61098**
KUB-P.3D.620.R.10-ABS80	U43 76200	**62**	80	284	186	241	2,8	4	SOGX 100408	**62098**

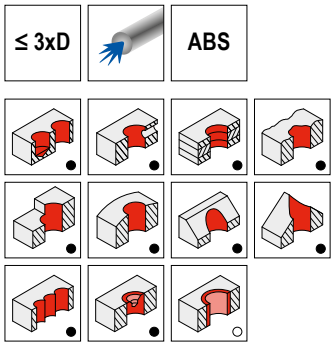
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

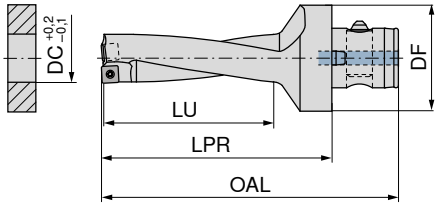
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.630.R.10-ABS80	U43 76300	**63**	80	287	189	244	2,8	4	SOGX 100408	**63098**
KUB-P.3D.640.R.10-ABS80	U43 76400	**64**	80	290	192	247	2,8	4	SOGX 100408	**64098**
KUB-P.3D.650.R.10-ABS80	U43 76500	**65**	80	293	195	250	2,8	4	SOGX 100408	**65098**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

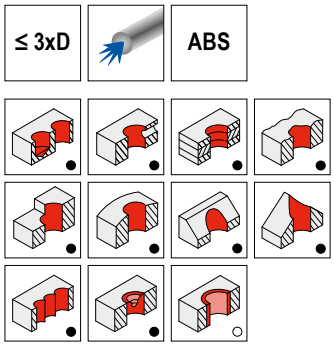

Clamping screw

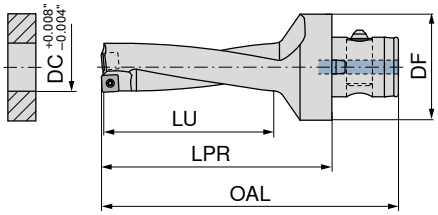
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 873 ...
KUB-P.3D.0562.R.04-ABS50-F	U43 51430	**0.562**	1.969	4.094	1.772	2.874	0,38	2	SOGX 040204	**14395**
KUB-P.3D.0593.R.04-ABS50-F	U43 51510	**0.593**	1.969	4.291	1.890	3.071	0,38	2	SOGX 040204	**15195**
KUB-P.3D.0625.R.04-ABS50-F	U43 51590	**0.625**	1.969	4.291	1.890	3.071	0,38	2	SOGX 040204	**15995**
KUB-P.3D.0656.R.05-ABS50-F	U43 51670	**0.656**	1.969	4.449	2.008	3.228	0,62	2	SOGX 050204	**16795**
KUB-P.3D.0703.R.05-ABS50-F	U43 51790	**0.703**	1.969	4.567	2.126	3.346	0,62	2	SOGX 050204	**17995**
KUB-P.3D.0718.R.06-ABS50-F	U43 51820	**0.718**	1.969	4.685	2.244	3.504	1,01	2	SOGX 060206	**18295**
KUB-P.3D.0750.R.06-ABS50-F	U43 51910	**0.750**	1.969	4.843	2.362	3.622	1,01	2	SOGX 060206	**19195**
KUB-P.3D.0765.R.06-ABS50-F	U43 51940	**0.765**	1.969	4.843	2.362	3.622	1,01	2	SOGX 060206	**19495**
KUB-P.3D.0781.R.06-ABS50-F	U43 51980	**0.781**	1.969	4.843	2.362	3.622	1,01	2	SOGX 060206	**19895**
KUB-P.3D.0937.R.08-ABS50-F	U43 52380	**0.937**	1.969	5.315	2.835	4.094	1,28	2	SOGX 080308	**23895**
KUB-P.3D.0968.R.08-ABS50-F	U43 52460	**0.968**	1.969	5.472	2.953	4.252	1,28	2	SOGX 080308	**24695**
KUB-P.3D.1000.R.08-ABS50-F	U43 52540	**1.000**	1.969	5.591	3.071	4.370	1,28	2	SOGX 080308	**25495**
KUB-P.3D.1031.R.09-ABS50-F	U43 52620	**1.031**	1.969	5.748	3.189	4.528	2,25	2	SOGX 09T308	**26295**
KUB-P.3D.1109.R.09-ABS50-F	U43 52820	**1.109**	1.969	6.024	3.425	4.803	2,25	2	SOGX 09T308	**28295**
KUB-P.3D.1125.R.09-ABS50-F	U43 52860	**1.125**	1.969	6.024	3.425	4.803	2,25	2	SOGX 09T308	**28695**
KUB-P.3D.1156.R.09-ABS50-F	U43 52940	**1.156**	1.969	6.142	3.543	4.921	2,25	2	SOGX 09T308	**29495**
KUB-P.3D.1187.R.11-ABS63-F	U43 63020	**1.187**	2.480	6.693	3.661	5.197	2,8	2	SOGX 100408	**30196**
KUB-P.3D.1218.R.11-ABS63-F	U43 63090	**1.218**	2.480	6.693	3.661	5.197	2,8	2	SOGX 100408	**30996**
KUB-P.3D.1250.R.11-ABS63-F	U43 63180	**1.250**	2.480	6.811	3.780	5.315	2,8	2	SOGX 100408	**31896**
KUB-P.3D.1312.R.11-ABS63-F	U43 63330	**1.312**	2.480	7.087	4.016	5.591	2,8	2	SOGX 110408	**33396**
KUB-P.3D.1328.R.11-ABS63-F	U43 63370	**1.328**	2.480	7.087	4.016	5.591	2,8	2	SOGX 110408	**33796**
KUB-P.3D.1375.R.11-ABS63-F	U43 63490	**1.375**	2.480	7.244	4.134	5.748	2,8	2	SOGX 110408	**34996**
KUB-P.3D.1406.R.11-ABS63-F	U43 63570	**1.406**	2.480	7.362	4.252	5.866	2,8	2	SOGX 110408	**35796**
KUB-P.3D.1469.R.12-ABS63-F	U43 63730	**1.469**	2.480	7.638	4.488	6.142	6,25	2	SOGX 120408	**37396**
KUB-P.3D.1500.R.12-ABS63-F	U43 63810	**1.500**	2.480	7.795	4.606	6.299	6,25	2	SOGX 120408	**38196**
KUB-P.3D.1531.R.12-ABS63-F	U43 63890	**1.531**	2.480	7.795	4.606	6.299	6,25	2	SOGX 120408	**38996**
KUB-P.3D.1562.R.12-ABS63-F	U43 63970	**1.562**	2.480	7.913	4.724	6.417	6,25	2	SOGX 120408	**39796**
KUB-P.3D.1625.R.12-ABS63-F	U43 64130	**1.625**	2.480	8.189	4.961	6.693	6,25	2	SOGX 120408	**41396**
KUB-P.3D.1656.R.13-ABS63-F	U43 64210	**1.656**	2.480	8.346	5.079	6.850	6,25	2	SOGX 130508	**42196**
KUB-P.3D.1687.R.13-ABS63-F	U43 64280	**1.687**	2.480	8.346	5.079	6.850	6,25	2	SOGX 130508	**42896**
KUB-P.3D.1781.R.13-ABS63-F	U43 64520	**1.781**	2.480	8.622	5.433	7.126	6,25	2	SOGX 130508	**45296**
KUB-P.3D.1875.R.08-ABS63-F	U43 64760	**1.875**	2.480	9.331	5.669	7.835	1,28	4	SOGX 080308	**47696**
KUB-P.3D.1937.R.08-ABS63-F	U43 64920	**1.937**	2.480	9.567	5.906	8.071	1,28	4	SOGX 080308	**49296**
KUB-P.3D.1975.R.08-ABS63-F	U43 65020	**1.975**	2.480	9.685	6.024	8.189	1,28	4	SOGX 080308	**50296**
KUB-P.3D.2000.R.08-ABS63-F	U43 65080	**2.000**	2.480	9.685	6.024	8.189	1,28	4	SOGX 080308	**50896**

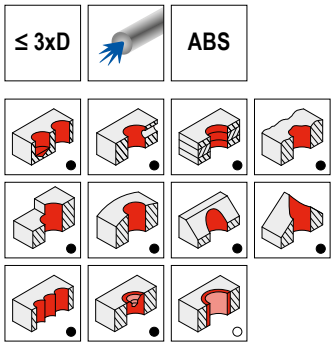
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

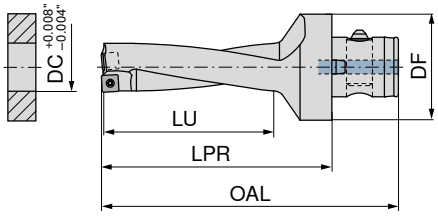
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Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 873 ...
KUB-P.3D.205.R.07-ABS50-F	U43 52060	**0.812**	1.969	4.961	2.480	3.740	1,01	2	SOGX 07T208	**20695**
KUB-P.3D.205.R.07-ABS50-F	U43 52220	**0.875**	1.969	5.197	2.717	3.976	1,01	2	SOGX 07T208	**22295**
KUB-P.3D.205.R.07-ABS50-F	U43 52140	**0.843**	1.969	5.079	2.598	3.858	1,01	2	SOGX 07T208	**21495**
KUB-P.3D.2062.R.10-ABS63-F	U43 65240	**2.062**	2.480	9.921	6.260	8.425	2,8	4	SOGX 100408	**52496**
KUB-P.3D.2250.R.10-ABS80-F	U43 75720	**2.250**	3.150	10.709	6.850	9.016	2,8	4	SOGX 100408	**57298**
KUB-P.3D.2281.R.10-ABS80-F	U43 75790	**2.281**	3.150	10.709	6.850	9.016	2,8	4	SOGX 100408	**57998**
KUB-P.3D.2375.R.10-ABS80-F	U43 76030	**2.375**	3.150	11.063	7.205	9.370	2,8	4	SOGX 100408	**60398**
KUB-P.3D.2437.R.10-ABS80-F	U43 76190	**2.437**	3.150	11.181	7.323	9.488	2,8	4	SOGX 100408	**61998**
KUB-P.3D.2500.R.10-ABS80-F	U43 76350	**2.500**	3.150	11.417	7.559	9.724	2,8	4	SOGX 100408	**63598**

→ Find suitable indexable inserts here.
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Key


Screwdriver

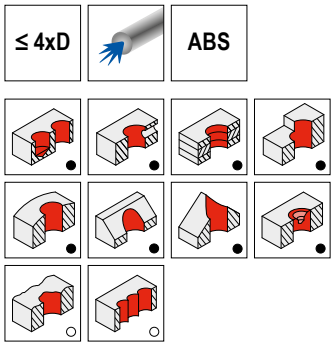

Clamping screw

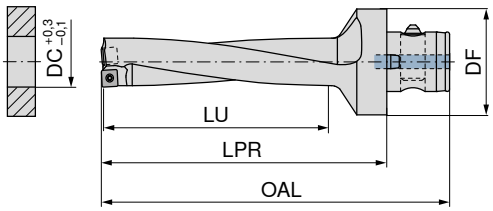
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 874 ...
KUB-P.4D.140.R.04-ABS50	U44 51400	**14**	50	114	56	83	0,38	2	SOGX 040204	**14095**
KUB-P.4D.145.R.04-ABS50	U44 51450	**14.5**	50	119	60	88	0,38	2	SOGX 040204	**14595**
KUB-P.4D.150.R.04-ABS50	U44 51500	**15**	50	119	60	88	0,38	2	SOGX 040204	**15095**
KUB-P.4D.155.R.04-ABS50	U44 51550	**15.5**	50	125	64	94	0,38	2	SOGX 040204	**15595**
KUB-P.4D.160.R.04-ABS50	U44 51600	**16**	50	125	64	94	0,38	2	SOGX 040204	**16095**
KUB-P.4D.165.R.05-ABS50	U44 51650	**16.5**	50	130	68	99	0,62	2	SOGX 050204	**16595**
KUB-P.4D.170.R.05-ABS50	U44 51700	**17**	50	130	68	99	0,62	2	SOGX 050204	**17095**
KUB-P.4D.175.R.05-ABS50	U44 51750	**17.5**	50	134	72	103	0,62	2	SOGX 050204	**17595**
KUB-P.4D.180.R.05-ABS50	U44 51800	**18**	50	134	72	103	0,62	2	SOGX 050204	**18095**
KUB-P.4D.185.R.06-ABS50	U44 51850	**18.5**	50	139	76	108	1,01	2	SOGX 060206	**18595**
KUB-P.4D.190.R.06-ABS50	U44 51900	**19**	50	139	76	108	1,01	2	SOGX 060206	**19095**
KUB-P.4D.195.R.06-ABS50	U44 51950	**19.5**	50	143	80	112	1,01	2	SOGX 060206	**19595**
KUB-P.4D.200.R.06-ABS50	U44 52000	**20**	50	143	80	112	1,01	2	SOGX 060206	**20095**
KUB-P.4D.205.R.07-ABS50	U44 52050	**20.5**	50	147	84	116	1,01	2	SOGX 07T208	**20595**
KUB-P.4D.210.R.07-ABS50	U44 52100	**21**	50	147	84	116	1,01	2	SOGX 07T208	**21095**
KUB-P.4D.215.R.07-ABS50	U44 52150	**21.5**	50	151	88	120	1,01	2	SOGX 07T208	**21595**
KUB-P.4D.220.R.07-ABS50	U44 52200	**22**	50	151	88	120	1,01	2	SOGX 07T208	**22095**
KUB-P.4D.225.R.07-ABS50	U44 52250	**22.5**	50	155	92	124	1,01	2	SOGX 07T208	**22595**
KUB-P.4D.230.R.07-ABS50	U44 52300	**23**	50	155	92	124	1,01	2	SOGX 07T208	**23095**
KUB-P.4D.235.R.08-ABS50	U44 52350	**23.5**	50	159	96	128	1,28	2	SOGX 080308	**23595**
KUB-P.4D.240.R.08-ABS50	U44 52400	**24**	50	159	96	128	1,28	2	SOGX 080308	**24095**
KUB-P.4D.245.R.08-ABS50	U44 52450	**24.5**	50	164	100	133	1,28	2	SOGX 080308	**24595**
KUB-P.4D.250.R.08-ABS50	U44 52500	**25**	50	164	100	133	1,28	2	SOGX 080308	**25095**
KUB-P.4D.255.R.08-ABS50	U44 52550	**25.5**	50	168	104	137	1,28	2	SOGX 080308	**25595**
KUB-P.4D.260.R.08-ABS50	U44 52600	**26**	50	168	104	137	1,28	2	SOGX 080308	**26095**
KUB-P.4D.265.R.09-ABS50	U44 52650	**26.5**	50	173	108	142	2,25	2	SOGX 09T308	**26595**
KUB-P.4D.270.R.09-ABS50	U44 52700	**27**	50	173	108	142	2,25	2	SOGX 09T308	**27095**
KUB-P.4D.275.R.09-ABS50	U44 52750	**27.5**	50	177	112	146	2,25	2	SOGX 09T308	**27595**
KUB-P.4D.280.R.09-ABS50	U44 52800	**28**	50	177	112	146	2,25	2	SOGX 09T308	**28095**
KUB-P.4D.285.R.09-ABS50	U44 52850	**28.5**	50	182	116	151	2,25	2	SOGX 09T308	**28595**
KUB-P.4D.290.R.09-ABS50	U44 52900	**29**	50	182	116	151	2,25	2	SOGX 09T308	**29095**
KUB-P.4D.295.R.09-ABS50	U44 52950	**29.5**	50	186	120	155	2,25	2	SOGX 09T308	**29595**
KUB-P.4D.300.R.09-ABS50	U44 53000	**30**	50	186	120	155	2,25	2	SOGX 09T308	**30095**
KUB-P.4D.305.R.10-ABS63	U44 63050	**30.5**	63	201	124	163	2,8	2	SOGX 100408	**30596**
KUB-P.4D.310.R.10-ABS63	U44 63100	**31**	63	201	124	163	2,8	2	SOGX 100408	**31096**
KUB-P.4D.315.R.10-ABS63	U44 63150	**31.5**	63	205	128	167	2,8	2	SOGX 100408	**31596**
KUB-P.4D.320.R.10-ABS63	U44 63200	**32**	63	205	128	167	2,8	2	SOGX 100408	**32096**
KUB-P.4D.325.R.10-ABS63	U44 63250	**32.5**	63	210	132	172	2,8	2	SOGX 100408	**32596**
KUB-P.4D.330.R.10-ABS63	U44 63300	**33**	63	210	132	172	2,8	2	SOGX 100408	**33096**
KUB-P.4D.335.R.11-ABS63	U44 63350	**33.5**	63	214	136	176	2,8	2	SOGX 110408	**33596**
KUB-P.4D.340.R.11-ABS63	U44 63400	**34**	63	214	136	176	2,8	2	SOGX 110408	**34096**
KUB-P.4D.345.R.11-ABS63	U44 63450	**34.5**	63	219	140	181	2,8	2	SOGX 110408	**34596**
KUB-P.4D.350.R.11-ABS63	U44 63500	**35**	63	219	140	181	2,8	2	SOGX 110408	**35096**
KUB-P.4D.355.R.11-ABS63	U44 63550	**35.5**	63	223	144	185	2,8	2	SOGX 110408	**35596**
KUB-P.4D.360.R.11-ABS63	U44 63600	**36**	63	223	144	185	2,8	2	SOGX 110408	**36096**

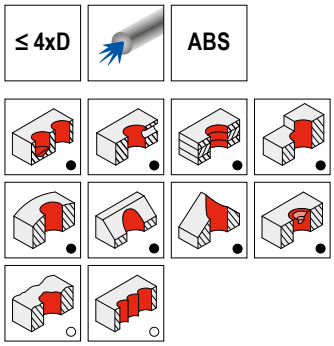
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

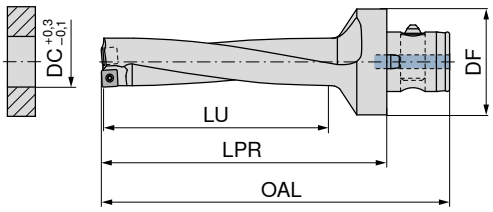
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 874 ...
KUB-P.4D.365.R.11-ABS63	U44 63650	**36.5**	63	228	148	190	2,8	2	SOGX 110408	**36596**
KUB-P.4D.370.R.11-ABS63	U44 63700	**37**	63	228	148	190	2,8	2	SOGX 110408	**37096**
KUB-P.4D.375.R.12-ABS63	U44 63750	**37.5**	63	232	152	194	6,25	2	SOGX 120408	**37596**
KUB-P.4D.380.R.12-ABS63	U44 63800	**38**	63	232	152	194	6,25	2	SOGX 120408	**38096**
KUB-P.4D.385.R.12-ABS63	U44 63850	**38.5**	63	237	156	199	6,25	2	SOGX 120408	**38596**
KUB-P.4D.390.R.12-ABS63	U44 63900	**39**	63	237	156	199	6,25	2	SOGX 120408	**39096**
KUB-P.4D.392.R.12-ABS63	U44 63920	**39.2**	63	241	160	203	6,25	2	SOGX 120408	**39296**
KUB-P.4D.395.R.12-ABS63	U44 63950	**39.5**	63	241	160	203	6,25	2	SOGX 120408	**39596**
KUB-P.4D.400.R.12-ABS63	U44 64000	**40**	63	241	160	203	6,25	2	SOGX 120408	**40096**
KUB-P.4D.405.R.12-ABS63	U44 64050	**40.5**	63	246	164	208	6,25	2	SOGX 120408	**40596**
KUB-P.4D.410.R.12-ABS63	U44 64100	**41**	63	246	164	208	6,25	2	SOGX 120408	**41096**
KUB-P.4D.415.R.12-ABS63	U44 64150	**41.5**	63	250	168	212	6,25	2	SOGX 120408	**41596**
KUB-P.4D.420.R.12-ABS63	U44 64200	**42**	63	250	168	212	6,25	2	SOGX 120408	**42096**
KUB-P.4D.425.R.13-ABS63	U44 64250	**42.5**	63	255	172	217	6,25	2	SOGX 130508	**42596**
KUB-P.4D.430.R.13-ABS63	U44 64300	**43**	63	255	172	217	6,25	2	SOGX 130508	**43096**
KUB-P.4D.435.R.13-ABS63	U44 64350	**43.5**	63	259	176	221	6,25	2	SOGX 130508	**43596**
KUB-P.4D.440.R.13-ABS63	U44 64400	**44**	63	259	176	221	6,25	2	SOGX 130508	**44096**
KUB-P.4D.445.R.13-ABS63	U44 64450	**44.5**	63	264	180	226	6,25	2	SOGX 130508	**44596**
KUB-P.4D.450.R.13-ABS63	U44 64500	**45**	63	264	180	226	6,25	2	SOGX 130508	**45096**
KUB-P.4D.455.R.13-ABS63	U44 64550	**45.5**	63	265	184	227	6,25	2	SOGX 130508	**45596**
KUB-P.4D.460.R.13-ABS63	U44 64600	**46**	63	265	184	227	6,25	2	SOGX 130508	**46096**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

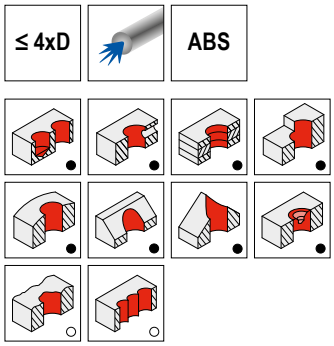

Clamping screw

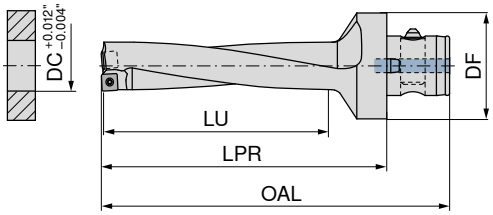
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 874 ...
KUB-P.4D.0562.R.04.ABS50-F	U44 51430	**0.562**	1.969	4.685	2.362	3.465	0,38	2	SOGX 040204	**14395**
KUB-P.4D.0593.R.04.ABS50-F	U44 51510	**0.593**	1.969	4.921	2.520	3.701	0,38	2	SOGX 040204	**15195**
KUB-P.4D.0625.R.04.ABS50-F	U44 51590	**0.625**	1.969	4.921	2.520	3.701	0,38	2	SOGX 040204	**15995**
KUB-P.4D.0656.R.05.ABS50-F	U44 51670	**0.656**	1.969	5.118	2.677	3.898	0,62	2	SOGX 050204	**16795**
KUB-P.4D.0703.R.05.ABS50-F	U44 51790	**0.703**	1.969	5.276	2.835	4.055	0,62	2	SOGX 050204	**17995**
KUB-P.4D.0750.R.06.ABS50-F	U44 51910	**0.750**	1.969	5.630	3.150	4.409	1,01	2	SOGX 060206	**19195**
KUB-P.4D.0765.R.06.ABS50-F	U44 51940	**0.765**	1.969	5.630	3.150	4.409	1,01	2	SOGX 060206	**19495**
KUB-P.4D.0781.R.06.ABS50-F	U44 51980	**0.781**	1.969	5.630	3.150	4.409	1,01	2	SOGX 060206	**19895**
KUB-P.4D.0812.R.07.ABS50-F	U44 52060	**0.812**	1.969	5.787	3.307	4.567	1,01	2	SOGX 07T208	**20695**
KUB-P.4D.0875.R.07.ABS50-F	U44 52220	**0.875**	1.969	6.102	3.622	4.882	1,01	2	SOGX 07T208	**22295**
KUB-P.4D.0937.R.08.ABS50-F	U44 52380	**0.937**	1.969	6.260	3.780	5.039	1,28	2	SOGX 080308	**23895**
KUB-P.4D.1000.R.08.ABS50-F	U44 52540	**1.000**	1.969	6.614	4.094	5.394	1,28	2	SOGX 080308	**25495**
KUB-P.4D.1031.R.09.ABS50-F	U44 52620	**1.031**	1.969	6.811	4.252	5.591	2,25	2	SOGX 09T308	**26295**
KUB-P.4D.1109.R.09.ABS50-F	U44 52820	**1.109**	1.969	7.165	4.567	5.945	2,25	2	SOGX 09T308	**28295**
KUB-P.4D.1125.R.09.ABS50-F	U44 52860	**1.125**	1.969	7.165	4.567	5.945	2,25	2	SOGX 09T308	**28695**
KUB-P.4D.1156.R.09.ABS50-F	U44 52940	**1.156**	1.969	7.323	4.724	6.102	2,25	2	SOGX 09T308	**29495**
KUB-P.4D.1187.R.10.ABS63-F	U44 63020	**1.187**	2.480	7.913	4.882	6.417	2,8	2	SOGX 100408	**30196**
KUB-P.4D.1218.R.10.ABS63-F	U44 63090	**1.218**	2.480	7.913	4.882	6.417	2,8	2	SOGX 100408	**30996**
KUB-P.4D.1250.R.10.ABS63-F	U44 63180	**1.250**	2.480	8.071	5.039	6.575	2,8	2	SOGX 100408	**31896**
KUB-P.4D.1312.R.11.ABS63-F	U44 63330	**1.312**	2.480	8.425	5.354	6.929	2,8	2	SOGX 110408	**33396**
KUB-P.4D.1328.R.11.ABS63-F	U44 63370	**1.328**	2.480	8.425	5.354	6.929	2,8	2	SOGX 110408	**33796**
KUB-P.4D.1375.R.11.ABS63-F	U44 63490	**1.375**	2.480	8.622	5.512	7.126	2,8	2	SOGX 110408	**34996**
KUB-P.4D.1469.R.12.ABS63-F	U44 63730	**1.469**	2.480	9.134	5.984	7.638	6,25	2	SOGX 120408	**37396**
KUB-P.4D.1500.R.12.ABS63-F	U44 63810	**1.500**	2.480	9.331	6.142	7.835	6,25	2	SOGX 120408	**38196**
KUB-P.4D.1562.R.12.ABS63-F	U44 63970	**1.562**	2.480	9.488	6.299	7.992	6,25	2	SOGX 120408	**39796**
KUB-P.4D.1625.R.12.ABS63-F	U44 64130	**1.625**	2.480	9.843	6.614	8.346	6,25	2	SOGX 120408	**41396**

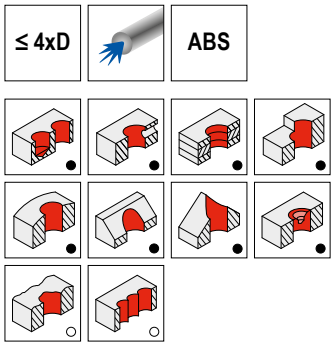
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

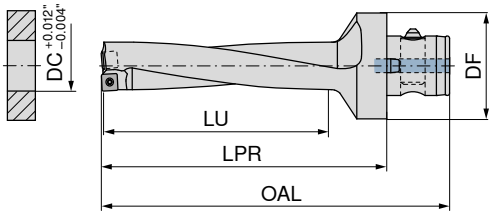
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws

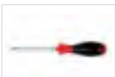






ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 874 ...
KUB-P.4D.1656.R.13.ABS63-F	U44 64210	**1.656**	2.480	10.039	6.772	8.543	6,25	2	SOGX 130508	**42196**
KUB-P.4D.1687.R.13.ABS63-F	U44 64290	**1.687**	2.480	10.039	6.772	8.543	6,25	2	SOGX 130508	**42896**

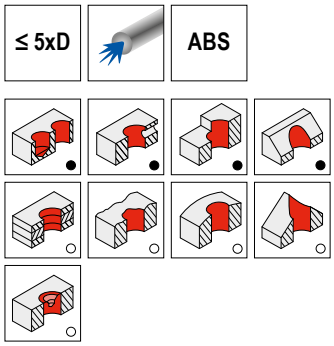
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→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

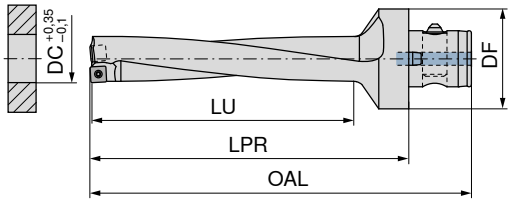
Spare parts Indexable insert		 Key AS 80 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 875 ...
KUB-P.5D.140.R.04-ABS50	U45 51400	**14**	50	128	70	97	0,38	2	SOGX 040204	**14095**
KUB-P.5D.145.R.04-ABS50	U45 51450	**14.5**	50	134	75	103	0,38	2	SOGX 040204	**14595**
KUB-P.5D.150.R.04-ABS50	U45 51500	**15**	50	134	75	103	0,38	2	SOGX 040204	**15095**
KUB-P.5D.155.R.04-ABS50	U45 51550	**15.5**	50	141	80	110	0,38	2	SOGX 040204	**15595**
KUB-P.5D.160.R.04-ABS50	U45 51600	**16**	50	141	80	110	0,38	2	SOGX 040204	**16095**
KUB-P.5D.165.R.05-ABS50	U45 51650	**16.5**	50	147	85	116	0,62	2	SOGX 050204	**16595**
KUB-P.5D.170.R.05-ABS50	U45 51700	**17**	50	147	85	116	0,62	2	SOGX 050204	**17095**
KUB-P.5D.175.R.05-ABS50	U45 51750	**17.5**	50	152	90	121	0,62	2	SOGX 050204	**17595**
KUB-P.5D.180.R.05-ABS50	U45 51800	**18**	50	152	90	121	0,62	2	SOGX 050204	**18095**
KUB-P.5D.185.R.06-ABS50	U45 51850	**18.5**	50	158	95	127	1,01	2	SOGX 060206	**18595**
KUB-P.5D.190.R.06-ABS50	U45 51900	**19**	50	158	95	127	1,01	2	SOGX 060206	**19095**
KUB-P.5D.195.R.06-ABS50	U45 51950	**19.5**	50	163	100	132	1,01	2	SOGX 060206	**19595**
KUB-P.5D.200.R.06-ABS50	U45 52000	**20**	50	163	100	132	1,01	2	SOGX 060206	**20095**
KUB-P.5D.205.R.07-ABS50	U45 52050	**20.5**	50	168	105	137	1,01	2	SOGX 07T208	**20595**
KUB-P.5D.210.R.07-ABS50	U45 52100	**21**	50	168	105	137	1,01	2	SOGX 07T208	**21095**
KUB-P.5D.215.R.07-ABS50	U45 52150	**21.5**	50	173	110	142	1,01	2	SOGX 07T208	**21595**
KUB-P.5D.220.R.07-ABS50	U45 52200	**22**	50	173	110	142	1,01	2	SOGX 07T208	**22095**
KUB-P.5D.225.R.07-ABS50	U45 52250	**22.5**	50	178	115	147	1,01	2	SOGX 07T208	**22595**
KUB-P.5D.230.R.07-ABS50	U45 52300	**23**	50	178	115	147	1,01	2	SOGX 07T208	**23095**
KUB-P.5D.235.R.08-ABS50	U45 52350	**23.5**	50	183	120	152	1,28	2	SOGX 080308	**23595**
KUB-P.5D.240.R.08-ABS50	U45 52400	**24**	50	183	120	152	1,28	2	SOGX 080308	**24095**
KUB-P.5D.245.R.08-ABS50	U45 52450	**24.5**	50	189	125	158	1,28	2	SOGX 080308	**24595**
KUB-P.5D.250.R.08-ABS50	U45 52500	**25**	50	189	125	158	1,28	2	SOGX 080308	**25095**
KUB-P.5D.255.R.08-ABS50	U45 52550	**25.5**	50	194	130	163	1,28	2	SOGX 080308	**25595**
KUB-P.5D.260.R.08-ABS50	U45 52600	**26**	50	194	130	163	1,28	2	SOGX 080308	**26095**
KUB-P.5D.265.R.09-ABS50	U45 52650	**26.5**	50	200	135	169	2,25	2	SOGX 09T308	**26595**
KUB-P.5D.270.R.09-ABS50	U45 52700	**27**	50	200	135	169	2,25	2	SOGX 09T308	**27095**
KUB-P.5D.275.R.09-ABS50	U45 52750	**27.5**	50	205	140	174	2,25	2	SOGX 09T308	**27595**
KUB-P.5D.280.R.09-ABS50	U45 52800	**28**	50	205	140	174	2,25	2	SOGX 09T308	**28095**
KUB-P.5D.285.R.09-ABS50	U45 52850	**28.5**	50	211	145	180	2,25	2	SOGX 09T308	**28595**
KUB-P.5D.290.R.09-ABS50	U45 52900	**29**	50	211	145	180	2,25	2	SOGX 09T308	**29095**
KUB-P.5D.295.R.09-ABS50	U45 52950	**29.5**	50	216	150	185	2,25	2	SOGX 09T308	**29595**
KUB-P.5D.300.R.09-ABS50	U45 53000	**30**	50	216	150	185	2,25	2	SOGX 09T308	**30095**
KUB-P.5D.305.R.10-ABS63	U45 63050	**30.5**	63	232	155	194	2,8	2	SOGX 100408	**30596**
KUB-P.5D.310.R.10-ABS63	U45 63100	**31**	63	232	155	194	2,8	2	SOGX 100408	**31096**
KUB-P.5D.315.R.10-ABS63	U45 63150	**31.5**	63	237	160	199	2,8	2	SOGX 100408	**31596**
KUB-P.5D.320.R.10-ABS63	U45 63200	**32**	63	237	160	199	2,8	2	SOGX 100408	**32096**
KUB-P.5D.325.R.10-ABS63	U45 63250	**32.5**	63	243	165	205	2,8	2	SOGX 100408	**32596**
KUB-P.5D.330.R.10-ABS63	U45 63300	**33**	63	243	165	205	2,8	2	SOGX 100408	**33096**
KUB-P.5D.335.R.11-ABS63	U45 63350	**33.5**	63	248	170	210	2,8	2	SOGX 110408	**33596**
KUB-P.5D.340.R.11-ABS63	U45 63400	**34**	63	248	170	210	2,8	2	SOGX 110408	**34096**
KUB-P.5D.345.R.11-ABS63	U45 63450	**34.5**	63	254	175	216	2,8	2	SOGX 110408	**34596**
KUB-P.5D.350.R.11-ABS63	U45 63500	**35**	63	254	175	216	2,8	2	SOGX 110408	**35096**
KUB-P.5D.355.R.11-ABS63	U45 63550	**35.5**	63	259	180	221	2,8	2	SOGX 110408	**35596**
KUB-P.5D.360.R.11-ABS63	U45 63600	**36**	63	259	180	221	2,8	2	SOGX 110408	**36096**

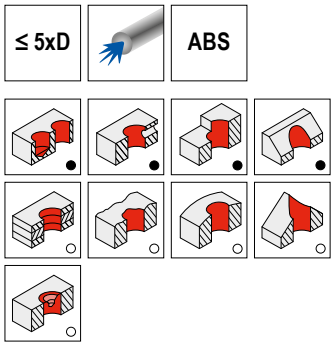
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

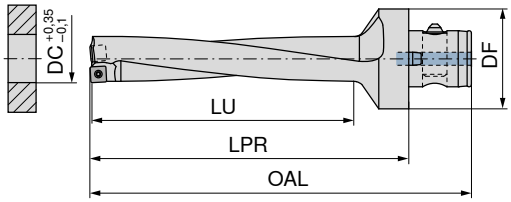
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 875 ...
KUB-P.5D.365.R.11-ABS63	U45 63650	**36.5**	63	265	185	227	2,8	2	SOGX 110408	**36596**
KUB-P.5D.370.R.11-ABS63	U45 63700	**37**	63	265	185	227	2,8	2	SOGX 110408	**37096**
KUB-P.5D.375.R.12-ABS63	U45 63750	**37.5**	63	270	190	232	6,25	2	SOGX 120408	**37596**
KUB-P.5D.380.R.12-ABS63	U45 63800	**38**	63	270	190	232	6,25	2	SOGX 120408	**38096**
KUB-P.5D.385.R.12-ABS63	U45 63850	**38.5**	63	276	195	238	6,25	2	SOGX 120408	**38596**
KUB-P.5D.390.R.12-ABS63	U45 63900	**39**	63	276	195	238	6,25	2	SOGX 120408	**39096**
KUB-P.5D.392.R.12-ABS63	U45 63920	**39.2**	63	281	200	243	6,25	2	SOGX 120408	**39296**
KUB-P.5D.395.R.12-ABS63	U45 63950	**39.5**	63	281	200	243	6,25	2	SOGX 120408	**39596**
KUB-P.5D.400.R.12-ABS63	U45 64000	**40**	63	281	200	243	6,25	2	SOGX 120408	**40096**
KUB-P.5D.405.R.12-ABS63	U45 64050	**40.5**	63	287	205	249	6,25	2	SOGX 120408	**40596**
KUB-P.5D.410.R.12-ABS63	U45 64100	**41**	63	287	205	249	6,25	2	SOGX 120408	**41096**
KUB-P.5D.415.R.12-ABS63	U45 64150	**41.5**	63	292	210	254	6,25	2	SOGX 120408	**41596**
KUB-P.5D.420.R.12-ABS63	U45 64200	**42**	63	292	210	254	6,25	2	SOGX 120408	**42096**
KUB-P.5D.425.R.13-ABS63	U45 64250	**42.5**	63	298	215	260	6,25	2	SOGX 130508	**42596**
KUB-P.5D.430.R.13-ABS63	U45 64300	**43**	63	298	215	260	6,25	2	SOGX 130508	**43096**
KUB-P.5D.435.R.13-ABS63	U45 64350	**43.5**	63	303	220	265	6,25	2	SOGX 130508	**43596**
KUB-P.5D.440.R.13-ABS63	U45 64400	**44**	63	303	220	265	6,25	2	SOGX 130508	**44096**
KUB-P.5D.445.R.13-ABS63	U45 64450	**44.5**	63	309	225	271	6,25	2	SOGX 130508	**44596**
KUB-P.5D.450.R.13-ABS63	U45 64500	**45**	63	309	225	271	6,25	2	SOGX 130508	**45096**
KUB-P.5D.455.R.13-ABS63	U45 64550	**45.5**	63	311	230	273	6,25	2	SOGX 130508	**45596**
KUB-P.5D.460.R.13-ABS63	U45 64600	**46**	63	311	230	273	6,25	2	SOGX 130508	**46096**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

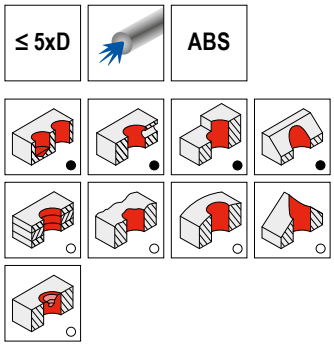

Clamping screw

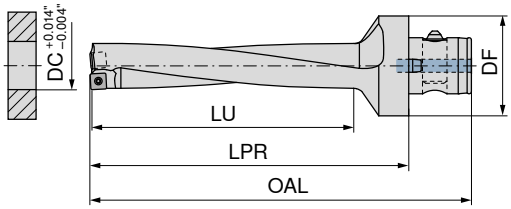
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 875 ...
KUB-P.5D.0562.R.04.ABS50-F	U45 51430	**0.562**	1.969	5.276	2.953	4.055	0,38	2	SOGX 040204	**14395**
KUB-P.5D.0593.R.04.ABS50-F	U45 51510	**0.593**	1.969	5.551	3.150	4.331	0,38	2	SOGX 040204	**15195**
KUB-P.5D.0625.R.04.ABS50-F	U45 51590	**0.625**	1.969	5.551	3.150	4.331	0,38	2	SOGX 040204	**15995**
KUB-P.5D.0656.R.05.ABS50-F	U45 51670	**0.656**	1.969	5.787	3.346	4.567	0,62	2	SOGX 050204	**16795**
KUB-P.5D.0703.R.05.ABS50-F	U45 51790	**0.703**	1.969	5.984	3.543	4.764	0,62	2	SOGX 050204	**17995**
KUB-P.5D.0750.R.06.ABS50-F	U45 51910	**0.750**	1.969	6.417	3.937	5.197	1,01	2	SOGX 060206	**19195**
KUB-P.5D.0765.R.06.ABS50-F	U45 51940	**0.765**	1.969	6.417	3.937	5.197	1,01	2	SOGX 060206	**19495**
KUB-P.5D.0781.R.06.ABS50-F	U45 51980	**0.781**	1.969	6.417	3.937	5.197	1,01	2	SOGX 060206	**19895**
KUB-P.5D.0812.R.07.ABS50-F	U45 52060	**0.812**	1.969	6.614	4.134	5.394	1,01	2	SOGX 07T208	**20695**
KUB-P.5D.0875.R.07.ABS50-F	U45 52220	**0.875**	1.969	7.008	4.528	5.787	1,01	2	SOGX 07T208	**22295**
KUB-P.5D.0937.R.08.ABS50-F	U45 52380	**0.937**	1.969	7.205	4.724	5.984	1,28	2	SOGX 080308	**23895**
KUB-P.5D.1000.R.08.ABS50-F	U45 52540	**1.000**	1.969	7.638	5.118	6.417	1,28	2	SOGX 080308	**25495**
KUB-P.5D.1031.R.09.ABS50-F	U45 52620	**1.031**	1.969	7.874	5.315	6.654	2,25	2	SOGX 09T308	**26295**
KUB-P.5D.1109.R.09.ABS50-F	U45 52820	**1.109**	1.969	8.307	5.709	7.087	2,25	2	SOGX 09T308	**28295**
KUB-P.5D.1125.R.09.ABS50-F	U45 52860	**1.125**	1.969	8.307	5.709	7.087	2,25	2	SOGX 09T308	**28695**
KUB-P.5D.1156.R.09.ABS50-F	U45 52940	**1.156**	1.969	8.504	5.906	7.283	2,25	2	SOGX 09T308	**29495**
KUB-P.5D.1187.R.10.ABS63-F	U45 63020	**1.187**	2.480	9.134	6.102	7.638	2,8	2	SOGX 100408	**30196**
KUB-P.5D.1218.R.10.ABS63-F	U45 63090	**1.218**	2.480	9.134	6.102	7.638	2,8	2	SOGX 100408	**30996**
KUB-P.5D.1250.R.10.ABS63-F	U45 63180	**1.250**	2.480	9.331	6.299	7.835	2,8	2	SOGX 100408	**31896**
KUB-P.5D.1312.R.11.ABS63-F	U45 63330	**1.312**	2.480	9.764	6.693	8.268	2,8	2	SOGX 110408	**33396**
KUB-P.5D.1328.R.11.ABS63-F	U45 63370	**1.328**	2.480	9.764	6.693	8.268	2,8	2	SOGX 110408	**33796**
KUB-P.5D.1375.R.11.ABS63-F	U45 63490	**1.375**	2.480	10.000	6.890	8.504	2,8	2	SOGX 110408	**34996**
KUB-P.5D.1469.R.12.ABS63-F	U45 63730	**1.469**	2.480	10.630	7.480	9.134	6,25	2	SOGX 120408	**37396**
KUB-P.5D.1500.R.12.ABS63-F	U45 63810	**1.500**	2.480	10.866	7.677	9.370	6,25	2	SOGX 120408	**38196**
KUB-P.5D.1562.R.12.ABS63-F	U45 63970	**1.562**	2.480	11.063	7.874	9.567	6,25	2	SOGX 120408	**39796**
KUB-P.5D.1625.R.12.ABS63-F	U45 64130	**1.625**	2.480	11.496	8.268	10.000	6,25	2	SOGX 120408	**41396**

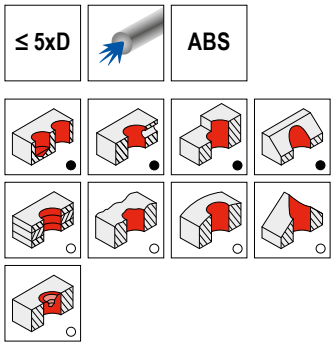
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

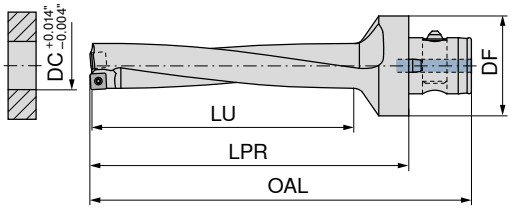
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 875 ...
KUB-P.5D.1656.R.13.ABS63-F	U45 64210	**1.656**	2.480	11.732	8.465	10.236	6,25	2	SOGX 130508	**42196**
KUB-P.5D.1687.R.13.ABS63-F	U45 64290	**1.687**	2.480	11.732	8.465	10.236	6,25	2	SOGX 130508	**42896**

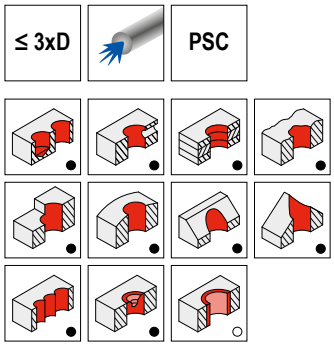
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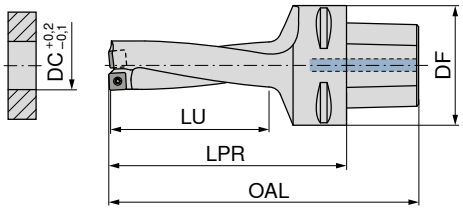
Spare parts Indexable insert		 Key AS 80 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.140.R.04-PSC40	U40 51400	**14**	40	95	42	71	0,38	2	SOGX 040204	**14054** 1)
KUB-P.3D.145.R.04-PSC40	U40 51450	**14.5**	40	99	45	75	0,38	2	SOGX 040204	**14554** 1)
KUB-P.3D.150.R.04-PSC40	U40 51500	**15**	40	99	45	75	0,38	2	SOGX 040204	**15054** 1)
KUB-P.3D.151.R.04-PSC40	U40 51510	**15.1**	40	104	48	80	0,38	2	SOGX 040204	**15154** 1)
KUB-P.3D.155.R.04-PSC40	U40 51550	**15.5**	40	104	48	80	0,38	2	SOGX 040204	**15554** 1)
KUB-P.3D.159.R.04-PSC40	U40 51590	**15.9**	40	104	48	80	0,38	2	SOGX 040204	**15954** 1)
KUB-P.3D.160.R.04-PSC40	U40 51600	**16**	40	104	48	80	0,38	2	SOGX 040204	**16054** 1)
KUB-P.3D.165.R.05-PSC40	U40 51650	**16.5**	40	108	51	84	0,62	2	SOGX 050204	**16554** 1)
KUB-P.3D.167.R.05-PSC40	U40 51670	**16.7**	40	108	51	84	0,62	2	SOGX 050204	**16754** 1)
KUB-P.3D.170.R.05-PSC40	U40 51700	**17**	40	108	51	84	0,62	2	SOGX 050204	**17054** 1)
KUB-P.3D.175.R.05-PSC40	U40 51750	**17.5**	40	111	54	87	0,62	2	SOGX 050204	**17554** 1)
KUB-P.3D.179.R.05-PSC40	U40 51790	**17.9**	40	111	54	87	0,62	2	SOGX 050204	**17954** 1)
KUB-P.3D.180.R.05-PSC40	U40 51800	**18**	40	111	54	87	0,62	2	SOGX 050204	**18054** 1)
KUB-P.3D.185.R.06-PSC40	U40 51850	**18.5**	40	115	57	91	1,01	2	SOGX 060206	**18554** 1)
KUB-P.3D.190.R.06-PSC40	U40 51900	**19**	40	115	57	91	1,01	2	SOGX 060206	**19054** 1)
KUB-P.3D.191.R.06-PSC40	U40 51910	**19.1**	40	118	60	94	1,01	2	SOGX 060206	**19154** 1)
KUB-P.3D.194.R.06-PSC40	U40 51940	**19.4**	40	118	60	94	1,01	2	SOGX 060206	**19454** 1)
KUB-P.3D.195.R.06-PSC40	U40 51950	**19.5**	40	118	60	94	1,01	2	SOGX 060206	**19554** 1)
KUB-P.3D.198.R.06-PSC40	U40 51980	**19.8**	40	118	60	94	1,01	2	SOGX 060206	**19854** 1)
KUB-P.3D.205.R.07-PSC40	U40 52050	**20.5**	40	122	63	98	1,01	2	SOGX 07T208	**20554** 1)
KUB-P.3D.210.R.07-PSC40	U40 52100	**21**	40	122	63	98	1,01	2	SOGX 07T208	**21054** 1)
KUB-P.3D.215.R.07-PSC40	U40 52150	**21.5**	40	125	66	101	1,01	2	SOGX 07T208	**21554** 1)
KUB-P.3D.216.R.07-PSC40	U40 52160	**21.6**	40	125	66	101	1,01	2	SOGX 07T208	**21654** 1)
KUB-P.3D.220.R.07-PSC40	U40 52200	**22**	40	125	66	101	1,01	2	SOGX 07T208	**22054** 1)
KUB-P.3D.222.R.07-PSC40	U40 52220	**22.2**	40	129	69	105	1,01	2	SOGX 07T208	**22254** 1)
KUB-P.3D.225.R.07-PSC40	U40 52250	**22.5**	40	129	69	105	1,01	2	SOGX 07T208	**22554** 1)
KUB-P.3D.230.R.07-PSC40	U40 52300	**23**	40	129	69	105	1,01	2	SOGX 07T208	**23054** 1)
KUB-P.3D.235.R.08-PSC40	U40 52350	**23.5**	40	132	72	108	1,28	2	SOGX 080308	**23554** 1)
KUB-P.3D.238.R.08-PSC40	U40 52380	**23.8**	40	132	72	108	1,28	2	SOGX 080308	**23854** 1)
KUB-P.3D.240.R.08-PSC40	U40 52400	**24**	40	132	72	108	1,28	2	SOGX 080308	**24054** 1)
KUB-P.3D.245.R.08-PSC40	U40 52450	**24.5**	40	136	75	112	1,28	2	SOGX 080308	**24554** 1)
KUB-P.3D.250.R.08-PSC40	U40 52500	**25**	40	136	75	112	1,28	2	SOGX 080308	**25054** 1)
KUB-P.3D.254.R.08-PSC40	U40 52540	**25.4**	40	139	78	115	1,28	2	SOGX 080308	**25454** 1)
KUB-P.3D.255.R.08-PSC40	U40 52550	**25.5**	40	139	78	115	1,28	2	SOGX 080308	**25554** 1)
KUB-P.3D.262.R.09-PSC40	U40 52620	**26.2**	40	143	81	119	2,25	2	SOGX 09T308	**26254** 1)
KUB-P.3D.265.R.09-PSC40	U40 52650	**26.5**	40	143	81	119	2,25	2	SOGX 09T308	**26554** 1)
KUB-P.3D.270.R.09-PSC40	U40 52700	**27**	40	143	81	119	2,25	2	SOGX 09T308	**27054** 1)
KUB-P.3D.275.R.09-PSC40	U40 52750	**27.5**	40	146	84	122	2,25	2	SOGX 09T308	**27554** 1)
KUB-P.3D.280.R.09-PSC40	U40 52800	**28**	40	146	84	122	2,25	2	SOGX 09T308	**28054** 1)
KUB-P.3D.282.R.09-PSC40	U40 52820	**28.2**	40	150	87	126	2,25	2	SOGX 09T308	**28254** 1)
KUB-P.3D.285.R.09-PSC40	U40 52850	**28.5**	40	150	87	126	2,25	2	SOGX 09T308	**28554** 1)

1) Not in stock

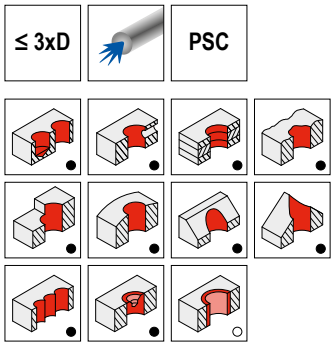
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

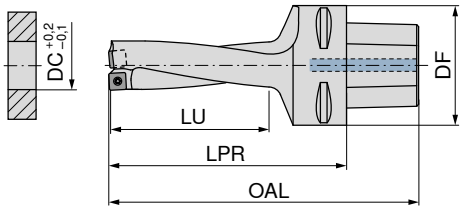
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.286.R.09-PSC40	U40 52860	**28.6**	40	150	87	126	2,25	2	SOGX 09T308	**28654** [1]
KUB-P.3D.290.R.09-PSC40	U40 52900	**29**	40	150	87	126	2,25	2	SOGX 09T308	**29054** [1]
KUB-P.3D.294.R.09-PSC40	U40 52940	**29.4**	40	153	90	129	2,25	2	SOGX 09T308	**29454** [1]
KUB-P.3D.295.R.09-PSC40	U40 52950	**29.5**	40	153	90	129	2,25	2	SOGX 09T308	**29554** [1]
KUB-P.3D.300.R.09-PSC40	U40 53000	**30**	40	153	90	129	2,25	2	SOGX 09T308	**30054** [1]
KUB-P.3D.140.R.04-PSC50	U40 61400	**14**	50	103	42	73	0,38	2	SOGX 040204	**14055**
KUB-P.3D.145.R.04-PSC50	U40 61450	**14.5**	50	107	45	77	0,38	2	SOGX 040204	**14555**
KUB-P.3D.150.R.04-PSC50	U40 61500	**15**	50	107	45	77	0,38	2	SOGX 040204	**15055**
KUB-P.3D.155.R.04-PSC50	U40 61550	**15.5**	50	112	48	82	0,38	2	SOGX 040204	**15555**
KUB-P.3D.160.R.04-PSC50	U40 61600	**16**	50	112	48	82	0,38	2	SOGX 040204	**16055**
KUB-P.3D.165.R.05-PSC50	U40 61650	**16.5**	50	116	51	86	0,62	2	SOGX 050204	**16555**
KUB-P.3D.170.R.05-PSC50	U40 61700	**17**	50	116	51	86	0,62	2	SOGX 050204	**17055**
KUB-P.3D.175.R.05-PSC50	U40 61750	**17.5**	50	119	54	89	0,62	2	SOGX 050204	**17555**
KUB-P.3D.180.R.05-PSC50	U40 61800	**18**	50	119	54	89	0,62	2	SOGX 050204	**18055**
KUB-P.3D.185.R.06-PSC50	U40 61850	**18.5**	50	123	57	93	1,01	2	SOGX 060206	**18555**
KUB-P.3D.190.R.06-PSC50	U40 61900	**19**	50	123	57	93	1,01	2	SOGX 060206	**19055**
KUB-P.3D.195.R.06-PSC50	U40 61950	**19.5**	50	126	60	96	1,01	2	SOGX 060206	**19555**
KUB-P.3D.200.R.06-PSC50	U40 62000	**20**	50	126	60	96	1,01	2	SOGX 060206	**20055**
KUB-P.3D.205.R.07-PSC50	U40 62050	**20.5**	50	130	63	100	1,01	2	SOGX 07T208	**20555**
KUB-P.3D.210.R.07-PSC50	U40 62100	**21**	50	130	63	100	1,01	2	SOGX 07T208	**21055**
KUB-P.3D.215.R.07-PSC50	U40 62150	**21.5**	50	133	66	103	1,01	2	SOGX 07T208	**21555**
KUB-P.3D.220.R.07-PSC50	U40 62200	**22**	50	133	66	103	1,01	2	SOGX 07T208	**22055**
KUB-P.3D.225.R.07-PSC50	U40 62250	**22.5**	50	137	69	107	1,01	2	SOGX 07T208	**22555**
KUB-P.3D.230.R.07-PSC50	U40 62300	**23**	50	137	69	107	1,01	2	SOGX 07T208	**23055**
KUB-P.3D.235.R.08-PSC50	U40 62350	**23.5**	50	140	72	110	1,28	2	SOGX 080308	**23555**
KUB-P.3D.240.R.08-PSC50	U40 62400	**24**	50	140	72	110	1,28	2	SOGX 080308	**24055**
KUB-P.3D.245.R.08-PSC50	U40 62450	**24.5**	50	144	75	114	1,28	2	SOGX 080308	**24555**
KUB-P.3D.250.R.08-PSC50	U40 62500	**25**	50	144	75	114	1,28	2	SOGX 080308	**25055**
KUB-P.3D.255.R.08-PSC50	U40 62550	**25.5**	50	147	78	117	1,28	2	SOGX 080308	**25555**
KUB-P.3D.260.R.08-PSC50	U40 62600	**26**	50	147	78	117	1,28	2	SOGX 080308	**26055**
KUB-P.3D.265.R.09-PSC50	U40 62650	**26.5**	50	151	81	121	2,25	2	SOGX 09T308	**26555**
KUB-P.3D.270.R.09-PSC50	U40 62700	**27**	50	151	81	121	2,25	2	SOGX 09T308	**27055**
KUB-P.3D.275.R.09-PSC50	U40 62750	**27.5**	50	154	84	124	2,25	2	SOGX 09T308	**27555**
KUB-P.3D.280.R.09-PSC50	U40 62800	**28**	50	154	84	124	2,25	2	SOGX 09T308	**28055**
KUB-P.3D.285.R.09-PSC50	U40 62850	**28.5**	50	158	87	128	2,25	2	SOGX 09T308	**28555**
KUB-P.3D.290.R.09-PSC50	U40 62900	**29**	50	158	87	128	2,25	2	SOGX 09T308	**29055**
KUB-P.3D.295.R.09-PSC50	U40 62950	**29.5**	50	161	90	131	2,25	2	SOGX 09T308	**29555**
KUB-P.3D.300.R.09-PSC50	U40 63000	**30**	50	161	90	131	2,25	2	SOGX 09T308	**30055**
KUB-P.3D.305.R.10-PSC50	U40 63050	**30.5**	50	165	93	135	2,8	2	SOGX 100408	**30555**

1) Not in stock

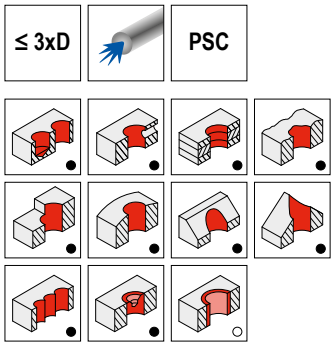
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

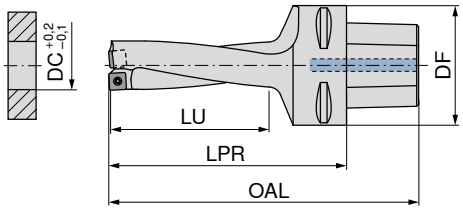
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.310.R.10-PSC50	U40 63100	**31**	50	165	93	135	2,8	2	SOGX 100408	**31055**
KUB-P.3D.315.R.10-PSC50	U40 63150	**31.5**	50	168	96	138	2,8	2	SOGX 100408	**31555**
KUB-P.3D.320.R.10-PSC50	U40 63200	**32**	50	168	96	138	2,8	2	SOGX 100408	**32055**
KUB-P.3D.325.R.10-PSC50	U40 63250	**32.5**	50	172	99	142	2,8	2	SOGX 100408	**32555**
KUB-P.3D.330.R.10-PSC50	U40 63300	**33**	50	172	99	142	2,8	2	SOGX 100408	**33055**
KUB-P.3D.335.R.11-PSC50	U40 63350	**33.5**	50	175	102	145	2,8	2	SOGX 110408	**33555**
KUB-P.3D.340.R.11-PSC50	U40 63400	**34**	50	175	102	145	2,8	2	SOGX 110408	**34055**
KUB-P.3D.345.R.11-PSC50	U40 63450	**34.5**	50	179	105	149	2,8	2	SOGX 110408	**34555**
KUB-P.3D.350.R.11-PSC50	U40 63500	**35**	50	179	105	149	2,8	2	SOGX 110408	**35055**
KUB-P.3D.355.R.11-PSC50	U40 63550	**35.5**	50	182	108	152	2,8	2	SOGX 110408	**35555**
KUB-P.3D.360.R.11-PSC50	U40 63600	**36**	50	182	108	152	2,8	2	SOGX 110408	**36055**
KUB-P.3D.365.R.11-PSC50	U40 63650	**36.5**	50	186	111	156	2,8	2	SOGX 110408	**36555**
KUB-P.3D.370.R.11-PSC50	U40 63700	**37**	50	186	111	156	2,8	2	SOGX 110408	**37055**
KUB-P.3D.160.R.04-PSC63	U40 71600	**16**	63	124	48	86	0,38	2	SOGX 040204	**16056**
KUB-P.3D.165.R.05-PSC63	U40 71650	**16.5**	63	128	51	90	0,62	2	SOGX 050204	**16556**
KUB-P.3D.170.R.05-PSC63	U40 71700	**17**	63	128	51	90	0,62	2	SOGX 050204	**17056**
KUB-P.3D.175.R.05-PSC63	U40 71750	**17.5**	63	131	54	93	0,62	2	SOGX 050204	**17556**
KUB-P.3D.180.R.05-PSC63	U40 71800	**18**	63	131	54	93	0,62	2	SOGX 050204	**18056**
KUB-P.3D.185.R.06-PSC63	U40 71850	**18.5**	63	135	57	97	1,01	2	SOGX 060206	**18556**
KUB-P.3D.190.R.06-PSC63	U40 71900	**19**	63	135	57	97	1,01	2	SOGX 060206	**19056**
KUB-P.3D.195.R.06-PSC63	U40 71950	**19.5**	63	138	60	100	1,01	2	SOGX 060206	**19556**
KUB-P.3D.200.R.06-PSC63	U40 72000	**20**	63	138	60	100	1,01	2	SOGX 060206	**20056**
KUB-P.3D.205.R.07-PSC63	U40 72050	**20.5**	63	142	63	104	1,01	2	SOGX 07T208	**20556**
KUB-P.3D.210.R.07-PSC63	U40 72100	**21**	63	142	63	104	1,01	2	SOGX 07T208	**21056**
KUB-P.3D.215.R.07-PSC63	U40 72150	**21.5**	63	145	66	107	1,01	2	SOGX 07T208	**21556**
KUB-P.3D.220.R.07-PSC63	U40 72200	**22**	63	145	66	107	1,01	2	SOGX 07T208	**22056**
KUB-P.3D.225.R.07-PSC63	U40 72250	**22.5**	63	149	69	111	1,01	2	SOGX 07T208	**22556**
KUB-P.3D.230.R.07-PSC63	U40 72300	**23**	63	149	69	111	1,01	2	SOGX 07T208	**23056**
KUB-P.3D.235.R.08-PSC63	U40 72350	**23.5**	63	152	72	114	1,28	2	SOGX 080308	**23556**
KUB-P.3D.240.R.08-PSC63	U40 72400	**24**	63	152	72	114	1,28	2	SOGX 080308	**24056**
KUB-P.3D.245.R.08-PSC63	U40 72450	**24.5**	63	156	75	118	1,28	2	SOGX 080308	**24556**
KUB-P.3D.250.R.08-PSC63	U40 72500	**25**	63	156	75	118	1,28	2	SOGX 080308	**25056**
KUB-P.3D.255.R.08-PSC63	U40 72550	**25.5**	63	159	78	121	1,28	2	SOGX 080308	**25556**
KUB-P.3D.260.R.08-PSC63	U40 72600	**26**	63	159	78	121	1,28	2	SOGX 080308	**26056**
KUB-P.3D.265.R.09-PSC63	U40 72650	**26.5**	63	163	81	125	2,25	2	SOGX 09T308	**26556**
KUB-P.3D.270.R.09-PSC63	U40 72700	**27**	63	163	81	125	2,25	2	SOGX 09T308	**27056**
KUB-P.3D.275.R.09-PSC63	U40 72750	**27.5**	63	166	84	128	2,25	2	SOGX 09T308	**27556**
KUB-P.3D.280.R.09-PSC63	U40 72800	**28**	63	166	84	128	2,25	2	SOGX 09T308	**28056**
KUB-P.3D.285.R.09-PSC63	U40 72850	**28.5**	63	170	87	132	2,25	2	SOGX 09T308	**28556**

1) Not in stock

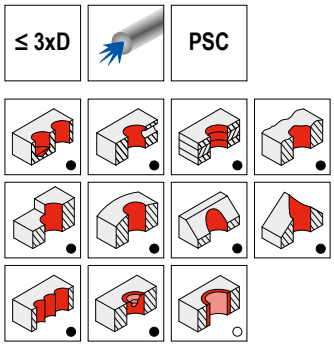
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

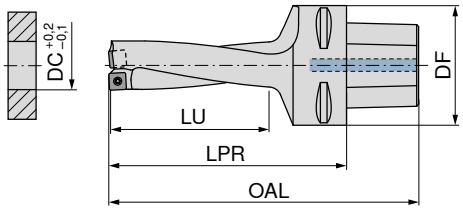
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.290.R.09-PSC63	U40 72900	**29**	63	170	87	132	2,25	2	SOGX 09T308	**29056**
KUB-P.3D.295.R.09-PSC63	U40 72950	**29.5**	63	173	90	135	2,25	2	SOGX 09T308	**29556**
KUB-P.3D.300.R.09-PSC63	U40 73000	**30**	63	173	90	135	2,25	2	SOGX 09T308	**30056**
KUB-P.3D.305.R.10-PSC63	U40 73050	**30.5**	63	177	93	139	2,8	2	SOGX 100408	**30556**
KUB-P.3D.310.R.10-PSC63	U40 73100	**31**	63	177	93	139	2,8	2	SOGX 100408	**31056**
KUB-P.3D.315.R.10-PSC63	U40 73150	**31.5**	63	180	96	142	2,8	2	SOGX 100408	**31556**
KUB-P.3D.320.R.10-PSC63	U40 73200	**32**	63	180	96	142	2,8	2	SOGX 100408	**32056**
KUB-P.3D.325.R.10-PSC63	U40 73250	**32.5**	63	184	99	146	2,8	2	SOGX 100408	**32556**
KUB-P.3D.330.R.10-PSC63	U40 73300	**33**	63	184	99	146	2,8	2	SOGX 100408	**33056**
KUB-P.3D.335.R.11-PSC63	U40 73350	**33.5**	63	187	102	149	2,8	2	SOGX 110408	**33556**
KUB-P.3D.340.R.11-PSC63	U40 73400	**34**	63	187	102	149	2,8	2	SOGX 110408	**34056**
KUB-P.3D.345.R.11-PSC63	U40 73450	**34.5**	63	191	105	153	2,8	2	SOGX 110408	**34556**
KUB-P.3D.350.R.11-PSC63	U40 73500	**35**	63	191	105	153	2,8	2	SOGX 110408	**35056**
KUB-P.3D.355.R.11-PSC63	U40 73550	**35.5**	63	194	108	156	2,8	2	SOGX 110408	**35556**
KUB-P.3D.360.R.11-PSC63	U40 73600	**36**	63	194	108	156	2,8	2	SOGX 110408	**36056**
KUB-P.3D.365.R.11-PSC63	U40 73650	**36.5**	63	198	111	160	2,8	2	SOGX 110408	**36556**
KUB-P.3D.370.R.11-PSC63	U40 73700	**37**	63	198	111	160	2,8	2	SOGX 110408	**37056**

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.





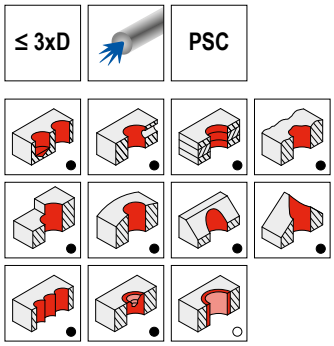


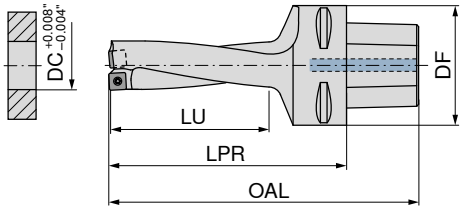
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**

Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws

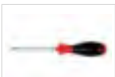






Designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 873 ...
KUB-P.3D.0875.R.07-PSC50-F	U40 62220	**0.875**	1.969	5.394	2.717	4.213	1,01	2	SOGX 07T208	**22255**
KUB-P.3D.0937.R.08-PSC50-F	U40 62380	**0.937**	1.969	5.512	2.835	4.331	1,28	2	SOGX 080308	**23855**
KUB-P.3D.1000.R.08-PSC50-F	U40 62540	**1.000**	1.969	5.787	3.071	4.606	1,28	2	SOGX 080308	**25455**
KUB-P.3D.1250.R.10-PSC50-F	U40 63180	**1.250**	1.969	6.614	3.780	5.433	2,8	2	SOGX 100408	**31855**
KUB-P.3D.1500.R.12-PSC50-F	U40 63810	**1.500**	1.969	7.598	4.606	6.417	6,25	2	SOGX 120408	**38155**
KUB-P.3D.1563.R.12-PSC50-F	U40 63970	**1.563**	1.969	7.717	4.724	6.535	6,25	2	SOGX 120408	**39755**
KUB-P.3D.0875.R.07-PSC63-F	U40 72220	**0.875**	2.480	5.866	2.717	4.370	1,01	2	SOGX 07T208	**22256**
KUB-P.3D.0937.R.08-PSC63-F	U40 72380	**0.937**	2.480	5.984	2.835	4.488	1,28	2	SOGX 080308	**23856**
KUB-P.3D.1000.R.08-PSC63-F	U40 72540	**1.000**	2.480	6.260	3.071	4.764	1,28	2	SOGX 080308	**25456**
KUB-P.3D.1500.R.10-PSC63-F	U40 73180	**1.250**	2.480	7.087	3.780	5.591	2,8	2	SOGX 100408	**31856**
KUB-P.3D.1500.R.12-PSC63-F	U40 73810	**1.500**	2.480	8.071	4.606	6.575	6,25	2	SOGX 120408	**38156**
KUB-P.3D.1563.R.12-PSC63-F	U40 73970	**1.563**	2.480	8.189	4.724	6.693	6,25	2	SOGX 120408	**39756**
KUB-P.3D.1687.R.13-PSC63-F	U40 74290	**1.687**	2.480	8.622	5.079	7.126	6,25	2	SOGX 130508	**42856**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

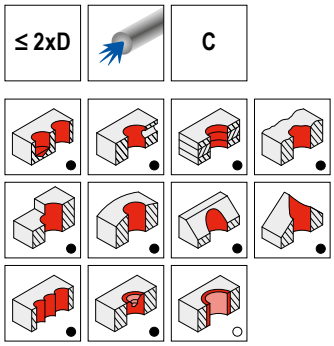

Clamping screw

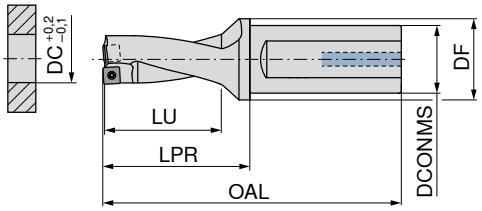
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
SOGX 07T208	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.140.R.04-C20	U42 01400	**14**	20	30	91	28	41	0,38	2	SOGX 040204	**14001**
KUB-P.2D.143.R.04-C20	U42 01430	**14.3**	20	30	94	30	44	0,38	2	SOGX 040204	**14301**
KUB-P.2D.145.R.04-C20	U42 01450	**14.5**	20	30	94	30	44	0,38	2	SOGX 040204	**14501**
KUB-P.2D.150.R.04-C20	U42 01500	**15**	20	30	94	30	44	0,38	2	SOGX 040204	**15001**
KUB-P.2D.151.R.04-C20	U42 01510	**15.1**	20	30	98	32	48	0,38	2	SOGX 040204	**15101**
KUB-P.2D.155.R.04-C20	U42 01550	**15.5**	20	30	98	32	48	0,38	2	SOGX 040204	**15501**
KUB-P.2D.159.R.04-C20	U42 01590	**15.9**	20	30	98	32	48	0,38	2	SOGX 040204	**15901**
KUB-P.2D.160.R.04-C20	U42 01600	**16**	20	30	98	32	48	0,38	2	SOGX 040204	**16001**
KUB-P.2D.165.R.05-C20	U42 01650	**16.5**	20	30	101	34	51	0,62	2	SOGX 050204	**16501**
KUB-P.2D.167.R.05-C20	U42 01670	**16.7**	20	30	101	34	51	0,62	2	SOGX 050204	**16701**
KUB-P.2D.170.R.05-C20	U42 01700	**17**	20	30	101	34	51	0,62	2	SOGX 050204	**17001**
KUB-P.2D.175.R.05-C25	U42 11750	**17.5**	25	30	109	36	53	0,62	2	SOGX 050204	**17502**
KUB-P.2D.179.R.05-C25	U42 11790	**17.9**	25	30	109	36	53	0,62	2	SOGX 050204	**17902**
KUB-P.2D.180.R.05-C25	U42 11800	**18**	25	30	109	36	53	0,62	2	SOGX 050204	**18002**
KUB-P.2D.185.R.06-C25	U42 11850	**18.5**	25	30	112	38	56	1,01	2	SOGX 060206	**18502**
KUB-P.2D.190.R.06-C25	U42 11900	**19**	25	30	112	38	56	1,01	2	SOGX 060206	**19002**
KUB-P.2D.191.R.06-C25	U42 11910	**19.1**	25	30	114	40	58	1,01	2	SOGX 060206	**19102**
KUB-P.2D.194.R.06-C25	U42 11940	**19.4**	25	30	114	40	58	1,01	2	SOGX 060206	**19402**
KUB-P.2D.195.R.06-C25	U42 11950	**19.5**	25	30	114	40	58	1,01	2	SOGX 060206	**19502**
KUB-P.2D.198.R.06-C25	U42 11980	**19.8**	25	30	114	40	58	1,01	2	SOGX 060206	**19802**
KUB-P.2D.200.R.06-C25	U42 12000	**20**	25	30	114	40	58	1,01	2	SOGX 060206	**20002**
KUB-P.2D.205.R.07-C25	U42 12050	**20.5**	25	30	117	42	61	1,01	2	SOGX 07T208	**20502**
KUB-P.2D.210.R.07-C25	U42 12100	**21**	25	30	117	42	61	1,01	2	SOGX 07T208	**21002**
KUB-P.2D.215.R.07-C25	U42 12150	**21.5**	25	30	119	44	63	1,01	2	SOGX 07T208	**21502**
KUB-P.2D.216.R.07-C25	U42 12160	**21.6**	25	30	119	44	63	1,01	2	SOGX 07T208	**21602**
KUB-P.2D.220.R.07-C25	U42 12200	**22**	25	30	119	44	63	1,01	2	SOGX 07T208	**22002**
KUB-P.2D.222.R.07-C25	U42 12220	**22.2**	25	30	122	46	66	1,01	2	SOGX 07T208	**22202**
KUB-P.2D.225.R.07-C25	U42 12250	**22.5**	25	30	122	46	66	1,01	2	SOGX 07T208	**22502**
KUB-P.2D.230.R.07-C25	U42 12300	**23**	25	30	122	46	66	1,01	2	SOGX 07T208	**23002**
KUB-P.2D.235.R.08-C32	U42 22350	**23.5**	32	39	128	48	68	1,28	2	SOGX 080308	**23503**
KUB-P.2D.238.R.08-C32	U42 22380	**23.8**	32	39	128	48	68	1,28	2	SOGX 080308	**23803**
KUB-P.2D.240.R.08-C32	U42 22400	**24**	32	39	128	48	68	1,28	2	SOGX 080308	**24003**
KUB-P.2D.245.R.08-C32	U42 22450	**24.5**	32	39	131	50	71	1,28	2	SOGX 080308	**24503**
KUB-P.2D.250.R.08-C32	U42 22500	**25**	32	39	131	50	71	1,28	2	SOGX 080308	**25003**
KUB-P.2D.254.R.08-C32	U42 22540	**25.4**	32	39	133	52	73	1,28	2	SOGX 080308	**25403**
KUB-P.2D.255.R.08-C32	U42 22550	**25.5**	32	39	133	52	73	1,28	2	SOGX 080308	**25503**
KUB-P.2D.260.R.08-C32	U42 22600	**26**	32	39	133	52	73	1,28	2	SOGX 080308	**26003**
KUB-P.2D.262.R.09-C32	U42 22620	**26.2**	32	39	136	54	76	2,25	2	SOGX 09T308	**26203**
KUB-P.2D.265.R.09-C32	U42 22650	**26.5**	32	39	136	54	76	2,25	2	SOGX 09T308	**26503**
KUB-P.2D.270.R.09-C32	U42 22700	**27**	32	39	136	54	76	2,25	2	SOGX 09T308	**27003**
KUB-P.2D.275.R.09-C32	U42 22750	**27.5**	32	39	138	56	78	2,25	2	SOGX 09T308	**27503**

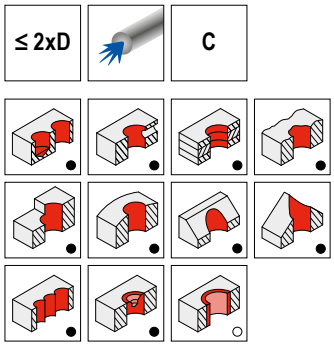
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

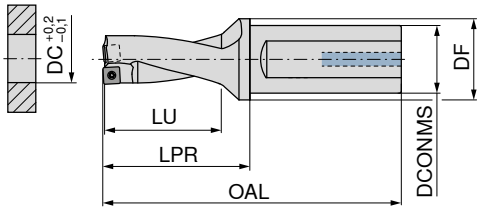
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.280.R.09-C32	U42 22800	**28**	32	39	138	56	78	2,25	2	SOGX 09T308	**28003**
KUB-P.2D.282.R.09-C32	U42 22820	**28.2**	32	39	141	58	81	2,25	2	SOGX 09T308	**28203**
KUB-P.2D.285.R.09-C32	U42 22850	**28.5**	32	39	141	58	81	2,25	2	SOGX 09T308	**28503**
KUB-P.2D.286.R.09-C32	U42 22860	**28.6**	32	39	141	58	81	2,25	2	SOGX 09T308	**28603**
KUB-P.2D.290.R.09-C32	U42 22900	**29**	32	39	141	58	81	2,25	2	SOGX 09T308	**29003**
KUB-P.2D.294.R.09-C32	U42 22940	**29.4**	32	39	143	60	83	2,25	2	SOGX 09T308	**29403**
KUB-P.2D.295.R.09-C32	U42 22950	**29.5**	32	39	143	60	83	2,25	2	SOGX 09T308	**29503**
KUB-P.2D.300.R.09-C32	U42 23000	**30**	32	39	143	60	83	2,25	2	SOGX 09T308	**30003**
KUB-P.2D.302.R.10-C32	U42 33020	**30.2**	40	50	146	62	86	2,8	2	SOGX 100408	**30204**
KUB-P.2D.305.R.10-C40	U42 33050	**30.5**	40	50	154	62	86	2,8	2	SOGX 100408	**30504**
KUB-P.2D.309.R.10-C40	U42 33090	**30.9**	40	50	146	62	86	2,8	2	SOGX 100408	**30904**
KUB-P.2D.310.R.10-C40	U42 33100	**31**	40	50	154	62	86	2,8	2	SOGX 100408	**31004**
KUB-P.2D.315.R.10-C40	U42 33150	**31.5**	40	50	156	64	88	2,8	2	SOGX 100408	**31504**
KUB-P.2D.318.R.10-C40	U42 33180	**31.8**	40	50	148	64	88	2,8	2	SOGX 100408	**31804**
KUB-P.2D.320.R.10-C40	U42 33200	**32**	40	50	156	64	88	2,8	2	SOGX 100408	**32004**
KUB-P.2D.325.R.10-C40	U42 33250	**32.5**	40	50	159	66	91	2,8	2	SOGX 100408	**32504**
KUB-P.2D.330.R.10-C40	U42 33300	**33**	40	50	159	66	91	2,8	2	SOGX 100408	**33004**
KUB-P.2D.332.R.11-C40	U42 33320	**33.2**	40	50	161	68	93	2,8	2	SOGX 110408	**33204**
KUB-P.2D.333.R.11-C40	U42 33330	**33.3**	40	50	161	68	93	2,8	2	SOGX 110408	**33304**
KUB-P.2D.335.R.11-C40	U42 33350	**33.5**	40	50	161	68	93	2,8	2	SOGX 110408	**33504**
KUB-P.2D.337.R.11-C40	U42 33370	**33.7**	40	50	161	68	93	2,8	2	SOGX 110408	**33704**
KUB-P.2D.340.R.11-C40	U42 33400	**34**	40	50	161	68	93	2,8	2	SOGX 110408	**34004**
KUB-P.2D.345.R.11-C40	U42 33450	**34.5**	40	50	164	70	96	2,8	2	SOGX 110408	**34504**
KUB-P.2D.349.R.11-C40	U42 33490	**34.9**	40	50	164	70	96	2,8	2	SOGX 110408	**34904**
KUB-P.2D.350.R.11-C40	U42 33500	**35**	40	50	164	70	96	2,8	2	SOGX 110408	**35004**
KUB-P.2D.355.R.11-C40	U42 33550	**35.5**	40	50	166	72	98	2,8	2	SOGX 110408	**35504**
KUB-P.2D.360.R.11-C40	U42 33600	**36**	40	50	166	72	98	2,8	2	SOGX 110408	**36004**
KUB-P.2D.365.R.11-C40	U42 33650	**36.5**	40	50	169	74	101	2,8	2	SOGX 110408	**36504**
KUB-P.2D.370.R.11-C40	U42 33700	**37**	40	50	169	74	101	2,8	2	SOGX 110408	**37004**
KUB-P.2D.373.R.12-C40	U42 33730	**37.3**	40	50	171	76	103	6,25	2	SOGX 120408	**37304**
KUB-P.2D.375.R.12-C40	U42 33750	**37.5**	40	50	171	76	103	6,25	2	SOGX 120408	**37504**
KUB-P.2D.380.R.12-C40	U42 33800	**38**	40	50	171	76	103	6,25	2	SOGX 120408	**38004**
KUB-P.2D.381.R.12-C40	U42 33810	**38.1**	40	50	174	78	106	6,25	2	SOGX 120408	**38104**
KUB-P.2D.385.R.12-C40	U42 33850	**38.5**	40	50	174	78	106	6,25	2	SOGX 120408	**38504**
KUB-P.2D.390.R.12-C40	U42 33900	**39**	40	50	174	78	106	6,25	2	SOGX 120408	**39004**
KUB-P.2D.392.R.12-C40	U42 33920	**39.2**	40	50	176	80	108	6,25	2	SOGX 120408	**39204**
KUB-P.2D.395.R.12-C40	U42 33950	**39.5**	40	50	176	80	108	6,25	2	SOGX 120408	**39504**
KUB-P.2D.397.R.12-C40	U42 33970	**39.7**	40	50	176	80	108	6,25	2	SOGX 120408	**39704**
KUB-P.2D.400.R.12-C40	U42 34000	**40**	40	50	176	80	108	6,25	2	SOGX 120408	**40004**
KUB-P.2D.405.R.12-C40	U42 34050	**40.5**	40	50	179	82	111	6,25	2	SOGX 120408	**40504**
KUB-P.2D.410.R.12-C40	U42 34100	**41**	40	50	179	82	111	6,25	2	SOGX 120408	**41004**
KUB-P.2D.413.R.12-C40	U42 34130	**41.3**	40	50	181	84	113	6,25	2	SOGX 120408	**41304**
KUB-P.2D.415.R.12-C40	U42 34150	**41.5**	40	50	181	84	113	6,25	2	SOGX 120408	**41504**

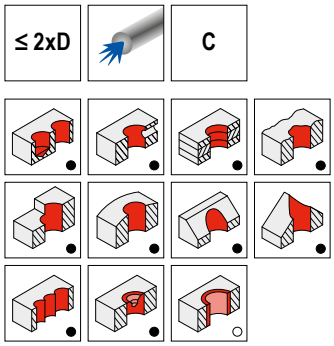
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

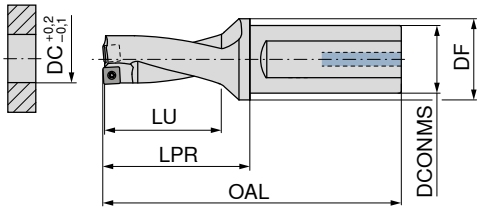
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 872 ...
KUB-P.2D.420.R.12-C40	U42 34200	**42**	40	50	181	84	113	6,25	2	SOGX 120408	**42004**
KUB-P.2D.421.R.13-C40	U42 34210	**42.1**	40	50	184	86	116	6,25	2	SOGX 130508	**42104**
KUB-P.2D.425.R.13-C40	U42 34250	**42.5**	40	50	184	86	116	6,25	2	SOGX 130508	**42504**
KUB-P.2D.429.R.13-C40	U42 34290	**42.9**	40	50	184	86	116	6,25	2	SOGX 130508	**42904**
KUB-P.2D.430.R.13-C40	U42 34300	**43**	40	50	184	86	116	6,25	2	SOGX 130508	**43004**
KUB-P.2D.435.R.13-C40	U42 34350	**43.5**	40	50	186	88	118	6,25	2	SOGX 130508	**43504**
KUB-P.2D.440.R.13-C40	U42 34400	**44**	40	50	186	88	118	6,25	2	SOGX 130508	**44004**
KUB-P.2D.445.R.13-C40	U42 34450	**44.5**	40	50	189	90	121	6,25	2	SOGX 130508	**44504**
KUB-P.2D.450.R.13-C40	U42 34500	**45**	40	50	189	90	121	6,25	2	SOGX 130508	**45004**
KUB-P.2D.455.R.13-C40	U42 34550	**45.5**	40	50	191	92	123	6,25	2	SOGX 130508	**45504**
KUB-P.2D.460.R.13-C40	U42 34600	**46**	40	50	191	92	123	6,25	2	SOGX 130508	**46004**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

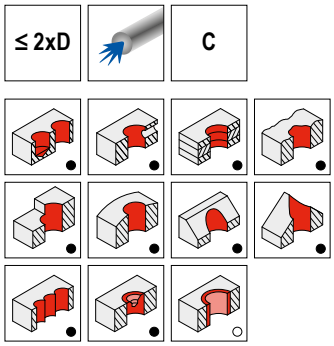

Clamping screw

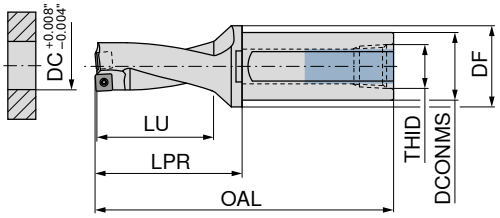
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 872 ...
KUB-P.2D.0562.R.04-C20-F	U42 81430	**0.562**	0.750	1.181	3.982	1.181	1.732	1/4" NPT	0,38	2	SOGX 040204	**14309**
KUB-P.2D.0593.R.04-C20-F	U42 81510	**0.593**	0.750	1.181	4.140	1.260	1.890	1/4" NPT	0,38	2	SOGX 040204	**15109**
KUB-P.2D.0625.R.04-C20-F	U42 81590	**0.625**	0.750	1.181	4.140	1.260	1.890	1/4" NPT	0,38	2	SOGX 040204	**15909**
KUB-P.2D.0656.R.05-C20-F	U42 81670	**0.656**	0.750	1.181	4.258	1.339	2.008	1/4" NPT	0,62	2	SOGX 050204	**16709**
KUB-P.2D.0687.R.05-C25-EF	U42 81740	**0.687**	1.000	1.181	5.337	1.417	2.087	3/8" NPT	0,62	2	SOGX 050204	**17500**
KUB-P.2D.0703.R.05-C25-EF	U42 81790	**0.703**	1.000	1.181	5.337	1.417	2.087	3/8" NPT	0,62	2	SOGX 050204	**17900**
KUB-P.2D.0718.R.06-C1000-EF	U42 81820	**0.718**	1.000	1.181	5.455	1.496	2.205	3/8" NPT	1,01	2	SOGX 060206	**18200**
KUB-P.2D.0750.R.06-C1000-EF	U42 81910	**0.750**	1.000	1.181	5.533	1.575	2.283	3/8" NPT	1,01	2	SOGX 060206	**19100**
KUB-P.2D.0765.R.06-C1000-EF	U42 81940	**0.765**	1.000	1.181	5.533	1.575	2.283	3/8" NPT	1,01	2	SOGX 060206	**19400**
KUB-P.2D.0781.R.06-C1000-EF	U42 81980	**0.781**	1.000	1.181	5.533	1.575	2.283	3/8" NPT	1,01	2	SOGX 060206	**19800**
KUB-P.2D.0812.R.07-C1000-EF	U42 82060	**0.812**	1.000	1.181	5.652	1.654	2.402	3/8" NPT	1,01	2	SOGX 07T208	**20600**
KUB-P.2D.0828.R.07-C1000-EF	U42 82100	**0.828**	1.000	1.181	5.652	1.654	2.402	3/8" NPT	1,01	2	SOGX 07T208	**21000**
KUB-P.2D.0843.R.07-C1000-EF	U42 82140	**0.843**	1.000	1.181	5.730	1.732	2.480	3/8" NPT	1,01	2	SOGX 07T208	**21400**
KUB-P.2D.0872.R.07-C1000-EF	U42 82220	**0.875**	1.000	1.181	5.848	1.811	2.598	3/8" NPT	1,01	2	SOGX 07T208	**22200**
KUB-P.2D.0906R.07-C1000-EF	U42 82300	**0.906**	1.000	1.181	5.848	1.811	2.598	3/8" NPT	1,01	2	SOGX 07T208	**23000**
KUB-P.2D.0937.R.08-C1250-EF	U42 82380	**0.937**	1.250	1.535	5.927	1.890	2.677	1/2" NPT	1,28	2	SOGX 080308	**23801**
KUB-P.2D.0969.R.08-C1250-EF	U42 82460	**0.968**	1.250	1.535	6.045	1.969	2.795	1/2" NPT	1,28	2	SOGX 080308	**24601**
KUB-P.2D.0985.R.08-C1250-EF	U42 82500	**0.985**	1.250	1.535	6.045	1.969	2.795	1/2" NPT	1,28	2	SOGX 080308	**25001**
KUB-P.2D.1000.R.08-C1250-EF	U42 82540	**1.000**	1.250	1.535	6.124	2.047	2.874	1/2" NPT	1,28	2	SOGX 080308	**25401**
KUB-P.2D.1031.R.09-C1250-EF	U42 82620	**1.031**	1.250	1.535	6.242	2.126	2.992	1/2" NPT	2,25	2	SOGX 09T308	**26201**
KUB-P.2D.1062.R.09-C1250-EF	U42 82700	**1.062**	1.250	1.535	6.242	2.126	2.992	1/2" NPT	2,25	2	SOGX 09T308	**27001**
KUB-P.2D.1109.R.09-C1250-EF	U42 82820	**1.109**	1.250	1.535	6.439	2.283	3.189	1/2" NPT	2,25	2	SOGX 09T308	**28201**
KUB-P.2D.1125.R.09-C1250-EF	U42 82860	**1.125**	1.250	1.535	6.439	2.283	3.189	1/2" NPT	2,25	2	SOGX 09T308	**28601**
KUB-P.2D.1125.R.09-C1250-EF	U42 82940	**1.156**	1.250	1.535	6.518	2.362	3.268	1/2" NPT	2,25	2	SOGX 09T308	**29401**
KUB-P.2D.1187.R.10-C1500-EF	U42 83010	**1.187**	1.500	1.969	7.136	2.441	3.386	3/4" NPT	2,8	2	SOGX 100408	**30102**
KUB-P.2D.1218.R.10-C1500-EF	U42 83090	**1.218**	1.500	1.969	7.136	2.441	3.386	3/4" NPT	2,8	2	SOGX 100408	**30902**
KUB-P.2D.1250.R.10-C1500-EF	U42 83180	**1.250**	1.500	1.969	7.215	2.520	3.465	3/4" NPT	2,8	2	SOGX 100408	**31802**
KUB-P.2D.1281.R.10-C1500-EF	U42 83250	**1.281**	1.500	1.969	7.333	2.598	3.583	3/4" NPT	2,8	2	SOGX 100408	**32502**
KUB-P.2D.1312.R.11-C1500-EF	U42 83330	**1.312**	1.500	1.969	7.411	2.677	3.661	3/4" NPT	2,8	2	SOGX 110408	**33302**
KUB-P.2D.1328.R.11-C1500-EF	U42 83370	**1.328**	1.500	1.969	7.411	2.677	3.661	3/4" NPT	2,8	2	SOGX 110408	**33702**
KUB-P.2D.1375.R.11-C1500-EF	U42 83490	**1.375**	1.500	1.969	7.530	2.756	3.780	3/4" NPT	2,8	2	SOGX 110408	**34902**
KUB-P.2D.1406.R.11-C1500-EF	U42 83570	**1.406**	1.500	1.969	7.608	2.835	3.858	3/4" NPT	2,8	2	SOGX 110408	**35702**
KUB-P.2D.1437.R.11-C1500-EF	U42 83650	**1.437**	1.500	1.969	7.726	2.913	3.976	3/4" NPT	2,8	2	SOGX 110408	**36502**
KUB-P.2D.1469.R.12-C1500-EF	U42 83730	**1.469**	1.500	1.969	7.805	2.992	4.055	3/4" NPT	6,25	2	SOGX 120408	**37302**
KUB-P.2D.1500.R.12-C1500-EF	U42 83810	**1.500**	1.500	1.969	7.923	3.071	4.173	3/4" NPT	6,25	2	SOGX 120408	**38102**
KUB-P.2D.1531.R.12-C1500-EF	U42 83890	**1.531**	1.500	1.969	7.923	3.071	4.173	3/4" NPT	6,25	2	SOGX 120408	**38902**
KUB-P.2D.1562.R.12-C1500-EF	U42 83970	**1.562**	1.500	1.969	8.002	3.150	4.252	3/4" NPT	6,25	2	SOGX 120408	**39702**
KUB-P.2D.1625.R.12-C1500-EF	U42 84130	**1.625**	1.500	1.969	8.199	3.307	4.449	3/4" NPT	6,25	2	SOGX 120408	**41302**

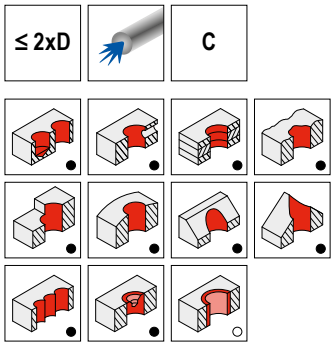
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

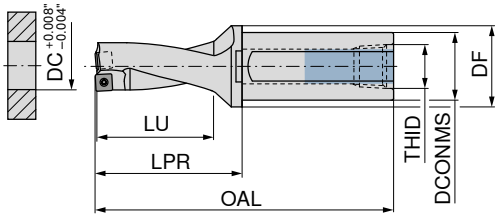
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Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 872 ...
KUB-P.2D.1656.R.13-C1500-EF	U42 84210	**1.656**	1.500	1.969	8.317	3.386	4.567	3/4" NPT	6,25	2	SOGX 130508	**42102**
KUB-P.2D.1687.R.13-C1500-EF	U42 84280	**1.687**	1.500	1.969	8.317	3.386	4.567	3/4" NPT	6,25	2	SOGX 130508	**42802**
KUB-P.2D.1750.R.13-C1500-EF	U42 84450	**1.750**	1.500	1.969	8.514	3.543	4.764	3/4" NPT	6,25	2	SOGX 130508	**44502**

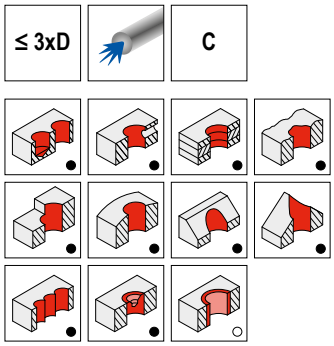
→ Find suitable indexable inserts here.
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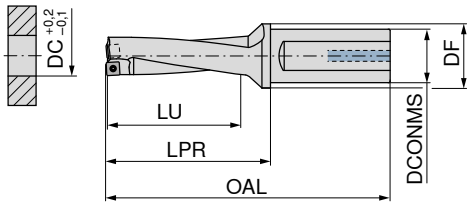
Spare parts Indexable insert		 Key AS 80 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.140.R.04-C20	U43 01400	**14**	20	30	105	42	55	0,38	2	SOGX 040204	**14001**
KUB-P.3D.143.R.04-C20	U43 01430	**14.3**	20	30	109	45	59	0,38	2	SOGX 040204	**14301**
KUB-P.3D.145.R.04-C20	U43 01450	**14.5**	20	30	109	45	59	0,38	2	SOGX 040204	**14501**
KUB-P.3D.150.R.04-C20	U43 01500	**15**	20	30	109	45	59	0,38	2	SOGX 040204	**15001**
KUB-P.3D.151.R.04-C20	U43 01510	**15.1**	20	30	114	48	64	0,38	2	SOGX 040204	**15101**
KUB-P.3D.155.R.04-C20	U43 01550	**15.5**	20	30	114	48	64	0,38	2	SOGX 040204	**15501**
KUB-P.3D.159.R.04-C20	U43 01590	**15.9**	20	30	114	48	64	0,38	2	SOGX 040204	**15901**
KUB-P.3D.160.R.04-C20	U43 01600	**16**	20	30	114	48	64	0,38	2	SOGX 040204	**16001**
KUB-P.3D.165.R.05-C20	U43 01650	**16.5**	20	30	118	51	68	0,62	2	SOGX 050204	**16501**
KUB-P.3D.167.R.05-C20	U43 01670	**16.7**	20	30	118	51	68	0,62	2	SOGX 050204	**16701**
KUB-P.3D.170.R.05-C20	U43 01700	**17**	20	30	118	51	68	0,62	2	SOGX 050204	**17001**
KUB-P.3D.175.R.05-C25	U43 11750	**17.5**	25	30	127	54	71	0,62	2	SOGX 050204	**17501**
KUB-P.3D.179.R.05-C25	U43 11790	**17.9**	25	30	127	54	71	0,62	2	SOGX 050204	**17902**
KUB-P.3D.180.R.05-C25	U43 11800	**18**	25	30	127	54	71	0,62	2	SOGX 050204	**18001**
KUB-P.3D.185.R.06-C25	U43 11850	**18.5**	25	30	131	57	75	1,01	2	SOGX 060206	**18501**
KUB-P.3D.190.R.06-C25	U43 11900	**19**	25	30	131	57	75	1,01	2	SOGX 060206	**19001**
KUB-P.3D.191.R.06-C25	U43 11910	**19.1**	25	30	134	60	78	1,01	2	SOGX 060206	**19102**
KUB-P.3D.194.R.06-C25	U43 11940	**19.4**	25	30	134	60	78	1,01	2	SOGX 060206	**19402**
KUB-P.3D.195.R.06-C25	U43 11950	**19.5**	25	30	134	60	78	1,01	2	SOGX 060206	**19501**
KUB-P.3D.198.R.06-C25	U43 11980	**19.8**	25	30	134	60	78	1,01	2	SOGX 060206	**19802**
KUB-P.3D.200.R.06-C25	U43 12000	**20**	25	30	134	60	78	1,01	2	SOGX 060206	**20001**
KUB-P.3D.205.R.07-C25	U43 12050	**20.5**	25	30	138	63	82	1,01	2	SOGX 07T208	**20501**
KUB-P.3D.210.R.07-C25	U43 12100	**21**	25	30	138	63	82	1,01	2	SOGX 07T208	**21001**
KUB-P.3D.215.R.07-C25	U43 12150	**21.5**	25	30	141	66	85	1,01	2	SOGX 07T208	**21501**
KUB-P.3D.216.R.07-C25	U43 12160	**21.6**	25	30	141	66	85	1,01	2	SOGX 07T208	**21502**
KUB-P.3D.220.R.07-C25	U43 12200	**22**	25	30	141	66	85	1,01	2	SOGX 07T208	**22002**
KUB-P.3D.220.R.07-C25	U43 12220	**22.2**	25	30	145	69	89	1,01	2	SOGX 07T208	**22202**
KUB-P.3D.225.R.07-C25	U43 12250	**22.5**	25	30	145	69	89	1,01	2	SOGX 07T208	**22502**
KUB-P.3D.230.R.07-C25	U43 12300	**23**	25	30	145	69	89	1,01	2	SOGX 07T208	**23002**
KUB-P.3D.235.R.08-C32	U43 22350	**23.5**	32	39	152	72	92	1,28	2	SOGX 080308	**23503**
KUB-P.3D.238.R.08-C32	U43 22380	**23.8**	32	39	152	72	92	1,28	2	SOGX 080308	**23803**
KUB-P.3D.240.R.08-C32	U43 22400	**24**	32	39	152	72	92	1,28	2	SOGX 080308	**24003**
KUB-P.3D.245.R.08-C32	U43 22450	**24.5**	32	39	156	75	96	1,28	2	SOGX 080308	**24503**
KUB-P.3D.250.R.08-C32	U43 22500	**25**	32	39	156	75	96	1,28	2	SOGX 080308	**25003**
KUB-P.3D.254.R.08-C32	U43 22540	**25.4**	32	39	159	78	99	1,28	2	SOGX 080308	**25403**
KUB-P.3D.255.R.08-C32	U43 22550	**25.5**	32	39	159	78	99	1,28	2	SOGX 080308	**25503**
KUB-P.3D.260.R.08-C32	U43 22600	**26**	32	39	159	78	99	1,28	2	SOGX 080308	**26003**
KUB-P.3D.262.R.09-C32	U43 22620	**26.2**	32	39	159	81	99	2,25	2	SOGX 09T308	**26203**
KUB-P.3D.265.R.09-C32	U43 22650	**26.5**	32	39	163	81	103	2,25	2	SOGX 09T308	**26503**
KUB-P.3D.270.R.09-C32	U43 22700	**27**	32	39	163	81	103	2,25	2	SOGX 09T308	**27003**
KUB-P.3D.275.R.09-C32	U43 22750	**27.5**	32	39	166	84	106	2,25	2	SOGX 09T308	**27503**

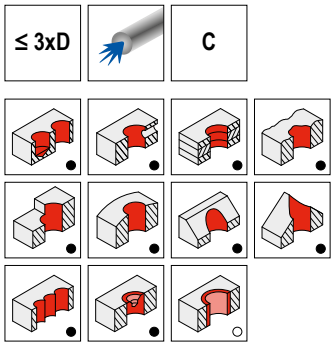
→ Find suitable indexable inserts here.
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→ You can find the recommended feed values here.

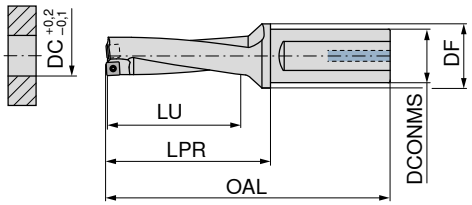
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.280.R.09-C32	U43 22800	**28**	32	39	166	84	106	2,25	2	SOGX 09T308	**28003**
KUB-P.3D.282.R.09-C32	U43 22820	**28.2**	32	39	166	87	106	2,25	2	SOGX 09T308	**28203**
KUB-P.3D.285.R.09-C32	U43 22850	**28.5**	32	39	170	87	110	2,25	2	SOGX 09T308	**28503**
KUB-P.3D.286.R.09-C32	U43 22860	**28.6**	32	39	170	87	110	2,25	2	SOGX 09T308	**28603**
KUB-P.3D.290.R.09-C32	U43 22900	**29**	32	39	170	87	110	2,25	2	SOGX 09T308	**29003**
KUB-P.3D.294.R.09-C32	U43 22940	**29.4**	32	39	170	90	110	2,25	2	SOGX 09T308	**29403**
KUB-P.3D.295.R.09-C32	U43 22950	**29.5**	32	39	173	90	113	2,25	2	SOGX 09T308	**29503**
KUB-P.3D.300.R.09-C32	U43 23000	**30**	32	39	173	90	113	2,25	2	SOGX 09T308	**30003**
KUB-P.3D.302.R.10-C40	U43 33020	**30.2**	40	50	185	93	117	2,8	2	SOGX 100408	**30204**
KUB-P.3D.305.R.10-C40	U43 33050	**30.5**	40	50	185	93	117	2,8	2	SOGX 100408	**30504**
KUB-P.3D.309.R.10-C40	U43 33090	**30.9**	40	50	185	93	117	2,8	2	SOGX 100408	**30904**
KUB-P.3D.310.R.10-C40	U43 33100	**31**	40	50	185	93	117	2,8	2	SOGX 100408	**31004**
KUB-P.3D.315.R.10-C40	U43 33150	**31.5**	40	50	188	96	120	2,8	2	SOGX 100408	**31504**
KUB-P.3D.318.R.10-C40	U43 33180	**31.8**	40	50	188	96	120	2,8	2	SOGX 100408	**31804**
KUB-P.3D.320.R.10-C40	U43 33200	**32**	40	50	188	96	120	2,8	2	SOGX 100408	**32004**
KUB-P.3D.325.R.10-C40	U43 33250	**32.5**	40	50	192	99	124	2,8	2	SOGX 100408	**32504**
KUB-P.3D.330.R.10-C40	U43 33300	**33**	40	50	192	99	124	2,8	2	SOGX 100408	**33004**
KUB-P.3D.332.R.11-C40	U43 33320	**33.2**	40	50	192	102	124	2,8	2	SOGX 110408	**33204**
KUB-P.3D.333.R.11-C40	U43 33330	**33.3**	40	50	192	102	124	2,8	2	SOGX 110408	**33304**
KUB-P.3D.335.R.11-C40	U43 33350	**33.5**	40	50	195	102	127	2,8	2	SOGX 110408	**33504**
KUB-P.3D.337.R.11-C40	U43 33370	**33.7**	40	50	195	102	127	2,8	2	SOGX 110408	**33704**
KUB-P.3D.340.R.11-C40	U43 33400	**34**	40	50	195	102	127	2,8	2	SOGX 110408	**34004**
KUB-P.3D.345.R.11-C40	U43 33450	**34.5**	40	50	199	105	131	2,8	2	SOGX 110408	**34504**
KUB-P.3D.349.R.11-C40	U43 33490	**34.9**	40	50	199	105	131	2,8	2	SOGX 110408	**34904**
KUB-P.3D.350.R.11-C40	U43 33500	**35**	40	50	199	105	131	2,8	2	SOGX 110408	**35004**
KUB-P.3D.355.R.11-C40	U43 33550	**35.5**	40	50	202	108	134	2,8	2	SOGX 110408	**35504**
KUB-P.3D.360.R.11-C40	U43 33600	**36**	40	50	202	108	134	2,8	2	SOGX 110408	**36004**
KUB-P.3D.365.R.11-C40	U43 33650	**36.5**	40	50	206	111	138	2,8	2	SOGX 110408	**36504**
KUB-P.3D.370.R.11-C40	U43 33700	**37**	40	50	206	111	138	2,8	2	SOGX 110408	**37004**
KUB-P.3D.373.R.12-C40	U43 33730	**37.3**	40	50	209	114	141	6,25	2	SOGX 120408	**37304**
KUB-P.3D.375.R.12-C40	U43 33750	**37.5**	40	50	209	114	141	6,25	2	SOGX 120408	**37504**
KUB-P.3D.380.R.12-C40	U43 33800	**38**	40	50	209	114	141	6,25	2	SOGX 120408	**38004**
KUB-P.3D.381.R.12-C40	U43 33810	**38.1**	40	50	209	114	141	6,25	2	SOGX 120408	**38104**
KUB-P.3D.385.R.12-C40	U43 33850	**38.5**	40	50	213	117	145	6,25	2	SOGX 120408	**38504**
KUB-P.3D.390.R.12-C40	U43 33900	**39**	40	50	213	117	145	6,25	2	SOGX 120408	**39004**
KUB-P.3D.392.R.12-C40	U43 33920	**39.2**	40	50	213	120	145	6,25	2	SOGX 120408	**39204**
KUB-P.3D.395.R.12-C40	U43 33950	**39.5**	40	50	216	120	148	6,25	2	SOGX 120408	**39504**
KUB-P.3D.395.R.12-C40	U43 33970	**39.7**	40	50	216	120	148	6,25	2	SOGX 120408	**39704**
KUB-P.3D.400.R.12-C40	U43 34000	**40**	40	50	216	120	148	6,25	2	SOGX 120408	**40004**
KUB-P.3D.405.R.12-C40	U43 34050	**40.5**	40	50	220	123	152	6,25	2	SOGX 120408	**40504**
KUB-P.3D.410.R.12-C40	U43 34100	**41**	40	50	220	123	152	6,25	2	SOGX 120408	**41004**
KUB-P.3D.413.R.12-C40	U43 34130	**41.3**	40	50	220	126	152	6,25	2	SOGX 120408	**41304**
KUB-P.3D.415.R.12-C40	U43 34150	**41.5**	40	50	223	126	155	6,25	2	SOGX 120408	**41504**

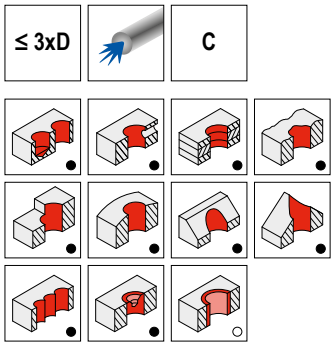
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

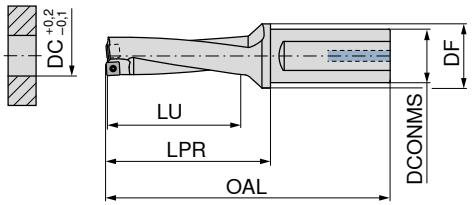
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 873 ...
KUB-P.3D.420.R.12-C40	U43 34200	**42**	40	50	223	126	155	6,25	2	SOGX 120408	**42004**
KUB-P.3D.421.R.13-C40	U43 34210	**42.1**	40	50	227	129	159	6,25	2	SOGX 130508	**42104**
KUB-P.3D.425.R.13-C40	U43 34250	**42.5**	40	50	227	129	159	6,25	2	SOGX 130508	**42504**
KUB-P.3D.429.R.13-C40	U43 34290	**42.9**	40	50	227	129	159	6,25	2	SOGX 130508	**42904**
KUB-P.3D.430.R.13-C40	U43 34300	**43**	40	50	227	129	159	6,25	2	SOGX 130508	**43004**
KUB-P.3D.435.R.13-C40	U43 34350	**43.5**	40	50	230	132	162	6,25	2	SOGX 130508	**43504**
KUB-P.3D.440.R.13-C40	U43 34400	**44**	40	50	230	132	162	6,25	2	SOGX 130508	**44004**
KUB-P.3D.445.R.13-C40	U43 34450	**44.5**	40	50	234	135	166	6,25	2	SOGX 130508	**44504**
KUB-P.3D.450.R.13-C40	U43 34500	**45**	40	50	234	135	166	6,25	2	SOGX 130508	**45004**
KUB-P.3D.455.R.13-C40	U43 34550	**45.5**	40	50	237	138	169	6,25	2	SOGX 130508	**45504**
KUB-P.3D.460.R.13-C40	U43 34600	**46**	40	50	237	138	169	6,25	2	SOGX 130508	**46004**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

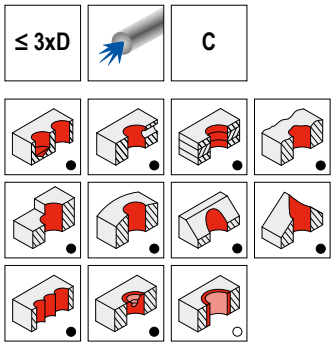

Clamping screw

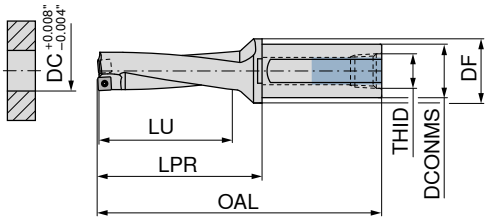
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 873 ...
KUB-P.3D.0562.R.04-C750-EF	U43 81430	**0.562**	0.750	1.181	4.573	1.772	2.323	1/4" NPT	0,38	2	SOGX 040204	**14309**
KUB-P.3D.0562.R.04-C750-EF	U43 81510	**0.593**	0.750	1.181	4.770	1.890	2.520	1/4" NPT	0,38	2	SOGX 040204	**15109**
KUB-P.3D.0562.R.04-C750-EF	U43 81590	**0.625**	0.750	1.181	4.770	1.890	2.520	1/4" NPT	0,38	2	SOGX 040204	**15909**
KUB-P.3D.0656.R.05-C750-EF	U43 81670	**0.656**	0.750	1.181	4.927	2.008	2.677	1/4" NPT	0,62	2	SOGX 050204	**16709**
KUB-P.3D.0687.R.05-C1000-EF	U43 81740	**0.687**	1.000	1.181	6.045	2.126	2.795	3/8" NPT	0,62	2	SOGX 050204	**17500**
KUB-P.3D.0687.R.05-C1000-EF	U43 81790	**0.703**	1.000	1.181	6.045	2.126	2.795	3/8" NPT	0,62	2	SOGX 050204	**17900**
KUB-P.3D.0718.R.06-C1000-EF	U43 81820	**0.718**	1.000	1.181	6.203	2.244	2.953	3/8" NPT	1,01	2	SOGX 060206	**18200**
KUB-P.3D.0750.R.06-C1000-EF	U43 81910	**0.750**	1.000	1.181	6.321	2.362	3.071	3/8" NPT	1,01	2	SOGX 060206	**19100**
KUB-P.3D.0765.R.06-C1000-EF	U43 81940	**0.765**	1.000	1.181	6.321	2.362	3.071	3/8" NPT	1,01	2	SOGX 060206	**19400**
KUB-P.3D.0781.R.06-C1000-EF	U43 81980	**0.781**	1.000	1.181	6.321	2.362	3.071	3/8" NPT	1,01	2	SOGX 060206	**19800**
KUB-P.3D.0812.R.07-C1000-EF	U43 82060	**0.812**	1.000	1.181	6.478	2.480	3.228	3/8" NPT	1,01	2	SOGX 07T208	**20600**
KUB-P.3D.0828.R.07-C1000-EF	U43 82100	**0.828**	1.000	1.181	6.478	2.480	3.228	3/8" NPT	1,01	2	SOGX 07T208	**21000**
KUB-P.3D.0843.R.07-C1000-EF	U43 82140	**0.843**	1.000	1.181	6.596	2.598	3.346	3/8" NPT	1,01	2	SOGX 07T208	**21400**
KUB-P.3D.0875.R.07-C1000-EF	U43 82220	**0.875**	1.000	1.181	6.754	2.717	3.504	3/8" NPT	1,01	2	SOGX 07T208	**22200**
KUB-P.3D.0906.R.07-C1000-EF	U43 82300	**0.906**	1.000	1.181	6.754	2.717	3.504	3/8" NPT	1,01	2	SOGX 07T208	**23000**
KUB-P.3D.0937.R.08-C1250-EF	U43 82380	**0.937**	1.250	1.535	6.872	2.835	3.622	1/2" NPT	1,28	2	SOGX 080308	**23801**
KUB-P.3D.0968.R.08-C1250-EF	U43 82460	**0.968**	1.250	1.535	7.030	2.953	3.780	1/2" NPT	1,28	2	SOGX 080308	**24601**
KUB-P.3D.0985.R.08-C1250-EF	U43 82500	**0.985**	1.250	1.535	7.030	2.953	3.780	1/2" NPT	1,28	2	SOGX 080308	**25001**
KUB-P.3D.1000.R.08-C1250-EF	U43 82540	**1.000**	1.250	1.535	7.148	3.071	3.898	1/2" NPT	1,28	2	SOGX 080308	**25401**
KUB-P.3D.1031.R.09-C1250-EF	U43 82620	**1.031**	1.250	1.535	7.305	3.189	4.055	1/2" NPT	2,25	2	SOGX 09T308	**26201**
KUB-P.3D.1062.R.09-C1250-EF	U43 82700	**1.062**	1.250	1.535	7.305	3.189	4.055	1/2" NPT	2,25	2	SOGX 09T308	**27001**
KUB-P.3D.1109.R.09-C1250-EF	U43 82820	**1.109**	1.250	1.535	7.581	3.425	4.331	1/2" NPT	2,25	2	SOGX 09T308	**28201**
KUB-P.3D.1125.R.09-C1250-EF	U43 82860	**1.125**	1.250	1.535	7.581	3.425	4.331	1/2" NPT	2,25	2	SOGX 09T308	**28601**
KUB-P.3D.1156.R.09-C1250-EF	U43 82940	**1.156**	1.250	1.535	7.699	3.543	4.449	1/2" NPT	2,25	2	SOGX 09T308	**29401**
KUB-P.3D.1187.R.10-C1500-EF	U43 83010	**1.187**	1.500	1.969	8.356	3.661	4.606	3/4" NPT	2,8	2	SOGX 100408	**30102**
KUB-P.3D.1218.R.10-C1500-EF	U43 83090	**1.218**	1.500	1.969	8.356	3.661	4.606	3/4" NPT	2,8	2	SOGX 100408	**30902**
KUB-P.3D.1250.R.10-C1500-EF	U43 83180	**1.250**	1.500	1.969	8.474	3.780	4.724	3/4" NPT	2,8	2	SOGX 100408	**31802**
KUB-P.3D.1281.R.10-C1500-EF	U43 83250	**1.281**	1.500	1.969	8.632	3.898	4.882	3/4" NPT	2,8	2	SOGX 100408	**32502**
KUB-P.3D.1312.R.11-C1500-EF	U43 83330	**1.312**	1.500	1.969	8.750	4.016	5.000	3/4" NPT	2,8	2	SOGX 110408	**33302**
KUB-P.3D.1328.R.11-C1500-EF	U43 83370	**1.328**	1.500	1.969	8.750	4.016	5.000	3/4" NPT	2,8	2	SOGX 110408	**33702**
KUB-P.3D.1375.R.11-C1500-EF	U43 83490	**1.375**	1.500	1.969	8.907	4.134	5.157	3/4" NPT	2,8	2	SOGX 110408	**34902**
KUB-P.3D.1406.R.11-C1500-EF	U43 83570	**1.406**	1.500	1.969	9.026	4.252	5.276	3/4" NPT	2,8	2	SOGX 110408	**35702**
KUB-P.3D.1437.R.11-C1500-EF	U43 83650	**1.437**	1.500	1.969	9.183	4.370	5.433	3/4" NPT	2,8	2	SOGX 110408	**36502**
KUB-P.3D.1469.R.12-C1500-EF	U43 83730	**1.469**	1.500	1.969	9.301	4.488	5.551	3/4" NPT	6,25	2	SOGX 120408	**37302**
KUB-P.3D.1500.R.12-C1500-EF	U43 83810	**1.500**	1.500	1.969	9.459	4.606	5.709	3/4" NPT	6,25	2	SOGX 120408	**38102**
KUB-P.3D.1531.R.12-C1500-EF	U43 83890	**1.531**	1.500	1.969	9.459	4.606	5.709	3/4" NPT	6,25	2	SOGX 120408	**38902**
KUB-P.3D.1562.R.12-C1500-EF	U43 83970	**1.562**	1.500	1.969	9.577	4.724	5.827	3/4" NPT	6,25	2	SOGX 120408	**39702**
KUB-P.3D.1562.R.12-C1500-EF	U43 84130	**1.625**	1.500	1.969	9.852	4.961	6.102	3/4" NPT	6,25	2	SOGX 120408	**41302**

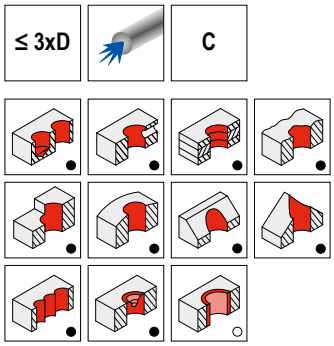
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

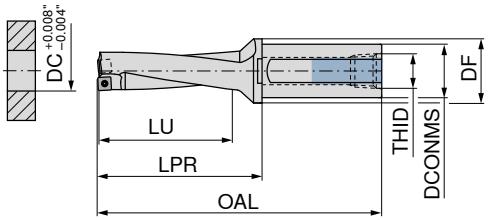
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Pentron – Indexable insert drills

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws

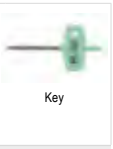


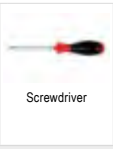




Designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 873 ...
KUB-P.3D.1656.R.13-C1500-EF	U43 84210	**1.656**	1.500	1.969	10.010	5.079	6.260	3/4" NPT	6,25	2	SOGX 130508	**42102**
KUB-P.3D.1687.R.13-C1500-EF	U43 84280	**1.687**	1.500	1.969	10.010	5.079	6.260	3/4" NPT	6,25	2	SOGX 130508	**42802**
KUB-P.3D.1687.R.13-C1500-EF	U43 84450	**1.750**	1.500	1.969	10.285	5.315	6.535	3/4" NPT	6,25	2	SOGX 130508	**44502**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

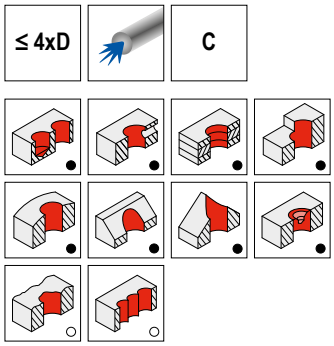

Clamping screw

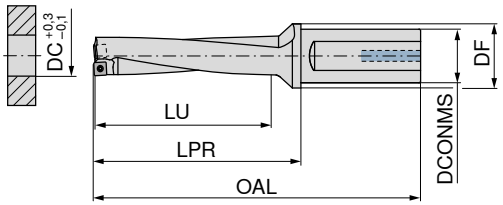
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 874 ...
KUB-P.4D.140.R.04-C20	U44 01400	**14**	20	30	119	56	69	0,38	2	SOGX 040204	**14001**
KUB-P.4D.145.R.04-C20	U44 01450	**14.5**	20	30	124	60	74	0,38	2	SOGX 040204	**14501**
KUB-P.4D.150.R.04-C20	U44 01500	**15**	20	30	124	60	74	0,38	2	SOGX 040204	**15001**
KUB-P.4D.155.R.04-C20	U44 01550	**15.5**	20	30	130	64	80	0,38	2	SOGX 040204	**15501**
KUB-P.4D.160.R.04-C20	U44 01600	**16**	20	30	130	64	80	0,38	2	SOGX 040204	**16001**
KUB-P.4D.165.R.05-C20	U44 01650	**16.5**	20	30	135	68	85	0,62	2	SOGX 050204	**16501**
KUB-P.4D.170.R.05-C20	U44 01700	**17**	20	30	135	68	85	0,62	2	SOGX 050204	**17001**
KUB-P.4D.175.R.05-C25	U44 11750	**17.5**	25	30	145	72	89	0,62	2	SOGX 050204	**17502**
KUB-P.4D.180.R.05-C25	U44 11800	**18**	25	30	145	72	89	0,62	2	SOGX 050204	**18002**
KUB-P.4D.185.R.06-C25	U44 11850	**18.5**	25	30	150	76	94	1,01	2	SOGX 060206	**18502**
KUB-P.4D.190.R.06-C25	U44 11900	**19**	25	30	150	76	94	1,01	2	SOGX 060206	**19002**
KUB-P.4D.195.R.06-C25	U44 11950	**19.5**	25	30	154	80	98	1,01	2	SOGX 060206	**19502**
KUB-P.4D.200.R.06-C25	U44 12000	**20**	25	30	154	80	98	1,01	2	SOGX 060206	**20002**
KUB-P.4D.205.R.07-C25	U44 12050	**20.5**	25	30	159	84	103	1,01	2	SOGX 07T208	**20502**
KUB-P.4D.210.R.07-C25	U44 12100	**21**	25	30	159	84	103	1,01	2	SOGX 07T208	**21002**
KUB-P.4D.215.R.07-C25	U44 12150	**21.5**	25	30	163	88	107	1,01	2	SOGX 07T208	**21502**
KUB-P.4D.220.R.07-C25	U44 12200	**22**	25	30	163	88	107	1,01	2	SOGX 07T208	**22002**
KUB-P.4D.225.R.07-C25	U44 12250	**22.5**	25	30	168	92	112	1,01	2	SOGX 07T208	**22502**
KUB-P.4D.230.R.07-C25	U44 12300	**23**	25	30	168	92	112	1,01	2	SOGX 07T208	**23002**
KUB-P.4D.235.R.08-C32	U44 22350	**23.5**	32	39	176	96	116	1,28	2	SOGX 080308	**23503**
KUB-P.4D.240.R.08-C32	U44 22400	**24**	32	39	176	96	116	1,28	2	SOGX 080308	**24003**
KUB-P.4D.245.R.08-C32	U44 22450	**24.5**	32	39	181	100	121	1,28	2	SOGX 080308	**24503**
KUB-P.4D.250.R.08-C32	U44 22500	**25**	32	39	181	100	121	1,28	2	SOGX 080308	**25003**
KUB-P.4D.255.R.08-C32	U44 22550	**25.5**	32	39	185	104	125	1,28	2	SOGX 080308	**25503**
KUB-P.4D.260.R.08-C32	U44 22600	**26**	32	39	185	104	125	1,28	2	SOGX 080308	**26003**
KUB-P.4D.265.R.09-C32	U44 22650	**26.5**	32	39	190	108	130	2,25	2	SOGX 09T308	**26503**
KUB-P.4D.270.R.09-C32	U44 22700	**27**	32	39	190	108	130	2,25	2	SOGX 09T308	**27003**
KUB-P.4D.275.R.09-C32	U44 22750	**27.5**	32	39	194	112	134	2,25	2	SOGX 09T308	**27503**
KUB-P.4D.280.R.09-C32	U44 22800	**28**	32	39	194	112	134	2,25	2	SOGX 09T308	**28003**
KUB-P.4D.285.R.09-C32	U44 22850	**28.5**	32	39	199	116	139	2,25	2	SOGX 09T308	**28503**
KUB-P.4D.290.R.09-C32	U44 22900	**29**	32	39	199	116	139	2,25	2	SOGX 09T308	**29003**
KUB-P.4D.295.R.09-C32	U44 22950	**29.5**	32	39	203	120	143	2,25	2	SOGX 09T308	**29503**
KUB-P.4D.300.R.09-C32	U44 23000	**30**	32	39	203	120	143	2,25	2	SOGX 09T308	**30003**
KUB-P.4D.305.R.10-C40	U44 33050	**30.5**	40	50	216	124	148	2,8	2	SOGX 100408	**30504**
KUB-P.4D.310.R.10-C40	U44 33100	**31**	40	50	216	124	148	2,8	2	SOGX 100408	**31004**
KUB-P.4D.315.R.10-C40	U44 33150	**31.5**	40	50	220	128	152	2,8	2	SOGX 100408	**31504**
KUB-P.4D.320.R.10-C40	U44 33200	**32**	40	50	220	128	152	2,8	2	SOGX 100408	**32004**
KUB-P.4D.325.R.10-C40	U44 33250	**32.5**	40	50	225	132	157	2,8	2	SOGX 100408	**32504**
KUB-P.4D.330.R.10-C40	U44 33300	**33**	40	50	225	132	157	2,8	2	SOGX 100408	**33004**
KUB-P.4D.332.R.11-C40	U44 33320	**33.2**	40	50	229	136	161	2,8	2	SOGX 110408	**33204**
KUB-P.4D.335.R.11-C40	U44 33350	**33.5**	40	50	229	136	161	2,8	2	SOGX 110408	**33504**
KUB-P.4D.340.R.11-C40	U44 33400	**34**	40	50	229	136	161	2,8	2	SOGX 110408	**34004**
KUB-P.4D.345.R.11-C40	U44 33450	**34.5**	40	50	234	140	166	2,8	2	SOGX 110408	**34504**
KUB-P.4D.350.R.11-C40	U44 33500	**35**	40	50	234	140	166	2,8	2	SOGX 110408	**35004**
KUB-P.4D.355.R.11-C40	U44 33550	**35.5**	40	50	238	144	170	2,8	2	SOGX 110408	**35504**
KUB-P.4D.360.R.11-C40	U44 33600	**36**	40	50	238	144	170	2,8	2	SOGX 110408	**36004**
KUB-P.4D.365.R.11-C40	U44 33650	**36.5**	40	50	243	148	175	2,8	2	SOGX 110408	**36504**

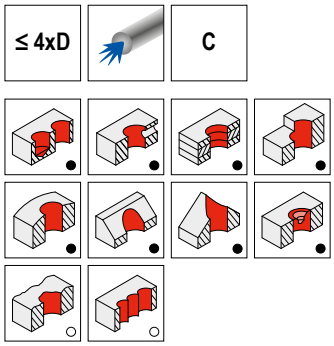
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

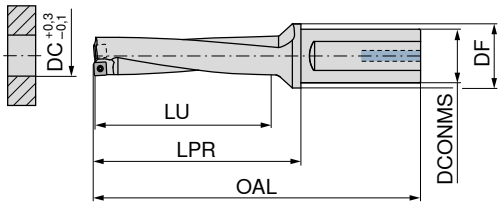
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws





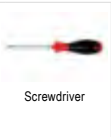


Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 874 ...
KUB-P.4D.370.R.11-C40	U44 33700	**37**	40	50	243	148	175	2,8	2	SOGX 110408	**37004**
KUB-P.4D.375.R.12-C40	U44 33750	**37.5**	40	50	247	152	179	6,25	2	SOGX 120408	**37504**
KUB-P.4D.380.R.12-C40	U44 33800	**38**	40	50	247	152	179	6,25	2	SOGX 120408	**38004**
KUB-P.4D.385.R.12-C40	U44 33850	**38.5**	40	50	252	156	184	6,25	2	SOGX 120408	**38504**
KUB-P.4D.390.R.12-C40	U44 33900	**39**	40	50	252	156	184	6,25	2	SOGX 120408	**39004**
KUB-P.4D.392.R.12-C40	U44 33920	**39.2**	40	50	256	160	188	6,25	2	SOGX 120408	**39204**
KUB-P.4D.395.R.12-C40	U44 33950	**39.5**	40	50	256	160	188	6,25	2	SOGX 120408	**39504**
KUB-P.4D.400.R.12-C40	U44 34000	**40**	40	50	256	160	188	6,25	2	SOGX 120408	**40004**
KUB-P.4D.405.R.12-C40	U44 34050	**40.5**	40	50	261	164	193	6,25	2	SOGX 120408	**40504**
KUB-P.4D.410.R.12-C40	U44 34100	**41**	40	50	261	164	193	6,25	2	SOGX 120408	**41004**
KUB-P.4D.415.R.12-C40	U44 34150	**41.5**	40	50	265	168	197	6,25	2	SOGX 120408	**41504**
KUB-P.4D.420.R.12-C40	U44 34200	**42**	40	50	265	168	197	6,25	2	SOGX 120408	**42004**
KUB-P.4D.425.R.13-C40	U44 34250	**42.5**	40	50	270	172	202	6,25	2	SOGX 130508	**42504**
KUB-P.4D.430.R.13-C40	U44 34300	**43**	40	50	270	172	202	6,25	2	SOGX 130508	**43004**
KUB-P.4D.435.R.13-C40	U44 34350	**43.5**	40	50	274	176	206	6,25	2	SOGX 130508	**43504**
KUB-P.4D.440.R.13-C40	U44 34400	**44**	40	50	274	176	206	6,25	2	SOGX 130508	**44004**
KUB-P.4D.445.R.13-C40	U44 34450	**44.5**	40	50	279	180	211	6,25	2	SOGX 130508	**44504**
KUB-P.4D.450.R.13-C40	U44 34500	**45**	40	50	279	180	211	6,25	2	SOGX 130508	**45004**
KUB-P.4D.455.R.13-C40	U44 34550	**45.5**	40	50	283	184	215	6,25	2	SOGX 130508	**45504**
KUB-P.4D.460.R.13-C40	U44 34600	**46**	40	50	283	184	215	6,25	2	SOGX 130508	**46004**



→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.





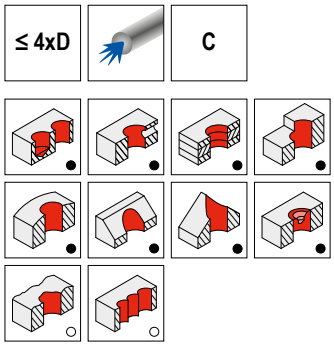


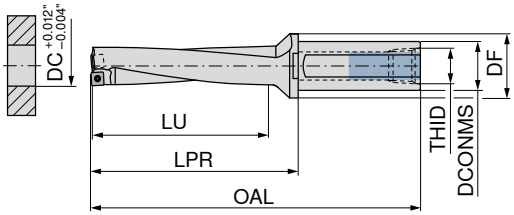
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 874 ...
KUB-P.4D.0562.R.04.C0750-EF	U44 81430	**0.562**	0.750	1.181	5.163	2.362	2.913	1/4" NPT	0,38	2	SOGX 040204	**14309**
KUB-P.4D.0593.R.04.C0750-EF	U44 81510	**0.593**	0.750	1.181	5.400	2.520	3.150	1/4" NPT	0,38	2	SOGX 040204	**15109**
KUB-P.4D.0625.R.04.C0750-EF	U44 81590	**0.625**	0.750	1.181	5.400	2.520	3.150	1/4" NPT	0,38	2	SOGX 040204	**15909**
KUB-P.4D.0656.R.05.C0750-EF	U44 81670	**0.656**	0.750	1.181	5.596	2.677	3.346	1/4" NPT	0,62	2	SOGX 050204	**16709**
KUB-P.4D.0687.R.05.C1000-E	U44 81750	**0.687**	1.000	1.181	6.754	2.835	3.504	3/8" NPT	0,62	2	SOGX 050204	**17500**
KUB-P.4D.0703.R.05.C1000-EF	U44 81790	**0.703**	1.000	1.181	6.754	2.835	3.504	3/8" NPT	0,62	2	SOGX 050204	**17900**
KUB-P.4D.0750.R.06.C1000-EF	U44 81910	**0.750**	1.000	1.181	7.108	3.150	3.858	3/8" NPT	1,01	2	SOGX 060206	**19100**
KUB-P.4D.0765.R.06.C1000-EF	U44 81940	**0.765**	1.000	1.181	7.108	3.150	3.858	3/8" NPT	1,01	2	SOGX 060206	**19400**
KUB-P.4D.0781.R.06.C1000-EF	U44 81980	**0.781**	1.000	1.181	7.108	3.150	3.858	3/8" NPT	1,01	2	SOGX 060206	**19800**
KUB-P.4D.0812.R.07.C1000-EF	U44 82060	**0.812**	1.000	1.181	7.305	3.307	4.055	3/8" NPT	1,01	2	SOGX 07T208	**20600**
KUB-P.4D.0828.R.07.C1000-E	U44 82100	**0.828**	1.000	1.181	7.305	3.307	4.055	3/8" NPT	1,01	2	SOGX 07T208	**21000**
KUB-P.4D.0843.R.07.C1000-EF	U44 82140	**0.843**	1.000	1.181	7.463	3.465	4.213	3/8" NPT	1,01	2	SOGX 07T208	**21400**
KUB-P.4D.0875.R.07.C1000-EF	U44 82220	**0.875**	1.000	1.181	7.659	3.622	4.409	3/8" NPT	1,01	2	SOGX 07T208	**22200**
KUB-P.4D.0906.R.07.C1000-E	U44 82300	**0.906**	1.000	1.181	7.659	3.622	4.409	3/8" NPT	1,01	2	SOGX 07T208	**23000**
KUB-P.4D.0937.R.08.C1250-EF	U44 82380	**0.937**	1.250	1.535	7.817	3.780	4.567	1/2" NPT	1,28	2	SOGX 080308	**23801**
KUB-P.4D.0985.R.08.C1250-E	U44 82500	**0.985**	1.250	1.535	8.014	3.937	4.764	1/2" NPT	1,28	2	SOGX 080308	**25001**
KUB-P.4D.1000.R.08.C1250-EF	U44 82540	**1.000**	1.250	1.535	8.171	4.094	4.921	1/2" NPT	1,28	2	SOGX 080308	**25401**
KUB-P.4D.1031.R.09.C1250-EF	U44 82620	**1.031**	1.250	1.535	8.368	4.252	5.118	1/2" NPT	2,25	2	SOGX 09T308	**26201**
KUB-P.4D.1062.R.09.C1250-E	U44 82700	**1.062**	1.250	1.535	8.368	4.252	5.118	1/2" NPT	2,25	2	SOGX 09T308	**27001**
KUB-P.4D.1109.R.09.C1250-EF	U44 82820	**1.109**	1.250	1.535	8.722	4.567	5.472	1/2" NPT	2,25	2	SOGX 09T308	**28201**
KUB-P.4D.1125.R.09.C1250-EF	U44 82860	**1.125**	1.250	1.535	8.722	4.567	5.472	1/2" NPT	2,25	2	SOGX 09T308	**28601**
KUB-P.4D.1156.R.09.C1250-EF	U44 82940	**1.156**	1.250	1.535	8.880	4.724	5.630	1/2" NPT	2,25	2	SOGX 09T308	**29401**
KUB-P.4D.1187.R.10.C1500-EF	U44 83020	**1.187**	1.500	1.969	9.577	4.882	5.827	3/4" NPT	2,8	2	SOGX 100408	**30102**
KUB-P.4D.1218.R.10.C1500-EF	U44 83090	**1.218**	1.500	1.969	9.577	4.882	5.827	3/4" NPT	2,8	2	SOGX 100408	**30902**
KUB-P.4D.1250.R.10.C1500-EF	U44 83180	**1.250**	1.500	1.969	9.734	5.039	5.984	3/4" NPT	2,8	2	SOGX 100408	**31802**
KUB-P.4D.1281.R.10.C1500-E	U44 83250	**1.281**	1.500	1.969	9.931	5.197	6.181	3/4" NPT	2,8	2	SOGX 100408	**32502**
KUB-P.4D.1312.R.11.C1500-EF	U44 83330	**1.312**	1.500	1.969	10.089	5.354	6.339	3/4" NPT	2,8	2	SOGX 110408	**33302**
KUB-P.4D.1328.R.11.C1500-EF	U44 83370	**1.328**	1.500	1.969	10.089	5.354	6.339	3/4" NPT	2,8	2	SOGX 110408	**33702**
KUB-P.4D.1375.R.11.C1500-EF	U44 83490	**1.375**	1.500	1.969	10.285	5.512	6.535	3/4" NPT	2,8	2	SOGX 110408	**34902**
KUB-P.4D.1437.R.11.C1500-E	U44 83650	**1.437**	1.500	1.969	10.640	5.827	6.890	3/4" NPT	2,8	2	SOGX 110408	**36502**
KUB-P.4D.1469.R.12.C1500-EF	U44 83730	**1.469**	1.500	1.969	10.797	5.984	7.047	3/4" NPT	6,25	2	SOGX 120408	**37302**
KUB-P.4D.1500.R.12.C1500-EF	U44 83810	**1.500**	1.500	1.969	10.994	6.142	7.244	3/4" NPT	6,25	2	SOGX 120408	**38102**
KUB-P.4D.1531.R.12.C1500-EF	U44 83890	**1.531**	1.500	1.969	10.994	6.142	7.244	3/4" NPT	6,25	2	SOGX 120408	**38902**
KUB-P.4D.1562.R.12.C1500-EF	U44 83970	**1.562**	1.500	1.969	11.152	6.299	7.402	3/4" NPT	6,25	2	SOGX 120408	**39702**
KUB-P.4D.1625.R.12.C1500-EF	U44 84130	**1.625**	1.500	1.969	11.506	6.614	7.756	3/4" NPT	6,25	2	SOGX 120408	**41302**

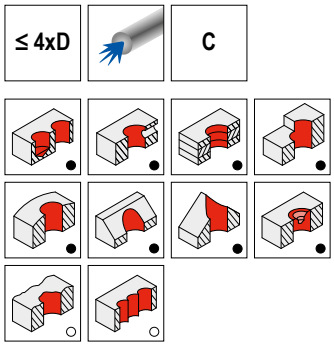
→ Find suitable indexable inserts here.
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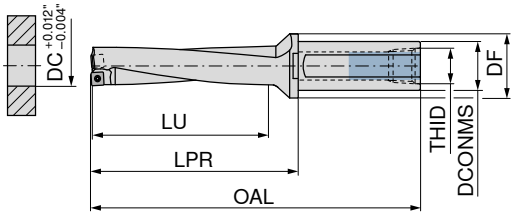
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 874 ...
KUB-P.4D.1656.R.13.C1500-EF	U44 84210	**1.656**	1.500	1.969	11.703	6.772	7.953	3/4" NPT	6,25	2	SOGX 130508	**42102**
KUB-P.4D.1687.R.13.C1500-EF	U44 84290	**1.687**	1.500	1.969	11.703	6.772	7.953	3/4" NPT	6,25	2	SOGX 130508	**42802**
KUB-P.4D.1750.R.13.C1500-EF	U44 84450	**1.750**	1.500	1.969	12.057	7.087	8.307	3/4" NPT	6,25	2	SOGX 130508	**44502**

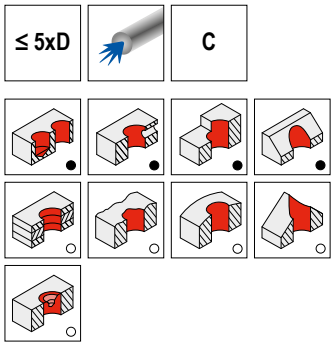
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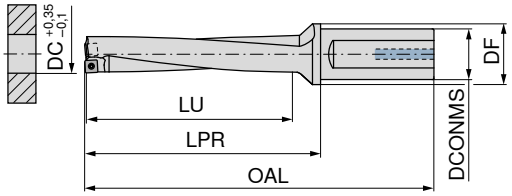
Spare parts Indexable insert		 Key AS 80 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 875 ...
KUB-P.5D.140.R.04-C20	U45 01400	**14**	20	30	133	70	83	0,38	2	SOGX 040204	**14001**
KUB-P.5D.145.R.04-C20	U45 01450	**14.5**	20	30	139	75	89	0,38	2	SOGX 040204	**14501**
KUB-P.5D.150.R.04-C20	U45 01500	**15**	20	30	139	75	89	0,38	2	SOGX 040204	**15001**
KUB-P.5D.155.R.04-C20	U45 01550	**15.5**	20	30	146	80	96	0,38	2	SOGX 040204	**15501**
KUB-P.5D.160.R.04-C20	U45 01600	**16**	20	30	146	80	96	0,38	2	SOGX 040204	**16001**
KUB-P.5D.165.R.05-C20	U45 01650	**16.5**	20	30	152	85	102	0,62	2	SOGX 050204	**16501**
KUB-P.5D.170.R.05-C20	U45 01700	**17**	20	30	152	85	102	0,62	2	SOGX 050204	**17001**
KUB-P.5D.175.R.05-C25	U45 11750	**17.5**	25	30	163	90	107	0,62	2	SOGX 050204	**17502**
KUB-P.5D.180.R.05-C25	U45 11800	**18**	25	30	163	90	107	0,62	2	SOGX 050204	**18002**
KUB-P.5D.185.R.06-C25	U45 11850	**18.5**	25	30	169	95	113	1,01	2	SOGX 060206	**18502**
KUB-P.5D.190.R.06-C25	U45 11900	**19**	25	30	169	95	113	1,01	2	SOGX 060206	**19002**
KUB-P.5D.195.R.06-C25	U45 11950	**19.5**	25	30	174	100	118	1,01	2	SOGX 060206	**19502**
KUB-P.5D.200.R.06-C25	U45 12000	**20**	25	30	174	100	118	1,01	2	SOGX 060206	**20002**
KUB-P.5D.205.R.07-C25	U45 12050	**20.5**	25	30	180	105	124	1,01	2	SOGX 07T208	**20502**
KUB-P.5D.210.R.07-C25	U45 12100	**21**	25	30	180	105	124	1,01	2	SOGX 07T208	**21002**
KUB-P.5D.215.R.07-C25	U45 12150	**21.5**	25	30	185	110	129	1,01	2	SOGX 07T208	**21502**
KUB-P.5D.220.R.07-C25	U45 12200	**22**	25	30	185	110	129	1,01	2	SOGX 07T208	**22002**
KUB-P.5D.225.R.07-C25	U45 12250	**22.5**	25	30	191	115	135	1,01	2	SOGX 07T208	**22502**
KUB-P.5D.230.R.07-C25	U45 12300	**23**	25	30	191	115	135	1,01	2	SOGX 07T208	**23002**
KUB-P.5D.235.R.08-C32	U45 22350	**23.5**	32	39	200	120	140	1,28	2	SOGX 080308	**23503**
KUB-P.5D.240.R.08-C32	U45 22400	**24**	32	39	200	120	140	1,28	2	SOGX 080308	**24003**
KUB-P.5D.245.R.08-C32	U45 22450	**24.5**	32	39	206	125	146	1,28	2	SOGX 080308	**24503**
KUB-P.5D.250.R.08-C32	U45 22500	**25**	32	39	206	125	146	1,28	2	SOGX 080308	**25003**
KUB-P.5D.255.R.08-C32	U45 22550	**25.5**	32	39	211	130	151	1,28	2	SOGX 080308	**25503**
KUB-P.5D.260.R.08-C32	U45 22600	**26**	32	39	211	130	151	1,28	2	SOGX 080308	**26003**
KUB-P.5D.265.R.09-C32	U45 22650	**26.5**	32	39	217	135	157	2,25	2	SOGX 09T308	**26503**
KUB-P.5D.270.R.09-C32	U45 22700	**27**	32	39	217	135	157	2,25	2	SOGX 09T308	**27003**
KUB-P.5D.275.R.09-C32	U45 22750	**27.5**	32	39	222	140	162	2,25	2	SOGX 09T308	**27503**
KUB-P.5D.280.R.09-C32	U45 22800	**28**	32	39	222	140	162	2,25	2	SOGX 09T308	**28003**
KUB-P.5D.285.R.09-C32	U45 22850	**28.5**	32	39	228	145	168	2,25	2	SOGX 09T308	**28503**
KUB-P.5D.290.R.09-C32	U45 22900	**29**	32	39	228	145	168	2,25	2	SOGX 09T308	**29003**
KUB-P.5D.295.R.09-C32	U45 22950	**29.5**	32	39	233	150	173	2,25	2	SOGX 09T308	**29503**
KUB-P.5D.300.R.09-C32	U45 23000	**30**	32	39	233	150	173	2,25	2	SOGX 09T308	**30003**
KUB-P.5D.305.R.10-C40	U45 33050	**30.5**	40	50	247	155	179	2,8	2	SOGX 100408	**30504**
KUB-P.5D.310.R.10-C40	U45 33100	**31**	40	50	247	155	179	2,8	2	SOGX 100408	**31004**
KUB-P.5D.315.R.10-C40	U45 33150	**31.5**	40	50	252	160	184	2,8	2	SOGX 100408	**31504**
KUB-P.5D.320.R.10-C40	U45 33200	**32**	40	50	252	160	184	2,8	2	SOGX 100408	**32004**
KUB-P.5D.325.R.10-C40	U45 33250	**32.5**	40	50	258	165	190	2,8	2	SOGX 100408	**32504**
KUB-P.5D.330.R.10-C40	U45 33300	**33**	40	50	258	165	190	2,8	2	SOGX 100408	**33004**
KUB-P.5D.332.R.11-C40	U45 33320	**33.2**	40	50	263	170	195	2,8	2	SOGX 110408	**33204**
KUB-P.5D.335.R.11-C40	U45 33350	**33.5**	40	50	263	170	195	2,8	2	SOGX 110408	**33504**
KUB-P.5D.340.R.11-C40	U45 33400	**34**	40	50	263	170	195	2,8	2	SOGX 110408	**34004**
KUB-P.5D.345.R.11-C40	U45 33450	**34.5**	40	50	269	175	201	2,8	2	SOGX 110408	**34504**
KUB-P.5D.350.R.11-C40	U45 33500	**35**	40	50	269	175	201	2,8	2	SOGX 110408	**35004**
KUB-P.5D.355.R.11-C40	U45 33550	**35.5**	40	50	274	180	206	2,8	2	SOGX 110408	**35504**
KUB-P.5D.360.R.11-C40	U45 33600	**36**	40	50	274	180	206	2,8	2	SOGX 110408	**36004**
KUB-P.5D.365.R.11-C40	U45 33650	**36.5**	40	50	280	185	212	2,8	2	SOGX 110408	**36504**

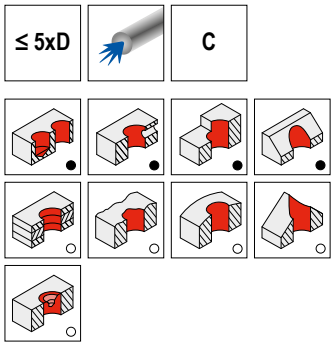
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

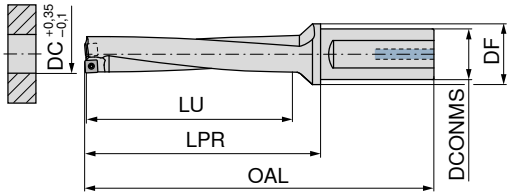
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 875 ...
KUB-P.5D.370.R.11-C40	U45 33700	**37**	40	50	280	185	212	2,8	2	SOGX 110408	**37004**
KUB-P.5D.375.R.12-C40	U45 33750	**37.5**	40	50	285	190	217	6,25	2	SOGX 120408	**37504**
KUB-P.5D.380.R.12-C40	U45 33800	**38**	40	50	285	190	217	6,25	2	SOGX 120408	**38004**
KUB-P.5D.385.R.12-C40	U45 33850	**38.5**	40	50	291	195	223	6,25	2	SOGX 120408	**38504**
KUB-P.5D.390.R.12-C40	U45 33900	**39**	40	50	291	195	223	6,25	2	SOGX 120408	**39004**
KUB-P.5D.392.R.12-C40	U45 33920	**39.2**	40	50	296	200	228	6,25	2	SOGX 120408	**39204**
KUB-P.5D.395.R.12-C40	U45 33950	**39.5**	40	50	296	200	228	6,25	2	SOGX 120408	**39504**
KUB-P.5D.400.R.12-C40	U45 34000	**40**	40	50	296	200	228	6,25	2	SOGX 120408	**40004**
KUB-P.5D.405.R.12-C40	U45 34050	**40.5**	40	50	302	205	234	6,25	2	SOGX 120408	**40504**
KUB-P.5D.410.R.12-C40	U45 34100	**41**	40	50	302	205	234	6,25	2	SOGX 120408	**41004**
KUB-P.5D.415.R.12-C40	U45 34150	**41.5**	40	50	307	210	239	6,25	2	SOGX 120408	**41504**
KUB-P.5D.420.R.12-C40	U45 34200	**42**	40	50	307	210	239	6,25	2	SOGX 120408	**42004**
KUB-P.5D.425.R.13-C40	U45 34250	**42.5**	40	50	313	215	245	6,25	2	SOGX 130508	**42504**
KUB-P.5D.430.R.13-C40	U45 34300	**43**	40	50	313	215	245	6,25	2	SOGX 130508	**43004**
KUB-P.5D.435.R.13-C40	U45 34350	**43.5**	40	50	318	220	250	6,25	2	SOGX 130508	**43504**
KUB-P.5D.440.R.13-C40	U45 34400	**44**	40	50	318	220	250	6,25	2	SOGX 130508	**44004**
KUB-P.5D.445.R.13-C40	U45 34450	**44.5**	40	50	324	225	256	6,25	2	SOGX 130508	**44504**
KUB-P.5D.450.R.13-C40	U45 34500	**45**	40	50	324	225	256	6,25	2	SOGX 130508	**45004**
KUB-P.5D.455.R.13-C40	U45 34550	**45.5**	40	50	329	230	261	6,25	2	SOGX 130508	**45504**
KUB-P.5D.460.R.13-C40	U45 34600	**46**	40	50	329	230	261	6,25	2	SOGX 130508	**46004**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Key


Screwdriver

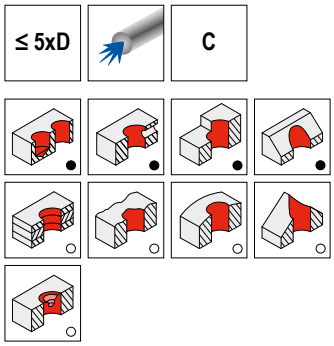

Clamping screw

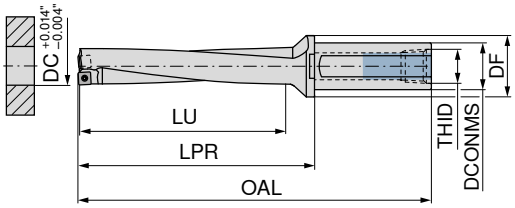
Spare parts Indexable insert		AS 80 950 ...		AS 80 950 ...		AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 875 ...
KUB-P.5D.0562.R.04.C0750-EF	U45 81430	0.562	0.750	1.181	5.754	2.953	3.504	1/4" NPT	0,38	2	SOGX 040204	14309
KUB-P.5D.0593.R.04.C0750-EF	U45 81510	0.593	0.750	1.181	6.030	3.150	3.780	1/4" NPT	0,38	2	SOGX 040204	15109
KUB-P.5D.0625.R.04.C0750-EF	U45 81590	0.625	0.750	1.181	6.030	3.150	3.780	1/4" NPT	0,38	2	SOGX 040204	15909
KUB-P.5D.0656.R.05.C0750-EF	U45 81670	0.656	0.750	1.181	6.266	3.346	4.016	1/4" NPT	0,62	2	SOGX 050204	16709
KUB-P.5D.0687.R.05.C1000-E	U45 81750	0.687	1.000	1.181	7.463	3.543	4.213	3/8" NPT	0,62	2	SOGX 050204	17500
KUB-P.5D.0703.R.05.C1000-EF	U45 81790	0.703	1.000	1.181	7.463	3.543	4.213	3/8" NPT	0,62	2	SOGX 050204	17900
KUB-P.5D.0750.R.06.C1000-EF	U45 81910	0.750	1.000	1.181	7.896	3.937	4.646	3/8" NPT	1,01	2	SOGX 060206	19100
KUB-P.5D.0765.R.06.C1000-EF	U45 81940	0.765	1.000	1.181	7.896	3.937	4.646	3/8" NPT	1,01	2	SOGX 060206	19400
KUB-P.5D.0781.R.06.C1000-EF	U45 81980	0.781	1.000	1.181	7.896	3.937	4.646	3/8" NPT	1,01	2	SOGX 060206	19800
KUB-P.5D.0812.R.07.C1000-EF	U45 82060	0.812	1.000	1.181	8.132	4.134	4.882	3/8" NPT	1,01	2	SOGX 07T208	20600
KUB-P.5D.0828.R.07.C1000-E	U45 82100	0.828	1.000	1.181	8.132	4.134	4.882	3/8" NPT	1,01	2	SOGX 07T208	21000
KUB-P.5D.0843.R.07.C1000-EF	U45 82140	0.843	1.000	1.181	8.329	4.331	5.079	3/8" NPT	1,01	2	SOGX 07T208	21400
KUB-P.5D.0875.R.07.C1000-EF	U45 82220	0.875	1.000	1.181	8.565	4.528	5.315	3/8" NPT	1,01	2	SOGX 07T208	22200
KUB-P.5D.0906.R.07.C1000-E	U45 82300	0.906	1.000	1.181	8.565	4.528	5.315	3/8" NPT	1,01	2	SOGX 07T208	23000
KUB-P.5D.0937.R.08.C1250-EF	U45 82380	0.937	1.250	1.535	8.762	4.724	5.512	1/2" NPT	1,28	2	SOGX 080308	23801
KUB-P.5D.0985.R.08.C1250-E	U45 82500	0.985	1.250	1.535	8.998	4.921	5.748	1/2" NPT	1,28	2	SOGX 080308	25001
KUB-P.5D.1000.R.08.C1250-EF	U45 82540	1.000	1.250	1.535	9.195	5.118	5.945	1/2" NPT	1,28	2	SOGX 080308	25401
KUB-P.5D.1031.R.09.C1250-EF	U45 82620	1.031	1.250	1.535	9.431	5.315	6.181	1/2" NPT	2,25	2	SOGX 09T308	26201
KUB-P.5D.1062.R.09.C1250-E	U45 82700	1.062	1.250	1.535	9.431	5.315	6.181	1/2" NPT	2,25	2	SOGX 09T308	27001
KUB-P.5D.1109.R.09.C1250-EF	U45 82820	1.109	1.250	1.535	9.864	5.709	6.614	1/2" NPT	2,25	2	SOGX 09T308	28201
KUB-P.5D.1125.R.09.C1250-EF	U45 82860	1.125	1.250	1.535	9.864	5.709	6.614	1/2" NPT	2,25	2	SOGX 09T308	28601
KUB-P.5D.1156.R.09.C1250-EF	U45 82940	1.156	1.250	1.535	10.061	5.906	6.811	1/2" NPT	2,25	2	SOGX 09T308	29401
KUB-P.5D.1187.R.10.C1500-EF	U45 83020	1.187	1.500	1.969	10.797	6.102	7.047	3/4" NPT	2,8	2	SOGX 100408	30102
KUB-P.5D.1218.R.10.C1500-EF	U45 83090	1.218	1.500	1.969	10.797	6.102	7.047	3/4" NPT	2,8	2	SOGX 100408	30902
KUB-P.5D.1250.R.10.C1500-EF	U45 83180	1.250	1.500	1.969	10.994	6.299	7.244	3/4" NPT	2,8	2	SOGX 100408	31802
KUB-P.5D.1281.R.10.C1500-E	U45 83250	1.281	1.500	1.969	11.230	6.496	7.480	3/4" NPT	2,8	2	SOGX 100408	32502
KUB-P.5D.1312.R.11.C1500-EF	U45 83330	1.312	1.500	1.969	11.427	6.693	7.677	3/4" NPT	2,8	2	SOGX 110408	33302
KUB-P.5D.1328.R.11.C1500-EF	U45 83370	1.328	1.500	1.969	11.427	6.693	7.677	3/4" NPT	2,8	2	SOGX 110408	33702
KUB-P.5D.1375.R.11.C1500-EF	U45 83490	1.375	1.500	1.969	11.663	6.890	7.913	3/4" NPT	2,8	2	SOGX 110408	34902
KUB-P.5D.1437.R.11.C1500-E	U45 83650	1.437	1.500	1.969	12.097	7.283	8.346	3/4" NPT	6,25	2	SOGX 110408	36502
KUB-P.5D.1469.R.12.C1500-EF	U45 83730	1.469	1.500	1.969	12.293	7.480	8.543	3/4" NPT	6,25	2	SOGX 120408	37302
KUB-P.5D.1500.R.12.C1500-EF	U45 83810	1.500	1.500	1.969	12.530	7.677	8.780	3/4" NPT	6,25	2	SOGX 120408	38102
KUB-P.5D.1531.R.12.C1500-EF	U45 83890	1.531	1.500	1.969	12.530	7.677	8.780	3/4" NPT	6,25	2	SOGX 120408	38902
KUB-P.5D.1562.R.12.C1500-EF	U45 83970	1.562	1.500	1.969	12.726	7.874	8.976	3/4" NPT	6,25	2	SOGX 120408	39702
KUB-P.5D.1625.R.12.C1500-EF	U45 84130	1.625	1.500	1.969	13.159	8.268	9.409	3/4" NPT	6,25	2	SOGX 120408	41302

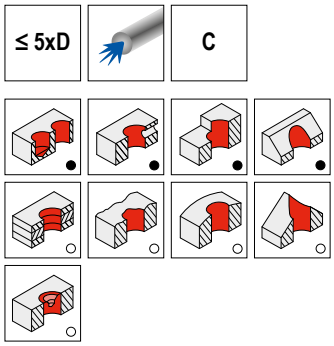
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

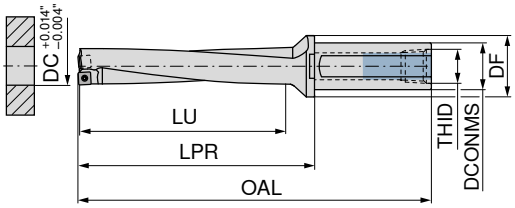
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Pentron – Indexable drill

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws

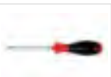






ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 875 ...
KUB-P.5D.1656.R.13.C1500-EF	U45 84210	**1.656**	1.500	1.969	13.396	8.465	9.646	3/4" NPT	6,25	2	SOGX 130508	**42102**
KUB-P.5D.1687.R.13.C1500-EF	U45 84290	**1.687**	1.500	1.969	13.396	8.465	9.646	3/4" NPT	6,25	2	SOGX 130508	**42802**
KUB-P.5D.1750.R.13.C1500-EF	U45 84450	**1.750**	1.500	1.969	13.829	8.858	10.079	3/4" NPT	6,25	2	SOGX 130508	**44502**

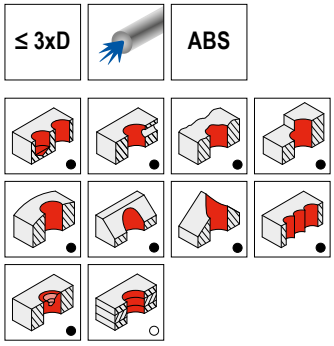
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

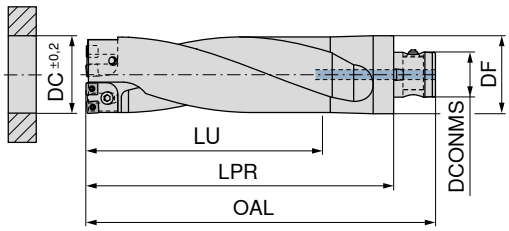
Spare parts Indexable insert		 Key AS 80 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
SOGX 040204	T05 - IP	**057**			M1,8x3,8 - 05IP	**10100**
SOGX 050204			T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
SOGX 060206			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 07T208			T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
SOGX 080308			T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 09T308			T08 - IP	**039**	M3,0x7,6 - 08IP	**10200**
SOGX 100408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408			T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408			T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508			T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill – CS

▲ SZID = nominal size
▲ Tightening torque refers to the fixing screws of the cartridge

Scope of supply:
Cartridge drill incl. fixing screws
Please order cartridges and indexable inserts separately







Designation	Product Reference No.	DC mm	DF mm	OAL mm	DCONMS mm	LU mm	LPR mm	SZID	Tightening torque Nm	TO 10 876 ...
KUB-P.GH-CS.1.3D.64-66.ABS80	U60 46400	**64 - 66**	80	314	46	198	271	**1**	17,3	**64092**
KUB-P.GH-CS.1.3D.67-69.ABS80	U60 46700	**67 - 69**	80	323	46	207	280	**1**	17,3	**67092**
KUB-P.GH-CS.2.3D.70-72.ABS80	U60 47000	**70 - 72**	80	332	46	216	289	**2**	17,3	**70092**
KUB-P.GH-CS.2.3D.73-75.ABS80	U60 47300	**73 - 75**	80	341	46	225	298	**2**	17,3	**73092**
KUB-P.GH-CS.3.3D.76-78.ABS80	U60 47600	**76 - 78**	80	350	46	234	307	**3**	42	**76092**
KUB-P.GH-CS.3.3D.79-81.ABS80	U60 47900	**79 - 81**	80	359	46	243	316	**3**	42	**79092**
KUB-P.GH-CS.3.3D.82-84.ABS80	U60 48200	**82 - 84**	80	368	46	252	325	**3**	42	**82092**
KUB-P.GH-CS.4.3D.85-87.ABS100	U60 58500	**85 - 87**	100	397	56	261	342	**4**	42	**85091**
KUB-P.GH-CS.4.3D.88-90.ABS100	U60 58800	**88 - 90**	100	406	56	270	351	**4**	42	**88091**
KUB-P.GH-CS.4.3D.91-93.ABS100	U60 59100	**91 - 93**	100	415	56	279	360	**4**	42	**91091**
KUB-P.GH-CS.5.3D.94-96.ABS100	U60 59400	**94 - 96**	100	424	56	288	369	**5**	42	**94091**

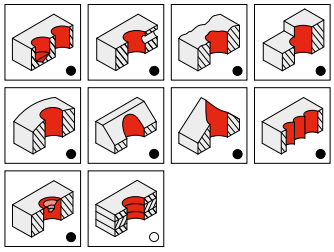
→ You can find the recommended feed values here.

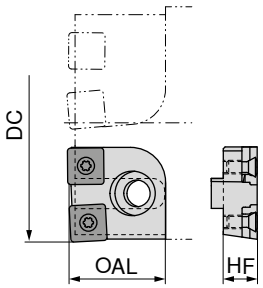
Spare parts SZID		Clamping key T AS 80 397 ...	Set CT 84 950 ...		Fixing screw AS 10 950 ...
1	SW5	**050**	**98500**	M6x16 - SW5	**16700**
2	SW5	**050**	**98500**	M6x16 - SW5	**16700**
3	SW6	**060**	**98500**	M8x18 - SW6	**16800**
4	SW6	**060**	**98400**	M8x20 - SW6	**16900**
5	SW6	**060**	**98400**	M8x20 - SW6	**16900**

Pentron – External cartridge – CS

▲ SZID = nominal size
▲ Tightening torque refers to the clamping screws of the indexable inserts

Scope of supply:
External cartridge incl. clamping screws for indexable inserts







DC mm	Product Reference No.	OAL mm	SZID	HF mm	Tightening torque Nm	Indexable insert	TO 10 878 ...
64	D60 16400	27.8	**1**	9	2,8	SOGX 100408	**16400**
65	D60 16500	27.8	**1**	9	2,8	SOGX 100408	**16500**
66	D60 16600	27.8	**1**	9	2,8	SOGX 100408	**16600**
67	D60 16700	27.8	**1**	9	2,8	SOGX 100408	**16700**
68	D60 16800	27.8	**1**	9	2,8	SOGX 100408	**16800**
69	D60 16900	27.8	**1**	9	2,8	SOGX 100408	**16900**
70	D60 17000	29.8	**2**	10	2,8	SOGX 110408	**27000**
71	D60 17100	29.8	**2**	10	2,8	SOGX 110408	**27100**
72	D60 17200	29.8	**2**	10	2,8	SOGX 110408	**27200**
73	D60 17300	29.8	**2**	10	2,8	SOGX 110408	**27300**
74	D60 17400	29.8	**2**	10	2,8	SOGX 110408	**27400**
75	D60 17500	29.8	**2**	10	2,8	SOGX 110408	**27500**
76	D60 17600	32.8	**3**	11	6,25	SOGX 120408	**37600**
77	D60 17700	32.8	**3**	11	6,25	SOGX 120408	**37700**
78	D60 17800	32.8	**3**	11	6,25	SOGX 120408	**37800**
79	D60 17900	32.8	**3**	11	6,25	SOGX 120408	**37900**
80	D60 18000	32.8	**3**	11	6,25	SOGX 120408	**38000**
81	D60 18100	32.8	**3**	11	6,25	SOGX 120408	**38100**
82	D60 18200	32.8	**3**	11	6,25	SOGX 120408	**38200**
83	D60 18300	32.8	**3**	11	6,25	SOGX 120408	**38300**
84	D60 18400	32.8	**3**	11	6,25	SOGX 120408	**38400**
85	D60 18500	35.8	**4**	12	6,25	SOGX 130508	**48500**
86	D60 18600	35.8	**4**	12	6,25	SOGX 130508	**48600**
87	D60 18700	35.8	**4**	12	6,25	SOGX 130508	**48700**
88	D60 18800	35.8	**4**	12	6,25	SOGX 130508	**48800**
89	D60 18900	35.8	**4**	12	6,25	SOGX 130508	**48900**
90	D60 19000	35.8	**4**	12	6,25	SOGX 130508	**49000**
91	D60 19100	35.8	**4**	12	6,25	SOGX 130508	**49100**
92	D60 19200	35.8	**4**	12	6,25	SOGX 130508	**49200**
93	D60 19300	35.8	**4**	12	6,25	SOGX 130508	**49300**
94	D60 19401	35.8	**5**	12	6,25	SOGX 130508	**59400**
95	D60 19501	35.8	**5**	12	6,25	SOGX 130508	**59500**
96	D60 19601	35.8	**5**	12	6,25	SOGX 130508	**59600**

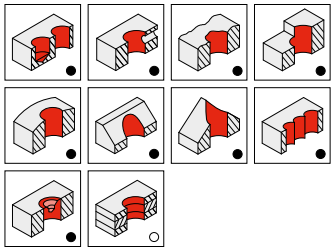
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.

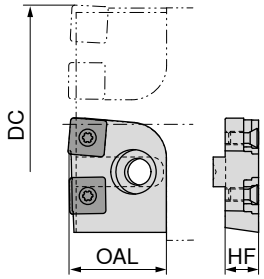
Intermediate dimensions available on request.

Pentron – Internal cartridge – CS

▲ SZID = nominal size
▲ Tightening torque refers to the clamping screws of the indexable inserts

Scope of supply:
Internal cartridge incl. clamping screws of indexable inserts





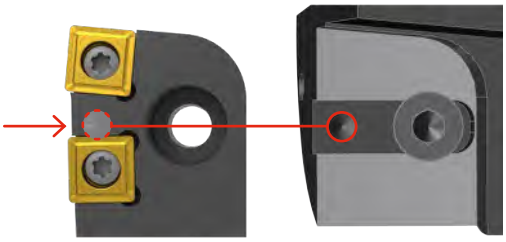


DC mm	Product Reference No.	OAL mm	SZID	HF mm	Tightening torque Nm	Indexable insert	TO 10 877 ...
64 - 69	D60 06400	28	**1**	9	2,8	SOGX 100408	**16400**
70 - 75	D60 07000	30	**2**	10	2,8	SOGX 110408	**27000**
76 - 84	D60 07600	33	**3**	11	6,25	SOGX 120408	**37600**
85 - 93	D60 08501	36	**4**	12	6,25	SOGX 130508	**48501**
94 - 96	D60 09400	36	**5**	12	6,25	SOGX 130508	**59400**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.

Installation aid

The internal cartridge and the place where the internal cartridge sits on the base body are designed to prevent the internal and external cartridges from being incorrectly installed.

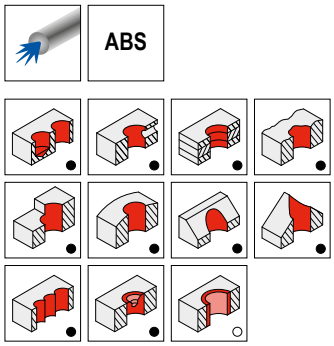


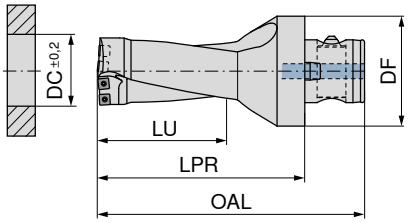
		Screwdriver AS 80 950 ...		Clamping screw AS 10 950 ...
Spare parts Indexable insert				
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 110408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 886 ...
KUB-P.92.380.R.12-ABS80	U70 13800	**38**	80	190	92	147	6,25	2	SOGX 120408	**38098** 1)
KUB-P.92.400.R.12-ABS80	U70 14000	**40**	80	190	92	147	6,25	2	SOGX 120408	**40098** 1)
KUB-P.92.420.R.12-ABS80	U70 14200	**42**	80	190	92	147	6,25	2	SOGX 120408	**42098** 1)
KUB-P.92.440.R.13-ABS80	U70 14400	**44**	80	190	92	147	6,25	2	SOGX 130508	**44098** 1)
KUB-P.92.460.R.13-ABS80	U70 14600	**46**	80	190	92	147	6,25	2	SOGX 130508	**46098**
KUB-P.92.470.R.13-ABS80	U70 14700	**47**	80	190	92	147	6,25	2	SOGX 130508	**47098**
KUB-P.92.480.R.08-ABS80	U70 14800	**48**	80	190	92	147	1,28	4	SOGX 080308	**48098** 1)
KUB-P.92.500.R.08-ABS80	U70 15000	**50**	80	190	92	147	1,28	4	SOGX 080308	**50098** 1)
KUB-P.92.530.R.10-ABS80	U70 15300	**53**	80	190	92	147	2,8	4	SOGX 100408	**53098** 1)
KUB-P.92.560.R.10-ABS80	U70 15600	**56**	80	190	92	147	2,8	4	SOGX 100408	**56098** 1)
KUB-P.92.570.R.10-ABS80	U70 15700	**57**	80	190	92	147	2,8	4	SOGX 100408	**57098** 1)

1) Not in stock

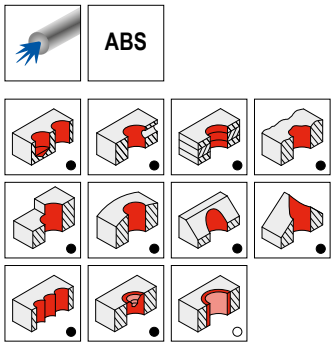
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

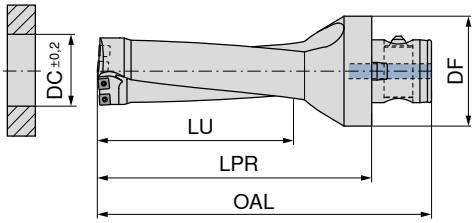
Spare parts Indexable insert		 Screwdriver AS **80 950 ...**		 Clamping screw AS **10 950 ...**
SOGX 080308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 887 ...
KUB-P.145.380.R.12-ABS80	U70 53800	**38**	80	243	145	200	6,25	2	SOGX 120408	**38098** 1)
KUB-P.145.400.R.12-ABS80	U70 54000	**40**	80	243	145	200	6,25	2	SOGX 120408	**40098** 1)
KUB-P.145.420.R.12-ABS80	U70 54200	**42**	80	243	145	200	6,25	2	SOGX 120408	**42098** 1)
KUB-P.145.440.R.13-ABS80	U70 54400	**44**	80	243	145	200	6,25	2	SOGX 130508	**44098** 1)
KUB-P.145.460.R.13-ABS80	U70 54600	**46**	80	243	145	200	6,25	2	SOGX 130508	**46098** 1)
KUB-P.145.470.R.13-ABS80	U70 54700	**47**	80	243	145	200	6,25	2	SOGX 130508	**47098**
KUB-P.145.480.R.08-ABS80	U70 54800	**48**	80	243	145	200	1,28	4	SOGX 080308	**48098** 1)
KUB-P.145.490.R.08-ABS80	U70 54900	**49**	80	243	145	200	1,28	4	SOGX 080308	**49005**
KUB-P.145.500.R.08-ABS80	U70 55000	**50**	80	243	145	200	1,28	4	SOGX 080308	**50098** 1)
KUB-P.145.530.R.10-ABS80	U70 55300	**53**	80	243	145	200	2,8	4	SOGX 100408	**53098** 1)
KUB-P.145.560.R.10-ABS80	U70 55600	**56**	80	243	145	200	2,8	4	SOGX 100408	**56098** 1)
KUB-P.145.570.R.10-ABS80	U70 55700	**57**	80	243	145	200	2,8	4	SOGX 100408	**57098** 1)

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



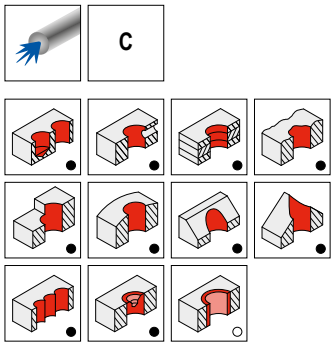


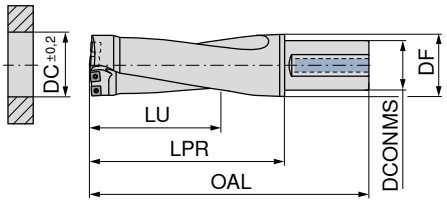
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
SOGX 080308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 886 ...
KUB-P.92.380.R.12-C40	U70 33800	**38**	40	50	215	92	147	6,25	2	SOGX 120408	**38005** [1]
KUB-P.92.400.R.12-C40	U70 34000	**40**	40	50	215	92	147	6,25	2	SOGX 120408	**40005** [1]
KUB-P.92.420.R.12-C40	U70 34200	**42**	40	50	215	92	147	6,25	2	SOGX 120408	**42005** [1]
KUB-P.92.440.R.13-C40	U70 34400	**44**	40	50	215	92	147	6,25	2	SOGX 130508	**44005** [1]
KUB-P.92.460.R.13-C40	U70 34600	**46**	40	50	215	92	147	6,25	2	SOGX 130508	**46005** [1]
KUB-P.92.470.R.13-C40	U70 34700	**47**	40	50	215	92	147	6,25	2	SOGX 130508	**47005**
KUB-P.92.480.R.08-C40	U70 34800	**48**	40	50	215	92	147	1,28	4	SOGX 080308	**48005** [1]
KUB-P.92.500.R.08-C40	U70 35000	**50**	40	50	215	92	147	1,28	4	SOGX 080308	**50005** [1]
KUB-P.92.530.R.10-C40	U70 35300	**53**	40	50	215	92	147	2,8	4	SOGX 100408	**53005** [1]
KUB-P.92.560.R.10-C40	U70 35600	**56**	40	50	215	92	147	2,8	4	SOGX 100408	**56005** [1]
KUB-P.92.560.R.10-C40	U70 35700	**57**	40	50	215	92	147	2,8	4	SOGX 100408	**57005** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



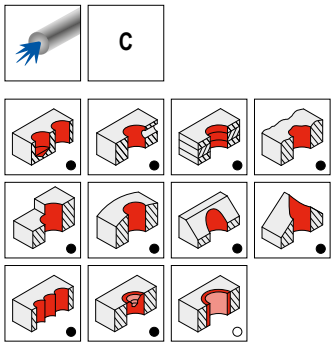


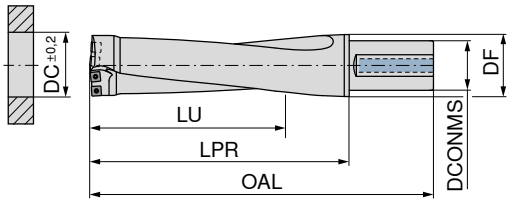
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
SOGX 080308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Pentron – Indexable drill

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 887 ...
KUB-P.3D.145.380.R.12-C40	U70 73800	**38**	40	50	268	145	200	6,25	2	SOGX 120408	**38005** 1)
KUB-P.3D.145.400.R.12-C40	U70 74000	**40**	40	50	268	145	200	6,25	2	SOGX 120408	**40005** 1)
KUB-P.3D.145.420.R.12-C40	U70 74200	**42**	40	50	268	145	200	6,25	2	SOGX 120408	**42005** 1)
KUB-P.3D.145.440.R.13-C40	U70 74400	**44**	40	50	268	145	200	6,25	2	SOGX 130508	**44005** 1)
KUB-P.3D.145.460.R.13-C40	U70 74600	**46**	40	50	268	145	200	6,25	2	SOGX 130508	**46005** 1)
KUB-P.3D.145.470.R.13-C40	U70 74700	**47**	40	50	268	145	200	6,25	2	SOGX 130508	**47005**
KUB-P.3D.145.480.R.08-C40	U70 74800	**48**	40	50	268	145	200	1,28	4	SOGX 080308	**48005** 1)
KUB-P.3D.145.500.R.08-C40	U70 75000	**50**	40	50	268	145	200	1,28	4	SOGX 080308	**50005** 1)
KUB-P.3D.145.530.R.10-C40	U70 75300	**53**	40	50	268	145	200	2,8	4	SOGX 100408	**53005** 1)
KUB-P.3D.145.560.R.10-C40	U70 75600	**56**	40	50	268	145	200	2,8	4	SOGX 100408	**56005** 1)
KUB-P.3D.145.560.R.10-C40	U70 75700	**57**	40	50	268	145	200	2,8	4	SOGX 100408	**57005** 1)

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

Spare parts **Indexable insert**		 Screwdriver AS **80 950 ...**		 Clamping screw AS **10 950 ...**
SOGX 080308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOGX 100408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOGX 120408	T20 - IP	**121**	M4,5x10 - 20IP	**10400**
SOGX 130508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

Indexable insert recommendation SOGX for Pentron / Pentron CS

The recommendation shown here is based on experience and serves to select the correct indexable insert for your application.

Guideline recommendation

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK8425		-01	BK8425
M	→ -01	BK7935		-01	BK7935
K	→ -01	BK6115	⚠	→ -01	BK8425
N	→ -21	BK7710		-21	BK7710
S.2.1 – S.2.3 (Ni)	→ -21	BK7935	⚠	→ -21	BK8430
S.3.1 – S.3.3 (Ti)	→ -21	BK7710		-21	BK7710
H	→ -01	BK6115	⚠	→ -01	BK8425
O	→ -21	BK7710		-21	BK7710

Alternative indexable inserts for improved chip control

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -03	BK8430		-03	BK8430
M	→ -13	BK8425		-13	BK8425
K	→ -03	BK8430		-03	BK8430
N	→ -13	BK8425		-13	BK8425
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H	→ -13	BK8425		-13	BK8425
O					

Alternative indexable inserts for higher cutting speed

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK6115	⚠	→ -01	BK8425
M	→ -01	BK6115	⚠	→ -01	BK8425
K					
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

Alternative indexable inserts for increased toughness

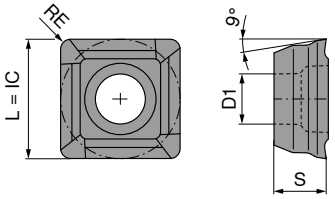
Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK7935		-01	BK7935
M					
K	→ -01	BK7935		-01	BK7935
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					



Please note: Outer and central cutting edge differ in the grade and/or chip breaker.

Pentron – Carbide drilling indexable insert

SOGX



-01 BK8425	-01 BK7935	-01 BK7710	-01 BK6115
			
SOGX	SOGX	SOGX	SOGX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...
SOGX 040204EN	W80 10010.046115	4.8	2.05	2.2	4.8	0.4				**40401**
SOGX 040204EN	W80 10010.047710	4.8	2.05	2.2	4.8	0.4			**90401**	
SOGX 040204EN	W80 10010.047935	4.8	2.05	2.2	4.8	0.4		**50401**		
SOGX 040204EN	W80 10010.048425	4.8	2.05	2.2	4.8	0.4	**30401**			
SOGX 050204EN	W80 12010.046115	5.5	2.30	2.4	5.5	0.4				**40501**
SOGX 050204EN	W80 12010.047710	5.5	2.30	2.4	5.5	0.4			**90501**	
SOGX 050204EN	W80 12010.047935	5.5	2.30	2.4	5.5	0.4		**50501**		
SOGX 050204EN	W80 12010.048425	5.5	2.30	2.4	5.5	0.4	**30501**			
SOGX 060206EN	W80 18010.066115	6.2	2.60	2.75	6.2	0.6				**40601**
SOGX 060206EN	W80 18010.067710	6.2	2.60	2.75	6.2	0.6			**90601**	
SOGX 060206EN	W80 18010.067935	6.2	2.60	2.75	6.2	0.6		**50601**		
SOGX 060206EN	W80 18010.068425	6.2	2.60	2.75	6.2	0.6	**30601**			
SOGX 07T208EN	W80 20010.086115	7.1	2.60	2.97	7.1	0.8				**40701**
SOGX 07T208EN	W80 20010.087710	7.1	2.60	2.97	7.1	0.8			**90701**	
SOGX 07T208EN	W80 20010.087935	7.1	2.60	2.97	7.1	0.8		**50701**		
SOGX 07T208EN	W80 20010.088425	7.1	2.60	2.97	7.1	0.8	**30701**			
SOGX 080308EN	W80 24010.086115	8.0	2.85	3.4	8.0	0.8				**40801**
SOGX 080308EN	W80 24010.087710	8.0	2.85	3.4	8.0	0.8			**90801**	
SOGX 080308EN	W80 24010.087935	8.0	2.85	3.4	8.0	0.8		**50801**		
SOGX 080308EN	W80 24010.088425	8.0	2.85	3.4	8.0	0.8	**30801**			
SOGX 09T308EN	W80 28010.086115	8.9	3.40	3.9	8.9	0.8				**40901**
SOGX 09T308EN	W80 28010.087710	8.9	3.40	3.9	8.9	0.8			**90901**	
SOGX 09T308EN	W80 28010.087935	8.9	3.40	3.9	8.9	0.8		**50901**		
SOGX 09T308EN	W80 28010.088425	8.9	3.40	3.9	8.9	0.8	**30901**			
SOGX 100408EN	W80 32010.086115	9.8	4.10	4.2	9.8	0.8				**41001**
SOGX 100408EN	W80 32010.087710	9.8	4.10	4.2	9.8	0.8			**91001**	
SOGX 100408EN	W80 32010.087935	9.8	4.10	4.2	9.8	0.8		**51001**		
SOGX 100408EN	W80 32010.088425	9.8	4.10	4.2	9.8	0.8	**31001**			
SOGX 110408EN	W80 38010.086115	10.9	4.10	4.5	10.9	0.8				**41101**
SOGX 110408EN	W80 38010.087710	10.9	4.10	4.5	10.9	0.8			**91101**	
SOGX 110408EN	W80 38010.087935	10.9	4.10	4.5	10.9	0.8		**51101**		
SOGX 110408EN	W80 38010.088425	10.9	4.10	4.5	10.9	0.8	**31101**			
SOGX 120408EN	W80 42010.086115	12.0	5.20	4.8	12.0	0.8				**41201**
SOGX 120408EN	W80 42010.087710	12.0	5.20	4.8	12.0	0.8			**91201**	
SOGX 120408EN	W80 42010.087935	12.0	5.20	4.8	12.0	0.8		**51201**		
SOGX 120408EN	W80 42010.088425	12.0	5.20	4.8	12.0	0.8	**31201**			
SOGX 130508EN	W80 46010.086115	13.2	5.20	5.2	13.2	0.8				**41301**
SOGX 130508EN	W80 46010.087710	13.2	5.20	5.2	13.2	0.8			**91301**	
SOGX 130508EN	W80 46010.087935	13.2	5.20	5.2	13.2	0.8		**51301**		
SOGX 130508EN	W80 46010.088425	13.2	5.20	5.2	13.2	0.8	**31301**			

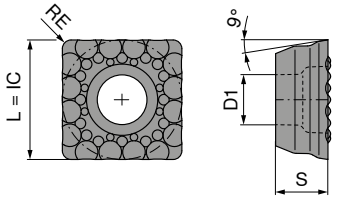
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→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOGX -01 BK6115 as an outer cutting edge,
Use SOGX -01 BK8425 as a central cutting edge!

Pentron – Carbide drilling indexable insert

SOGX



-03
BK8430



SOGX

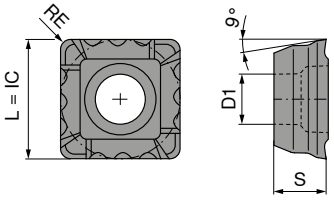
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10030.048430	4.8	2.05	2.2	4.8	0.4	**00403**
SOGX 050204EN	W80 12030.048430	5.5	2.30	2.4	5.5	0.4	**00503**
SOGX 060206EN	W80 18030.068430	6.2	2.60	2.75	6.2	0.6	**00603**
SOGX 07T208EN	W80 20030.088430	7.1	2.60	2.97	7.1	0.8	**00703**
SOGX 080308EN	W80 24030.088430	8.0	2.85	3.4	8.0	0.8	**00803**
SOGX 09T308EN	W80 28030.088430	8.9	3.40	3.9	8.9	0.8	**00903**
SOGX 100408EN	W80 32030.088430	9.8	4.10	4.2	9.8	0.8	**01003**
SOGX 110408EN	W80 38030.088430	10.9	4.10	4.5	10.9	0.8	**01103**
SOGX 120408EN	W80 42030.088430	12.0	5.20	4.8	12.0	0.8	**01203**
SOGX 130508EN	W80 46030.088430	13.2	5.20	5.2	13.2	0.8	**01303**

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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX



-13
BK8425



SOGX

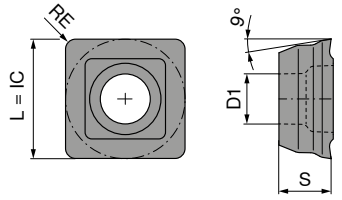
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10130.048425	4.8	2.05	2.2	4.8	0.4	**30413**
SOGX 050204EN	W80 12130.048425	5.5	2.30	2.4	5.5	0.4	**30513**
SOGX 060206EN	W80 18130.068425	6.2	2.60	2.75	6.2	0.6	**30613**
SOGX 07T208EN	W80 20130.088425	7.1	2.60	2.97	7.1	0.8	**30713**
SOGX 080308EN	W80 24130.088425	8.0	2.85	3.4	8.0	0.8	**30813**
SOGX 09T308EN	W80 28130.088425	8.9	3.40	3.9	8.9	0.8	**30913**
SOGX 100408EN	W80 32130.088425	9.8	4.10	4.2	9.8	0.8	**31013**
SOGX 110408EN	W80 38130.088425	10.9	4.10	4.5	10.9	0.8	**31113**
SOGX 120408EN	W80 42130.088425	12.0	5.20	4.8	12.0	0.8	**31213**
SOGX 130508EN	W80 46130.088425	13.2	5.20	5.2	13.2	0.8	**31313**

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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX



-21 BK7710	-21 BK8430	-21 BK7935
		
SOGX	SOGX	SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 825 ...	IH 10 820 ...	IH 10 820 ...
SOGX 040204EN	W80 10210.047710	4.8	2.05	2.2	4.8	0.4	**90421**		
SOGX 040204EN	W80 10210.047935	4.8	2.05	2.2	4.8	0.4			**50421**
SOGX 040204EN	W80 10210.048430	4.8	2.05	2.2	4.8	0.4		**00421**	
SOGX 050204EN	W80 12210.047710	5.5	2.30	2.4	5.5	0.4	**90521**		
SOGX 050204EN	W80 12210.047935	5.5	2.30	2.4	5.5	0.4			**50521**
SOGX 050204EN	W80 12210.048430	5.5	2.30	2.4	5.5	0.4		**00521**	
SOGX 060206EN	W80 18210.067710	6.2	2.60	2.75	6.2	0.6	**90621**		
SOGX 060206EN	W80 18210.067935	6.2	2.60	2.75	6.2	0.6			**50621**
SOGX 060206EN	W80 18210.068430	6.2	2.60	2.75	6.2	0.6		**00621**	
SOGX 07T208EN	W80 20210.087710	7.1	2.60	2.97	7.1	0.8	**90721**		
SOGX 07T208EN	W80 20210.087935	7.1	2.60	2.97	7.1	0.8			**50721**
SOGX 07T208EN	W80 20210.088430	7.1	2.60	2.97	7.1	0.8		**00721**	
SOGX 080308EN	W80 24210.087710	8.0	2.85	3.4	8.0	0.8	**90821**		
SOGX 080308EN	W80 24210.087935	8.0	2.85	3.4	8.0	0.8			**50821**
SOGX 080308EN	W80 24210.088430	8.0	2.85	3.4	8.0	0.8		**00821**	
SOGX 09T308EN	W80 28210.087710	8.9	3.40	3.9	8.9	0.8	**90921**		
SOGX 09T308EN	W80 28210.087935	8.9	3.40	3.9	8.9	0.8			**50921**
SOGX 09T308EN	W80 28210.088430	8.9	3.40	3.9	8.9	0.8		**00921**	
SOGX 100408EN	W80 32210.087710	9.8	4.10	4.2	9.8	0.8	**91021**		
SOGX 100408EN	W80 32210.087935	9.8	4.10	4.2	9.8	0.8			**51021**
SOGX 100408EN	W80 32210.088430	9.8	4.10	4.2	9.8	0.8		**01021**	
SOGX 110408EN	W80 38210.087710	10.9	4.10	4.5	10.9	0.8	**91121**		
SOGX 110408EN	W80 38210.087935	10.9	4.10	4.5	10.9	0.8			**51121**
SOGX 110408EN	W80 38210.088430	10.9	4.10	4.5	10.9	0.8		**01121**	
SOGX 120408EN	W80 42210.087710	12.0	5.20	4.8	12.0	0.8	**91221**		
SOGX 120408EN	W80 42210.087935	12.0	5.20	4.8	12.0	0.8			**51221**
SOGX 120408EN	W80 42210.088430	12.0	5.20	4.8	12.0	0.8		**01221**	
SOGX 130508EN	W80 46210.087710	13.2	5.20	5.2	13.2	0.8	**91321**		
SOGX 130508EN	W80 46210.087935	13.2	5.20	5.2	13.2	0.8			**51321**
SOGX 130508EN	W80 46210.088430	13.2	5.20	5.2	13.2	0.8		**01321**	

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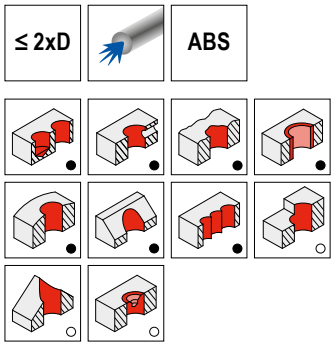
→ Find the recommended values for cutting speeds here.

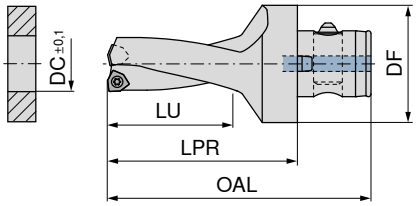
Information on solid drilling:
Only use SOGX -21 BK7935 as an outer cutting edge,
Use SOGX -21 BK8430 as a central cutting edge!

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 892 ...
KUB-T.2D.140.R.03-ABS50	V30 31403	**14**	50	94	28	63	0,62	2	WOEX 030204	**14095**
KUB-T.2D.150.R.03-ABS50	V30 31503	**15**	50	96	30	65	0,62	2	WOEX 030204	**15095**
KUB-T.2D.155.R.03-ABS50	V30 31551	**15.5**	50	98	32	67	0,62	2	WOEX 030204	**15595** [1]
KUB-T.2D.160.R.03-ABS50	V30 31601	**16**	50	98	32	67	0,62	2	WOEX 030204	**16095**
KUB-T.2D.170.R.03-ABS50	V30 31701	**17**	50	100	34	69	0,62	2	WOEX 030204	**17095**
KUB-T.2D.175.R.03-ABS50	V30 31751	**17.5**	50	102	36	71	0,62	2	WOEX 030204	**17595**
KUB-T.2D.180.R.03-ABS50	V30 31801	**18**	50	102	36	71	0,62	2	WOEX 030204	**18095**
KUB-T.2D.185.R.03-ABS50	V30 31851	**18.5**	50	104	38	73	0,62	2	WOEX 030204	**18595** [1]
KUB-T.2D.190.R.03-ABS50	V30 31901	**19**	50	104	38	73	0,62	2	WOEX 030204	**19095**
KUB-T.2D.195.R.03-ABS50	V30 31951	**19.5**	50	106	40	75	0,62	2	WOEX 030204	**19595**
KUB-T.2D.200.R.04-ABS50	V30 32001	**20**	50	106	40	75	1,01	2	WOEX 040304	**20095**
KUB-T.2D.210.R.04-ABS50	V30 32101	**21**	50	108	42	77	1,01	2	WOEX 040304	**21095**
KUB-T.2D.220.R.04-ABS50	V30 32201	**22**	50	110	44	79	1,01	2	WOEX 040304	**22095**
KUB-T.2D.225.R.04-ABS50	V30 32251	**22.5**	50	112	46	81	1,01	2	WOEX 040304	**22595**
KUB-T.2D.230.R.04-ABS50	V30 32301	**23**	50	112	46	81	1,01	2	WOEX 040304	**23095**
KUB-T.2D.240.R.04-ABS50	V30 32401	**24**	50	114	48	83	1,01	2	WOEX 040304	**24095**
KUB-T.2D.245.R.04-ABS50	V30 32451	**24.5**	50	116	50	85	1,01	2	WOEX 040304	**24595**
KUB-T.2D.250.R.05-ABS50	V30 32501	**25**	50	116	50	85	1,28	2	WOEX 05T304	**25095**
KUB-T.2D.260.R.05-ABS50	V30 32601	**26**	50	118	52	87	1,28	2	WOEX 05T304	**26095**
KUB-T.2D.265.R.05-ABS50	V30 32651	**26.5**	50	120	54	89	1,28	2	WOEX 05T304	**26595**
KUB-T.2D.270.R.05-ABS50	V30 32701	**27**	50	120	54	89	1,28	2	WOEX 05T304	**27095**
KUB-T.2D.280.R.05-ABS50	V30 32801	**28**	50	122	56	91	1,28	2	WOEX 05T304	**28095**
KUB-T.2D.290.R.05-ABS50	V30 32901	**29**	50	124	58	93	1,28	2	WOEX 05T304	**29095**
KUB-T.2D.295.R.05-ABS50	V30 32951	**29.5**	50	126	60	95	1,28	2	WOEX 05T304	**29595**
KUB-T.2D.300.R.05-ABS50	V30 33001	**30**	50	131	60	100	1,28	2	WOEX 05T304	**30095**
KUB-T.2D.310.R.05-ABS50	V30 33101	**31**	50	133	62	102	1,28	2	WOEX 05T304	**31095**
KUB-T.2D.315.R.05-ABS50	V30 33151	**31.5**	50	135	64	104	1,28	2	WOEX 05T304	**31595**
KUB-T.2D.320.R.05-ABS50	V30 33201	**32**	50	135	64	104	1,28	2	WOEX 05T304	**32095**
KUB-T.2D.330.R.05-ABS50	V30 33301	**33**	50	137	66	106	1,28	2	WOEX 05T304	**33095**
KUB-T.2D.340.R.05-ABS50	V30 33401	**34**	50	139	68	108	1,28	2	WOEX 05T304	**34095**
KUB-T.2D.350.R.05-ABS50	V30 33501	**35**	50	141	70	110	1,28	2	WOEX 05T304	**35095**
KUB-T.2D.360.R.05-ABS50	V30 33601	**36**	50	143	72	112	1,28	2	WOEX 05T304	**36095**
KUB-T.2D.370.R.06-ABS50	V30 33701	**37**	50	155	74	124	2,8	2	WOEX 06T304	**37095**
KUB-T.2D.375.R.06-ABS50	V30 33751	**37.5**	50	157	76	126	2,8	2	WOEX 06T304	**37595** [1]
KUB-T.2D.380.R.06-ABS50	V30 33801	**38**	50	157	76	126	2,8	2	WOEX 06T304	**38095**
KUB-T.2D.390.R.06-ABS50	V30 33901	**39**	50	159	78	128	2,8	2	WOEX 06T304	**39095**
KUB-T.2D.395.R.06-ABS50	V30 33951	**39.5**	50	161	80	130	2,8	2	WOEX 06T304	**39595** [1]

1) Not in stock

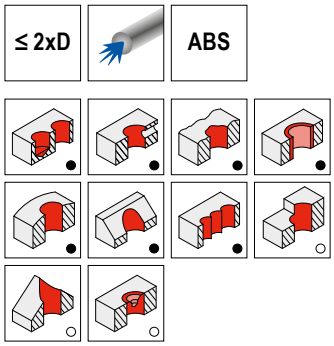
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

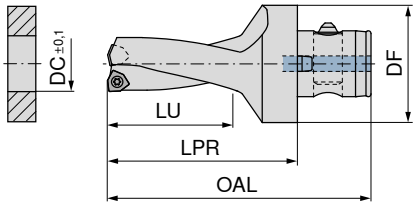
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CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 892 ...
KUB-T.2D.400.R.06-ABS50	V30 34001	**40**	50	161	80	130	2,8	2	WOEX 06T304	**40095**
KUB-T.2D.410.R.06-ABS50	V30 34101	**41**	50	163	82	132	2,8	2	WOEX 06T304	**41095**
KUB-T.2D.420.R.06-ABS50	V30 34201	**42**	50	165	84	134	2,8	2	WOEX 06T304	**42095**
KUB-T.2D.430.R.06-ABS50	V30 34301	**43**	50	167	86	136	2,8	2	WOEX 06T304	**43095**
KUB-T.2D.440.R.06-ABS50	V30 34401	**44**	50	169	88	138	2,8	2	WOEX 06T304	**44095**

1) Not in stock

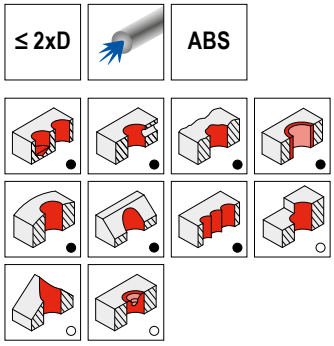
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

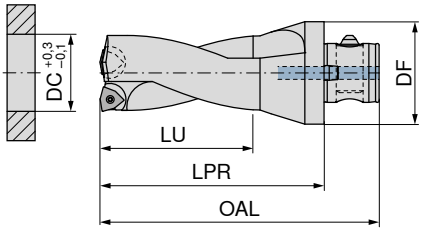
Spare parts DC	 Set CT 84 950 ...		 Screwdriver AS 80 950 ...	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...		 Clamping screw AS 10 950 ...
14 - 19,5	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,0x4,3 - 06IP	**10000**
20 - 24,5	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,2x5,5 - 06IP	**10700**
25 - 36	**99900**	T08 - IP	**039**	**20200**	**20000**	**20100**	M2,5x7,2 - 08IP	**10500**
37 - 44	**99900**	T10 - IP	**119**	**20200**	**20000**	**20100**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 892 ...
KUB-T.2D.450.R.08-ABS63	V13 34500	**45**	63	183	90	145	4,3	2	WOEX 080404	**45096**
KUB-T.2D.460.R.08-ABS63	V13 34600	**46**	63	185	92	147	4,3	2	WOEX 080404	**46096**
KUB-T.2D.470.R.08-ABS63	V13 34700	**47**	63	187	94	149	4,3	2	WOEX 080404	**47096**
KUB-T.2D.480.R.08-ABS63	V13 34800	**48**	63	189	96	151	4,3	2	WOEX 080404	**48096**
KUB-T.2D.490.R.08-ABS63	V13 34900	**49**	63	191	98	153	4,3	2	WOEX 080404	**49096**
KUB-T.2D.500.R.08-ABS63	V13 35000	**50**	63	193	100	155	4,3	2	WOEX 080404	**50096**
KUB-T.2D.510.R.08-ABS63	V13 35100	**51**	63	195	102	157	4,3	2	WOEX 080404	**51096**
KUB-T.2D.520.R.08-ABS63	V13 35200	**52**	63	197	104	159	4,3	2	WOEX 080404	**52096**
KUB-T.2D.530.R.08-ABS63	V13 35300	**53**	63	199	106	161	4,3	2	WOEX 080404	**53096**
KUB-T.2D.540.R.08-ABS63	V13 35400	**54**	63	201	108	163	4,3	2	WOEX 080404	**54096**
KUB-T.2D.550.R.10-ABS80	V14 35500	**55**	80	208	110	165	4,3	2	WOEX 100504	**55098**
KUB-T.2D.560.R.10-ABS80	V14 35600	**56**	80	210	112	167	4,3	2	WOEX 100504	**56098**
KUB-T.2D.570.R.10-ABS80	V14 35700	**57**	80	212	114	169	4,3	2	WOEX 100504	**57098**
KUB-T.2D.580.R.10-ABS80	V14 35800	**58**	80	214	116	171	4,3	2	WOEX 100504	**58098**
KUB-T.2D.590.R.10-ABS80	V14 35900	**59**	80	216	118	173	4,3	2	WOEX 100504	**59098**
KUB-T.2D.600.R.10-ABS80	V14 36000	**60**	80	218	120	175	4,3	2	WOEX 100504	**60098**
KUB-T.2D.610.R.10-ABS80	V14 36100	**61**	80	220	122	177	4,3	2	WOEX 100504	**61098**
KUB-T.2D.620.R.10-ABS80	V14 36200	**62**	80	222	124	179	4,3	2	WOEX 100504	**62098**
KUB-T.2D.630.R.10-ABS80	V14 36300	**63**	80	224	126	181	4,3	2	WOEX 100504	**63098**
KUB-T.2D.640.R.10-ABS80	V14 36400	**64**	80	226	128	183	4,3	2	WOEX 100504	**64098**
KUB-T.2D.650.R.10-ABS80	V14 36500	**65**	80	228	130	185	4,3	2	WOEX 100504	**65098**
KUB-T.2D.660.R.10-ABS80	V14 36600	**66**	80	230	132	187	4,3	2	WOEX 100504	**66098**
KUB-T.2D.670.R.10-ABS80	V14 36700	**67**	80	232	134	189	4,3	2	WOEX 100504	**67098**
KUB-T.2D.680.R.10-ABS80	V14 36800	**68**	80	234	136	191	4,3	2	WOEX 100504	**68098**
KUB-T.2D.690.R.12-ABS80	V14 36900	**69**	80	246	138	203	6,25	2	WOEX 120608	**69098**
KUB-T.2D.700.R.12-ABS80	V14 37000	**70**	80	248	140	205	6,25	2	WOEX 120608	**70098**
KUB-T.2D.710.R.12-ABS80	V14 37100	**71**	80	250	142	207	6,25	2	WOEX 120608	**71098**
KUB-T.2D.720.R.12-ABS80	V14 37200	**72**	80	252	144	209	6,25	2	WOEX 120608	**72098**
KUB-T.2D.730.R.12-ABS80	V14 37300	**73**	80	254	146	211	6,25	2	WOEX 120608	**73098**
KUB-T.2D.740.R.12-ABS80	V14 37400	**74**	80	256	148	213	6,25	2	WOEX 120608	**74098**
KUB-T.2D.750.R.12-ABS80	V14 37500	**75**	80	258	150	215	6,25	2	WOEX 120608	**75098**
KUB-T.2D.760.R.12-ABS80	V14 37600	**76**	80	260	152	217	6,25	2	WOEX 120608	**76098**
KUB-T.2D.770.R.12-ABS80	V14 37700	**77**	80	262	154	219	6,25	2	WOEX 120608	**77098**
KUB-T.2D.780.R.12-ABS80	V14 37800	**78**	80	264	156	221	6,25	2	WOEX 120608	**78098**
KUB-T.2D.790.R.12-ABS80	V14 37900	**79**	80	266	158	223	6,25	2	WOEX 120608	**79098**

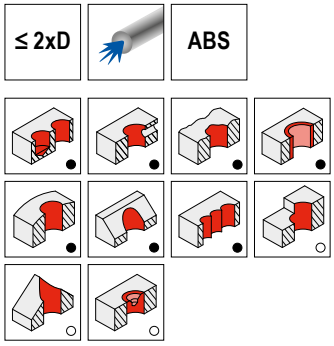
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

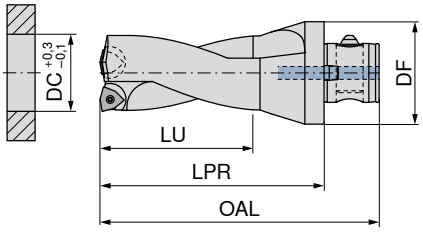
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CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 892 ...
KUB-T.2D.800.R.12-ABS80	V14 38000	**80**	80	268	160	225	6,25	2	WOEX 120608	**80098**
KUB-T.2D.810.R.12-ABS80	V14 38100	**81**	80	270	162	227	6,25	2	WOEX 120608	**81098**
KUB-T.2D.820.R.12-ABS80	V14 38200	**82**	80	272	164	229	6,25	2	WOEX 120608	**82098**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver


Clamping screw


Fixing screw

Spare parts DC		AS 80 950 ...		AS 10 950 ...		AS 10 950 ...
45 - 54	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
55 - 68	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
69 - 82	T20 - IP	**121**	M5,5x11 - 20IP	**17400**	M5,5x13,5 - 20IP	**17100**


Cylindrical pin


Insert seat, internal

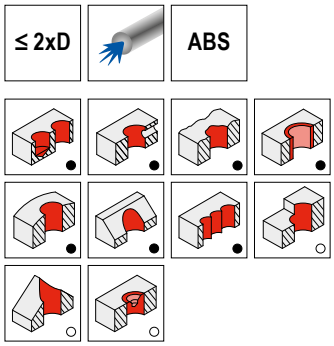

Insert seat, external

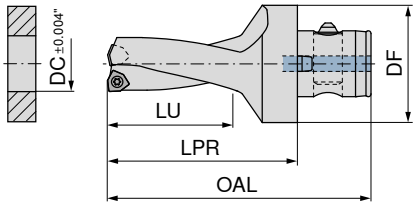
Spare parts DC		AS 10 950 ...	TO 10 897 ...	TO 10 898 ...
45 - 54	Ø3	**17200**	**14800**	**14800**
55 - 68	Ø3	**17200**	**25300**	**25300**
69 - 82	Ø4	**17300**	**36000**	**36000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 892 ...
KUB-T-U.2D.0562.R.03.ABS50-F	V40 11430	0.562	1.969	3.780	1.181	2.560	0,62	2	WOEX 030204	14395
KUB-T-U.2D.0593.R.03.ABS50-F	V40 11510	0.593	1.969	3.858	1.260	2.638	0,62	2	WOEX 030204	15195
KUB-T-U.2D.0625.R.03.ABS50-F	V40 11590	0.625	1.969	3.858	1.260	2.638	0,62	2	WOEX 030204	15995
KUB-T-U.2D.0703.R.03.ABS50-F	V40 11790	0.703	1.969	4.016	1.417	2.796	0,62	2	WOEX 030204	17995
KUB-T-U.2D.0750.R.03.ABS50-F	V40 11910	0.750	1.969	4.173	1.575	2.953	0,62	2	WOEX 030204	19195
KUB-T-U.2D.0781.R.03.ABS50-F	V40 11980	0.781	1.969	4.173	1.575	2.953	0,62	2	WOEX 030204	19895
KUB-T-U.2D.0812.R.04.ABS50-F	V40 12060	0.812	1.969	4.252	1.654	3.032	1,01	2	WOEX 040304	20695
KUB-T-U.2D.0875.R.04.ABS50-F	V40 12220	0.875	1.969	4.409	1.811	3.189	1,01	2	WOEX 040304	22295
KUB-T-U.2D.0937.R.04.ABS50-F	V40 12380	0.937	1.969	4.488	1.890	3.268	1,01	2	WOEX 040304	23895
KUB-T-U.2D.1000.R.05.ABS50-F	V40 12540	1.000	1.969	4.646	2.047	3.425	1,28	2	WOEX 05T304	25495
KUB-T-U.2D.1031.R.05.ABS50-F	V40 12620	1.031	1.969	4.724	2.126	3.504	1,28	2	WOEX 05T304	26295
KUB-T-U.2D.1109.R.05.ABS50-F	V40 12820	1.109	1.969	4.882	2.283	3.662	1,28	2	WOEX 05T304	28295
KUB-T-U.2D.1125.R.05.ABS50-F	V40 12860	1.125	1.969	4.882	2.283	3.662	1,28	2	WOEX 05T304	28695
KUB-T-U.2D.1156.R.05.ABS50-F	V40 12940	1.156	1.969	4.961	2.362	3.741	1,28	2	WOEX 05T304	29495
KUB-T-U.2D.1187.R.05.ABS50-F	V40 13010	1.187	1.969	5.236	2.441	4.016	1,28	2	WOEX 05T304	30195
KUB-T-U.2D.1218.R.05.ABS50-F	V40 13090	1.218	1.969	5.236	2.441	4.016	1,28	2	WOEX 05T304	30995
KUB-T-U.2D.1250.R.05.ABS50-F	V40 13180	1.250	1.969	5.315	2.520	4.095	1,28	2	WOEX 05T304	31895
KUB-T-U.2D.1281.R.05.ABS50-F	V40 13250	1.281	1.969	5.394	2.598	4.174	1,28	2	WOEX 05T304	32595
KUB-T-U.2D.1312.R.05.ABS50-F	V40 13330	1.312	1.969	5.472	2.677	4.252	1,28	2	WOEX 05T304	33395
KUB-T-U.2D.1328.R.05.ABS50-F	V40 13370	1.328	1.969	5.472	2.677	4.252	1,28	2	WOEX 05T304	33795
KUB-T-U.2D.1375.R.05.ABS50-F	V40 13490	1.375	1.969	5.551	2.756	4.331	1,28	2	WOEX 05T304	34995
KUB-T-U.2D.1406.R.05.ABS50-F	V40 13570	1.406	1.969	5.630	2.835	4.410	1,28	2	WOEX 05T304	35795
KUB-T-U.2D.1437.R.05.ABS50-F	V40 13650	1.437	1.969	6.102	2.913	4.882	1,28	2	WOEX 05T304	36595
KUB-T-U.2D.1469.R.06.ABS50-F	V40 13730	1.469	1.969	6.181	2.992	4.961	2,8	2	WOEX 06T304	37395
KUB-T-U.2D.1500.R.06.ABS50-F	V40 13810	1.500	1.969	6.260	3.071	5.040	2,8	2	WOEX 06T304	38195
KUB-T-U.2D.1531.R.06.ABS50-F	V40 13890	1.531	1.969	6.260	3.071	5.040	2,8	2	WOEX 06T304	38995
KUB-T-U.2D.1562.R.06.ABS50-F	V40 13970	1.562	1.969	6.339	3.150	5.119	2,8	2	WOEX 06T304	39795
KUB-T-U.2D.1625.R.06.ABS50-F	V40 14130	1.625	1.969	6.496	3.307	5.276	2,8	2	WOEX 06T304	41395
KUB-T-U.2D.1656.R.06.ABS50-F	V40 14210	1.656	1.969	6.575	3.386	5.355	2,8	2	WOEX 06T304	42195
KUB-T-U.2D.1687.R.06.ABS50-F	V40 14280	1.687	1.969	6.575	3.386	5.355	2,8	2	WOEX 06T304	42895
KUB-T-U.2D.1750.R.06.ABS50-F	V40 14450	1.750	1.969	6.689	3.500	5.469	2,8	2	WOEX 06T304	44595

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

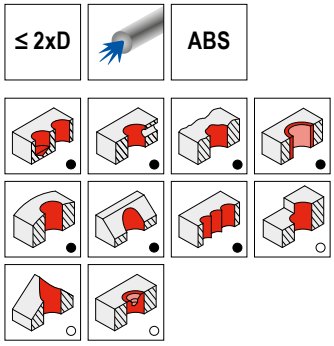

Clamping screw

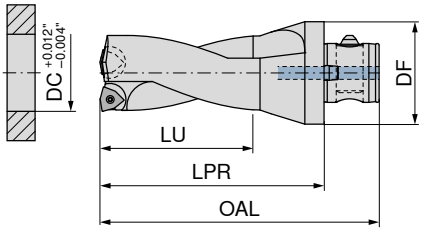
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 030204	T06 - IP	116	M2,0x4,3 - 06IP	10000
WOEX 040304	T06 - IP	116	M2,2x5,5 - 06IP	10700
WOEX 05T304	T08 - IP	039	M2,5x7,2 - 08IP	10500
WOEX 06T304	T10 - IP	119	M3,5x7,3 - 10IP	10600

CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 892 ...
KUB-T.2D.1781.R.08.ABS63-F	V13 34520	**1.781**	2.480	7.224	3.562	5.728	4,3	2	WOEX 080404	**45296**
KUB-T.2D.1875.R.08.ABS63-F	V13 34760	**1.875**	2.480	7.412	3.750	5.916	4,3	2	WOEX 080404	**47696**
KUB-T.2D.1937.R.08.ABS63-F	V13 34920	**1.937**	2.480	7.536	3.874	6.040	4,3	2	WOEX 080404	**49296**
KUB-T.2D.1975.R.08.ABS63-F	V13 35020	**1.975**	2.480	7.612	3.950	6.116	4,3	2	WOEX 080404	**50296**
KUB-T.2D.2000.R.08.ABS63-F	V13 35080	**2.000**	2.480	7.662	4.000	6.166	4,3	2	WOEX 080404	**50896**
KUB-T.2D.2062.R.08.ABS63-F	V13 35240	**2.062**	2.480	7.786	4.124	6.290	4,3	2	WOEX 080404	**52496**
KUB-T.2D.2250.R.10.ABS80-F	V14 35720	**2.250**	3.150	8.359	4.500	6.666	4,3	2	WOEX 100504	**57298**
KUB-T.2D.2281.R.10.ABS80-F	V14 35790	**2.281**	3.150	8.421	4.562	6.728	4,3	2	WOEX 100504	**57998**
KUB-T.2D.2375.R.10.ABS80-F	V14 36030	**2.375**	3.150	8.609	4.750	6.916	4,3	2	WOEX 100504	**60398**
KUB-T.2D.2437.R.10.ABS80-F	V14 36190	**2.437**	3.150	8.733	4.874	7.040	4,3	2	WOEX 100504	**61998**
KUB-T.2D.2500.R.10.ABS80-F	V14 36350	**2.500**	3.150	8.859	5.000	7.166	4,3	2	WOEX 100504	**63598**
KUB-T.2D.2593.R.10.ABS80-F	V14 36590	**2.593**	3.150	9.045	5.186	7.352	4,3	2	WOEX 100504	**65998**
KUB-T.2D.2625.R.10.ABS80-F	V14 36670	**2.625**	3.150	9.109	5.250	7.416	4,3	2	WOEX 100504	**66798**
KUB-T.2D.2656.R.10.ABS80-F	V14 36750	**2.656**	3.150	9.171	5.312	7.478	4,3	2	WOEX 100504	**67598**
KUB-T.2D.2750.R.12.ABS80-F	V14 36990	**2.750**	3.150	9.753	5.500	8.060	6,25	2	WOEX 120608	**69998**
KUB-T.2D.3000.R.12.ABS80-F	V14 37620	**3.000**	3.150	10.253	6.000	8.560	6,25	2	WOEX 120608	**76298**
KUB-T.2D.3250.R.12.ABS80-F	V14 38260	**3.250**	3.150	10.753	6.500	9.060	6,25	2	WOEX 120608	**82698**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

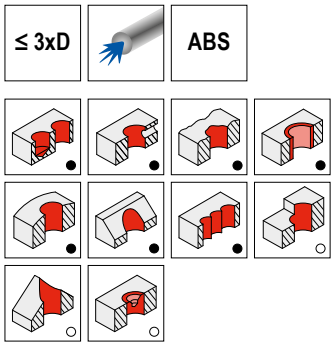
Spare parts DC		Screwdriver AS 80 950 ...		Clamping screw AS 10 950 ...		Fixing screw AS 10 950 ...
1.781 - 2.062	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.250 - 2.656	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.750 - 3.250	T20 - IP	**121**	M5,5x11 - 20IP	**17400**	M5,5x13,5 - 20IP	**17100**

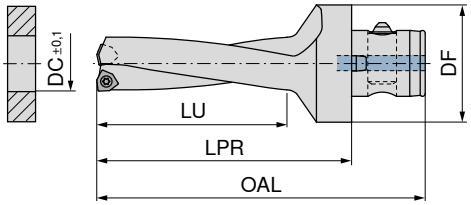
Spare parts DC		Cylindrical pin AS 10 950 ...	Insert seat, internal TO 10 897 ...	Insert seat, external TO 10 898 ...
1.781 - 2.062	Ø3	**17200**	**14800**	**14800**
2.250 - 2.656	Ø3	**17200**	**25300**	**25300**
2.750 - 3.250	Ø4	**17300**	**36000**	**36000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.140.R.03-ABS50	V30 71403	**14**	50	108	42	77	0,62	2	WOEX 030204	**14095**
KUB-T.3D.150.R.03-ABS50	V30 71503	**15**	50	111	45	80	0,62	2	WOEX 030204	**15095**
KUB-T.3D.155.R.03-ABS50	V30 71551	**15.5**	50	114	48	83	0,62	2	WOEX 030204	**15595** [1]
KUB-T.3D.160.R.03-ABS50	V30 71601	**16**	50	114	48	83	0,62	2	WOEX 030204	**16095**
KUB-T.3D.170.R.03-ABS50	V30 71701	**17**	50	117	51	86	0,62	2	WOEX 030204	**17095**
KUB-T.3D.175.R.03-ABS50	V30 71751	**17.5**	50	120	54	89	0,62	2	WOEX 030204	**17595**
KUB-T.3D.180.R.03-ABS50	V30 71801	**18**	50	120	54	89	0,62	2	WOEX 030204	**18095**
KUB-T.3D.185.R.03-ABS50	V30 71851	**18.5**	50	123	57	92	0,62	2	WOEX 030204	**18595**
KUB-T.3D.190.R.03-ABS50	V30 71901	**19**	50	123	57	92	0,62	2	WOEX 030204	**19095**
KUB-T.3D.195.R.03-ABS50	V30 71951	**19.5**	50	126	60	95	0,62	2	WOEX 030204	**19595**
KUB-T.3D.200.R.04-ABS50	V30 72001	**20**	50	126	60	95	1,01	2	WOEX 040304	**20095**
KUB-T.3D.210.R.04-ABS50	V30 72101	**21**	50	129	63	98	1,01	2	WOEX 040304	**21095**
KUB-T.3D.220.R.04-ABS50	V30 72201	**22**	50	132	66	101	1,01	2	WOEX 040304	**22095**
KUB-T.3D.225.R.04-ABS50	V30 72251	**22.5**	50	135	69	104	1,01	2	WOEX 040304	**22595**
KUB-T.3D.230.R.04-ABS50	V30 72301	**23**	50	135	69	104	1,01	2	WOEX 040304	**23095**
KUB-T.3D.240.R.04-ABS50	V30 72401	**24**	50	138	72	107	1,01	2	WOEX 040304	**24095**
KUB-T.3D.245.R.04-ABS50	V30 72451	**24.5**	50	141	75	110	1,01	2	WOEX 040304	**24595**
KUB-T.3D.250.R.05-ABS50	V30 72501	**25**	50	141	75	110	1,28	2	WOEX 05T304	**25095**
KUB-T.3D.260.R.05-ABS50	V30 72651	**26.5**	50	147	81	116	1,28	2	WOEX 05T304	**26595**
KUB-T.3D.260.R.05-ABS50	V30 72601	**26**	50	144	78	113	1,28	2	WOEX 05T304	**26095**
KUB-T.3D.270.R.05-ABS50	V30 72701	**27**	50	147	81	116	1,28	2	WOEX 05T304	**27095**
KUB-T.3D.280.R.05-ABS50	V30 72801	**28**	50	150	84	119	1,28	2	WOEX 05T304	**28095**
KUB-T.3D.285.R.05-ABS50	V30 72851	**28.5**	50	153	87	122	1,28	2	WOEX 05T304	**28595**
KUB-T.3D.290.R.05-ABS50	V30 72901	**29**	50	153	87	122	1,28	2	WOEX 05T304	**29095**
KUB-T.3D.295.R.05-ABS50	V30 72951	**29.5**	50	156	90	125	1,28	2	WOEX 05T304	**29595**
KUB-T.3D.300.R.05-ABS50	V30 73001	**30**	50	161	90	130	1,28	2	WOEX 05T304	**30095**
KUB-T.3D.310.R.05-ABS50	V30 73101	**31**	50	164	93	133	1,28	2	WOEX 05T304	**31095**
KUB-T.3D.315.R.05-ABS50	V30 73151	**31.5**	50	167	96	136	1,28	2	WOEX 05T304	**31595**
KUB-T.3D.320.R.05-ABS50	V30 73201	**32**	50	167	96	136	1,28	2	WOEX 05T304	**32095**
KUB-T.3D.330.R.05-ABS50	V30 73301	**33**	50	170	99	139	1,28	2	WOEX 05T304	**33095**
KUB-T.3D.340.R.05-ABS50	V30 73401	**34**	50	173	102	142	1,28	2	WOEX 05T304	**34095**
KUB-T.3D.350.R.05-ABS50	V30 73501	**35**	50	176	105	145	1,28	2	WOEX 05T304	**35095**
KUB-T.3D.360.R.05-ABS50	V30 73601	**36**	50	179	108	148	1,28	2	WOEX 05T304	**36095**
KUB-T.3D.370.R.06-ABS50	V30 73701	**37**	50	192	111	161	2,8	2	WOEX 06T304	**37095**
KUB-T.3D.375.R.06-ABS50	V30 73751	**37.5**	50	195	114	164	2,8	2	WOEX 06T304	**37595**
KUB-T.3D.380.R.06-ABS50	V30 73801	**38**	50	195	114	164	2,8	2	WOEX 06T304	**38095**
KUB-T.3D.390.R.06-ABS50	V30 73901	**39**	50	198	117	167	2,8	2	WOEX 06T304	**39095**

1) Not in stock

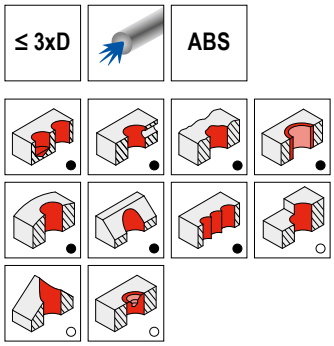
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

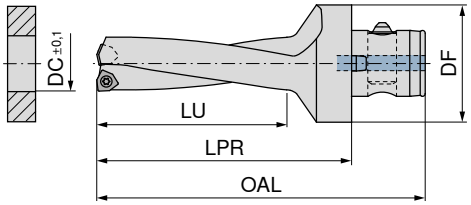
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CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.395.R.06-ABS50	V30 73951	**39.5**	50	201	120	170	2,8	2	WOEX 06T304	**39595**
KUB-T.3D.400.R.06-ABS50	V30 74001	**40**	50	201	120	170	2,8	2	WOEX 06T304	**40095**
KUB-T.3D.410.R.06-ABS50	V30 74101	**41**	50	204	123	173	2,8	2	WOEX 06T304	**41095**
KUB-T.3D.420.R.06-ABS50	V30 74201	**42**	50	207	126	176	2,8	2	WOEX 06T304	**42095**
KUB-T.3D.430.R.06-ABS50	V30 74301	**43**	50	210	129	179	2,8	2	WOEX 06T304	**43095**
KUB-T.3D.440.R.06-ABS50	V30 74401	**44**	50	213	132	182	2,8	2	WOEX 06T304	**44095**

1) Not in stock

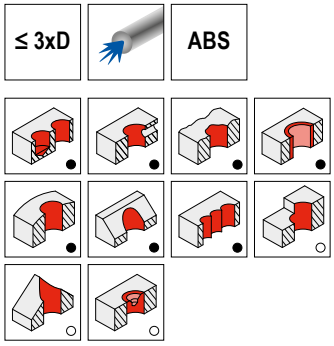
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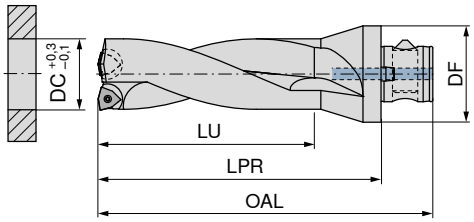
Spare parts DC	 Set CT 84 950 ...		 Screwdriver AS 80 950 ...	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...		 Clamping screw AS 10 950 ...
14 - 19	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,0x4,3 - 06IP	**10000**
20 - 24	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,2x5,5 - 06IP	**10700**
25 - 36	**99900**	T08 - IP	**039**	**20200**	**20000**	**20100**	M2,5x7,2 - 08IP	**10500**
37 - 44	**99900**	T10 - IP	**119**	**20200**	**20000**	**20100**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.450.R.08-ABS63	V13 74500	45	63	228	135	190	4,3	2	WOEX 080404	45096
KUB-T.3D.460.R.08-ABS63	V13 74600	46	63	231	138	193	4,3	2	WOEX 080404	46096
KUB-T.3D.470.R.08-ABS63	V13 74700	47	63	234	141	196	4,3	2	WOEX 080404	47096
KUB-T.3D.480.R.08-ABS63	V13 74800	48	63	237	144	199	4,3	2	WOEX 080404	48096
KUB-T.3D.490.R.08-ABS63	V13 74900	49	63	240	147	202	4,3	2	WOEX 080404	49096
KUB-T.3D.500.R.08-ABS63	V13 75000	50	63	243	150	205	4,3	2	WOEX 080404	50096
KUB-T.3D.510.R.08-ABS63	V13 75100	51	63	246	153	208	4,3	2	WOEX 080404	51096
KUB-T.3D.520.R.08-ABS63	V13 75200	52	63	249	156	211	4,3	2	WOEX 080404	52096
KUB-T.3D.530.R.08-ABS63	V13 75300	53	63	252	159	214	4,3	2	WOEX 080404	53096
KUB-T.3D.540.R.08-ABS63	V13 75400	54	63	255	162	217	4,3	2	WOEX 080404	54096
KUB-T.3D.550.R.10-ABS80	V14 75500	55	80	263	165	220	4,3	2	WOEX 100504	55098
KUB-T.3D.560.R.10-ABS80	V14 75600	56	80	266	168	223	4,3	2	WOEX 100504	56098
KUB-T.3D.570.R.10-ABS80	V14 75700	57	80	269	171	226	4,3	2	WOEX 100504	57098
KUB-T.3D.580.R.10-ABS80	V14 75800	58	80	272	174	229	4,3	2	WOEX 100504	58098
KUB-T.3D.590.R.10-ABS80	V14 75900	59	80	275	177	232	4,3	2	WOEX 100504	59098
KUB-T.3D.600.R.10-ABS80	V14 76000	60	80	278	180	235	4,3	2	WOEX 100504	60098
KUB-T.3D.610.R.10-ABS80	V14 76100	61	80	281	183	238	4,3	2	WOEX 100504	61098
KUB-T.3D.620.R.10-ABS80	V14 76200	62	80	284	186	241	4,3	2	WOEX 100504	62098
KUB-T.3D.630.R.10-ABS80	V14 76300	63	80	287	189	244	4,3	2	WOEX 100504	63098
KUB-T.3D.640.R.10-ABS80	V14 76400	64	80	290	192	247	4,3	2	WOEX 100504	64098
KUB-T.3D.650.R.10-ABS80	V14 76500	65	80	293	195	250	4,3	2	WOEX 100504	65098
KUB-T.3D.660.R.10-ABS80	V14 76600	66	80	296	198	253	4,3	2	WOEX 100504	66098
KUB-T.3D.670.R.10-ABS80	V14 76700	67	80	299	201	256	4,3	2	WOEX 100504	67098
KUB-T.3D.680.R.10-ABS80	V14 76800	68	80	302	204	259	4,3	2	WOEX 100504	68098
KUB-T.3D.690.R.12-ABS80	V14 76900	69	80	315	207	272	6,25	2	WOEX 120608	69098
KUB-T.3D.700.R.12-ABS80	V14 77000	70	80	318	210	275	6,25	2	WOEX 120608	70098
KUB-T.3D.710.R.12-ABS80	V14 77100	71	80	321	213	278	6,25	2	WOEX 120608	71098
KUB-T.3D.720.R.12-ABS80	V14 77200	72	80	324	216	281	6,25	2	WOEX 120608	72098
KUB-T.3D.730.R.12-ABS80	V14 77300	73	80	327	219	284	6,25	2	WOEX 120608	73098
KUB-T.3D.740.R.12-ABS80	V14 77400	74	80	330	222	287	6,25	2	WOEX 120608	74098
KUB-T.3D.750.R.12-ABS80	V14 77500	75	80	333	225	290	6,25	2	WOEX 120608	75098
KUB-T.3D.760.R.12-ABS80	V14 77600	76	80	336	228	293	6,25	2	WOEX 120608	76098
KUB-T.3D.770.R.12-ABS80	V14 77700	77	80	339	231	296	6,25	2	WOEX 120608	77098
KUB-T.3D.780.R.12-ABS80	V14 77800	78	80	342	234	299	6,25	2	WOEX 120608	78098

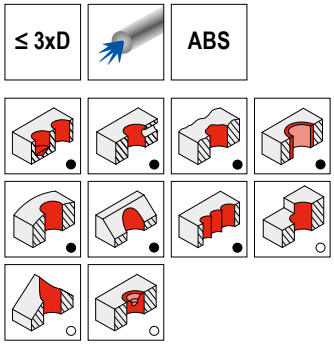
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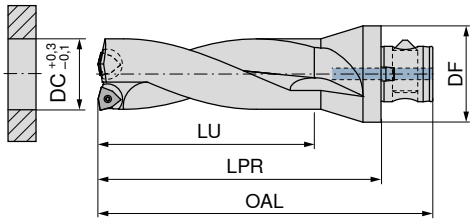
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CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.790.R.12-ABS80	V14 77900	**79**	80	345	237	302	6,25	2	WOEX 120608	**79098**
KUB-T.3D.800.R.12-ABS80	V14 78000	**80**	80	348	240	305	6,25	2	WOEX 120608	**80098**
KUB-T.3D.810.R.12-ABS80	V14 78100	**81**	80	351	243	308	6,25	2	WOEX 120608	**81098**
KUB-T.3D.820.R.12-ABS80	V14 78200	**82**	80	354	246	311	6,25	2	WOEX 120608	**82098**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
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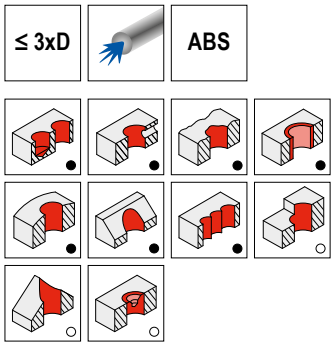
Spare parts DC		Screwdriver AS 80 950 ...		Clamping screw AS 10 950 ...		Fixing screw AS 10 950 ...
45 - 54	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
55 - 68	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
69 - 82	T20 - IP	**121**	M5,5x11 - 20IP	**17400**	M5,5x13,5 - 20IP	**17100**

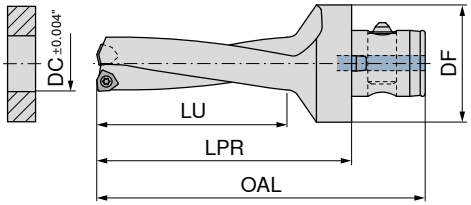
Spare parts DC		Cylindrical pin AS 10 950 ...	Insert seat, internal TO 10 897 ...	Insert seat, external TO 10 898 ...
45 - 54	Ø3	**17200**	**14800**	**14800**
55 - 68	Ø3	**17200**	**25300**	**25300**
69 - 82	Ø4	**17300**	**36000**	**36000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 893 ...
KUB-T-U.3D.0562.R.03.ABS50-F	V40 21430	0.562	1.969	4.370	1.772	3.150	0,62	2	WOEX 030204	14395
KUB-T-U.3D.0593.R.03.ABS50-F	V40 21510	0.593	1.969	4.488	1.890	3.268	0,62	2	WOEX 030204	15195
KUB-T-U.3D.0625.R.03.ABS50-F	V40 21590	0.625	1.969	4.488	1.890	3.268	0,62	2	WOEX 030204	15995
KUB-T-U.3D.0656.R.03.ABS50-F	V40 21670	0.656	1.969	4.606	2.008	3.386	0,62	2	WOEX 030204	16795
KUB-T-U.3D.0703.R.03.ABS50-F	V40 21790	0.703	1.969	4.724	2.126	3.504	0,62	2	WOEX 030204	17995
KUB-T-U.3D.0750.R.03.ABS50-F	V40 21910	0.750	1.969	4.961	2.362	3.741	0,62	2	WOEX 030204	19195
KUB-T-U.3D.0765.R.03.ABS50-F	V40 21940	0.765	1.969	4.961	2.362	3.741	0,62	2	WOEX 030204	19495
KUB-T-U.3D.0781.R.03.ABS50-F	V40 21980	0.781	1.969	4.961	2.362	3.741	0,62	2	WOEX 030204	19895
KUB-T-U.3D.0812.R.04.ABS50-F	V40 22060	0.812	1.969	5.079	2.480	3.859	1,01	2	WOEX 040304	20695
KUB-T-U.3D.0875.R.04.ABS50-F	V40 22220	0.875	1.969	5.315	2.717	4.095	1,01	2	WOEX 040304	22295
KUB-T-U.3D.0937.R.04.ABS50-F	V40 22380	0.937	1.969	5.433	2.835	4.213	1,01	2	WOEX 040304	23895
KUB-T-U.3D.1000.R.05.ABS50-F	V40 22540	1.000	1.969	5.669	3.071	4.449	1,28	2	WOEX 05T304	25495
KUB-T-U.3D.1031.R.05.ABS50-F	V40 22620	1.031	1.969	5.787	3.189	4.567	1,28	2	WOEX 05T304	26295
KUB-T-U.3D.1109.R.05.ABS50-F	V40 22820	1.109	1.969	6.024	3.425	4.804	1,28	2	WOEX 05T304	28295
KUB-T-U.3D.1125.R.05.ABS50-F	V40 22860	1.125	1.969	6.024	3.425	4.804	1,28	2	WOEX 05T304	28695
KUB-T-U.3D.1156.R.05.ABS50-F	V40 22940	1.156	1.969	6.142	3.543	4.922	1,28	2	WOEX 05T304	29495
KUB-T-U.3D.1187.R.05.ABS50-F	V40 23010	1.187	1.969	6.457	3.661	5.237	1,28	2	WOEX 05T304	30195
KUB-T-U.3D.1218.R.05.ABS50-F	V40 23090	1.218	1.969	6.457	3.661	5.237	1,28	2	WOEX 05T304	30995
KUB-T-U.3D.1250.R.05.ABS50-F	V40 23180	1.250	1.969	6.575	3.780	5.355	1,28	2	WOEX 05T304	31895
KUB-T-U.3D.1281.R.05.ABS50-F	V40 23250	1.281	1.969	6.693	3.898	5.473	1,28	2	WOEX 05T304	32595
KUB-T-U.3D.1312.R.05.ABS50-F	V40 23330	1.312	1.969	6.811	4.016	5.591	1,28	2	WOEX 05T304	33395
KUB-T-U.3D.1328.R.05.ABS50-F	V40 23370	1.328	1.969	6.811	4.016	5.591	1,28	2	WOEX 05T304	33795
KUB-T-U.3D.1375.R.05.ABS50-F	V40 23490	1.375	1.969	6.929	4.134	5.709	1,28	2	WOEX 05T304	34995
KUB-T-U.3D.1406.R.05.ABS50-F	V40 23570	1.406	1.969	7.047	4.252	5.827	1,28	2	WOEX 05T304	35795
KUB-T-U.3D.1437.R.05.ABS50-F	V40 23650	1.437	1.969	7.559	4.370	6.339	1,28	2	WOEX 05T304	36595
KUB-T-U.3D.1469.R.06.ABS50-F	V40 23730	1.469	1.969	7.677	4.488	6.457	2,8	2	WOEX 06T304	37395
KUB-T-U.3D.1500.R.06.ABS50-F	V40 23810	1.500	1.969	7.795	4.606	6.575	2,8	2	WOEX 06T304	38195
KUB-T-U.3D.1531.R.06.ABS50-F	V40 23890	1.531	1.969	7.795	4.606	6.575	2,8	2	WOEX 06T304	38995
KUB-T-U.3D.1562.R.06.ABS50-F	V40 23970	1.562	1.969	7.913	4.724	6.693	2,8	2	WOEX 06T304	39795
KUB-T-U.3D.1625.R.06.ABS50-F	V40 24130	1.625	1.969	8.150	4.961	6.930	2,8	2	WOEX 06T304	41395
KUB-T-U.3D.1656.R.06.ABS50-F	V40 24210	1.656	1.969	8.268	5.079	7.048	2,8	2	WOEX 06T304	42195
KUB-T-U.3D.1687.R.06.ABS50-F	V40 24280	1.687	1.969	8.268	5.079	7.048	2,8	2	WOEX 06T304	42895
KUB-T-U.3D.1750.R.06.ABS50-F	V40 24450	1.750	1.969	8.439	5.250	7.219	2,8	2	WOEX 06T304	44595

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

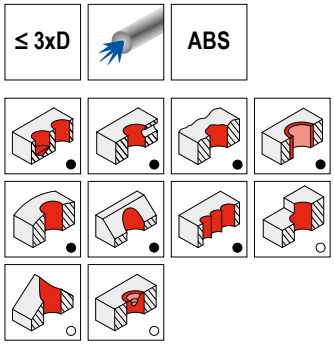
Spare parts

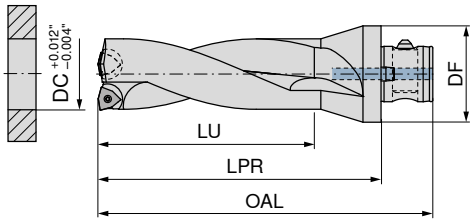
Indexable insert		Screwdriver AS 80 950 ...		Clamping screw AS 10 950 ...
WOEX 030204	T06 - IP	116	M2,0x4,3 - 06IP	10000
WOEX 040304	T06 - IP	116	M2,2x5,5 - 06IP	10700
WOEX 05T304	T08 - IP	039	M2,5x7,2 - 08IP	10500
WOEX 06T304	T10 - IP	119	M3,5x7,3 - 10IP	10600

CoreLine – Indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 893 ...
KUB-T.3D.1781.R.08.ABS63-F	V13 74520	**1.781**	2.480	9.005	5.343	7.509	4,3	2	WOEX 080404	**45296**
KUB-T.3D.1875.R.08.ABS63-F	V13 74760	**1.875**	2.480	9.287	5.625	7.791	4,3	2	WOEX 080404	**47696**
KUB-T.3D.1937.R.08.ABS63-F	V13 74920	**1.937**	2.480	9.473	5.811	7.977	4,3	2	WOEX 080404	**49296**
KUB-T.3D.1975.R.08.ABS63-F	V13 75020	**1.975**	2.480	9.587	5.925	8.091	4,3	2	WOEX 080404	**50296**
KUB-T.3D.2000.R.08.ABS63-F	V13 75080	**2.000**	2.480	9.662	6.000	8.166	4,3	2	WOEX 080404	**50896**
KUB-T.3D.2062.R.08.ABS63-F	V13 75240	**2.062**	2.480	10.028	6.186	8.532	4,3	2	WOEX 080404	**52496**
KUB-T.3D.2250.R.10.ABS80-F	V14 75720	**2.250**	3.150	10.609	6.750	8.916	4,3	2	WOEX 100504	**57298**
KUB-T.3D.2281.R.10.ABS80-F	V14 75790	**2.281**	3.150	10.702	6.843	9.009	4,3	2	WOEX 100504	**57998**
KUB-T.3D.2375.R.10.ABS80-F	V14 76030	**2.375**	3.150	10.984	7.125	9.291	4,3	2	WOEX 100504	**60398**
KUB-T.3D.2437.R.10.ABS80-F	V14 76190	**2.437**	3.150	11.170	7.311	9.477	4,3	2	WOEX 100504	**61998**
KUB-T.3D.2500.R.10.ABS80-F	V14 76350	**2.500**	3.150	11.359	7.500	9.666	4,3	2	WOEX 100504	**63598**
KUB-T.3D.2593.R.10.ABS80-F	V14 76590	**2.593**	3.150	11.638	7.779	9.945	4,3	2	WOEX 100504	**65998**
KUB-T.3D.2625.R.10.ABS80-F	V14 76670	**2.625**	3.150	11.734	7.875	10.041	4,3	2	WOEX 100504	**66798**
KUB-T.3D.2656.R.10.ABS80-F	V14 76750	**2.656**	3.150	11.827	7.968	10.134	4,3	2	WOEX 100504	**67598**
KUB-T.3D.2750.R.12.ABS80-F	V14 76990	**2.750**	3.150	12.503	8.250	10.810	6,25	2	WOEX 120608	**69998**
KUB-T.3D.3000.R.12.ABS80-F	V14 77620	**3.000**	3.150	13.253	9.000	11.560	6,25	2	WOEX 120608	**76298**
KUB-T.3D.3250.R.12.ABS80-F	V14 78260	**3.250**	3.150	14.003	9.750	12.310	6,25	2	WOEX 120608	**82698**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver


Clamping screw


Fixing screw

Spare parts DC		AS 80 950 ...		AS 10 950 ...		AS 10 950 ...
1.781 - 2.062	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.250 - 2.656	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.750 - 3.250	T20 - IP	**121**	M5,5x11 - 20IP	**17400**	M5,5x13,5 - 20IP	**17100**


Cylindrical pin


Insert seat, internal

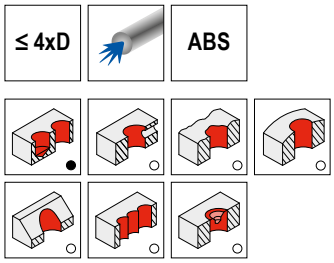

Insert seat, external

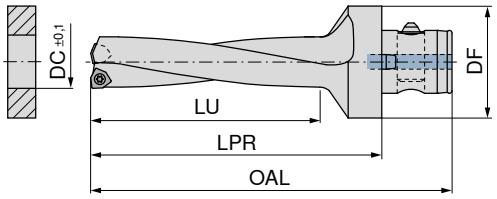
Spare parts DC		AS 10 950 ...	TO 10 897 ...	TO 10 898 ...
1.781 - 2.062	Ø3	**17200**	**14800**	**14800**
2.250 - 2.656	Ø3	**17200**	**25300**	**25300**
2.750 - 3.250	Ø4	**17300**	**36000**	**36000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 894 ...
KUB-T.4D.140.R.03-ABS50	V30 91403	**14**	50	122	56	91	0,62	2	WOEX 030204	**14095**
KUB-T.4D.150.R.03-ABS50	V30 91503	**15**	50	126	60	95	0,62	2	WOEX 030204	**15095**
KUB-T.4D.155.R.03-ABS50	V30 91551	**15.5**	50	130	64	99	0,62	2	WOEX 030204	**15595**
KUB-T.4D.160.R.03-ABS50	V30 91601	**16**	50	130	64	99	0,62	2	WOEX 030204	**16095**
KUB-T.4D.170.R.03-ABS50	V30 91701	**17**	50	134	68	103	0,62	2	WOEX 030204	**17095**
KUB-T.4D.180.R.03-ABS50	V30 91801	**18**	50	138	72	107	0,62	2	WOEX 030204	**18095**
KUB-T.4D.185.R.03-ABS50	V30 91851	**18.5**	50	142	76	111	0,62	2	WOEX 030204	**18595**
KUB-T.4D.190.R.03-ABS50	V30 91901	**19**	50	142	76	111	0,62	2	WOEX 030204	**19095**
KUB-T.4D.195.R.03-ABS50	V30 91951	**19.5**	50	146	80	115	0,62	2	WOEX 030204	**19595**
KUB-T.4D.200.R.04-ABS50	V30 92001	**20**	50	146	80	115	1,01	2	WOEX 040304	**20095**
KUB-T.4D.210.R.04-ABS50	V30 92101	**21**	50	150	84	119	1,01	2	WOEX 040304	**21095**
KUB-T.4D.220.R.04-ABS50	V30 92201	**22**	50	154	88	123	1,01	2	WOEX 040304	**22095**
KUB-T.4D.225.R.04-ABS50	V30 92251	**22.5**	50	158	92	127	1,01	2	WOEX 040304	**22595**
KUB-T.4D.230.R.04-ABS50	V30 92301	**23**	50	158	92	127	1,01	2	WOEX 040304	**23095**
KUB-T.4D.240.R.04-ABS50	V30 92401	**24**	50	162	96	131	1,01	2	WOEX 040304	**24095**
KUB-T.4D.245.R.04-ABS50	V30 92451	**24.5**	50	166	100	135	1,01	2	WOEX 040304	**24595**
KUB-T.4D.250.R.05-ABS50	V30 92501	**25**	50	166	100	135	1,28	2	WOEX 05T304	**25095**
KUB-T.4D.260.R.05-ABS50	V30 92601	**26**	50	170	104	139	1,28	2	WOEX 05T304	**26095**
KUB-T.4D.265.R.05-ABS50	V30 92651	**26.5**	50	174	108	143	1,28	2	WOEX 05T304	**26595**
KUB-T.4D.270.R.05-ABS50	V30 92701	**27**	50	174	108	143	1,28	2	WOEX 05T304	**27095**
KUB-T.4D.280.R.05-ABS50	V30 92801	**28**	50	178	112	147	1,28	2	WOEX 05T304	**28095**
KUB-T.4D.285.R.05-ABS50	V30 92851	**28.5**	50	182	116	151	1,28	2	WOEX 05T304	**28595** [1]
KUB-T.4D.290.R.05-ABS50	V30 92901	**29**	50	182	116	151	1,28	2	WOEX 05T304	**29095**
KUB-T.4D.295.R.05-ABS50	V30 92951	**29.5**	50	186	120	155	1,28	2	WOEX 05T304	**29595**
KUB-T.4D.300.R.05-ABS50	V30 93001	**30**	50	191	120	160	1,28	2	WOEX 05T304	**30095**
KUB-T.4D.310.R.05-ABS50	V30 93101	**31**	50	195	124	164	1,28	2	WOEX 05T304	**31095**
KUB-T.4D.315.R.05-ABS50	V30 93151	**31.5**	50	199	128	168	1,28	2	WOEX 05T304	**31595**
KUB-T.4D.320.R.05-ABS50	V30 93201	**32**	50	199	128	168	1,28	2	WOEX 05T304	**32095**
KUB-T.4D.330.R.05-ABS50	V30 93301	**33**	50	203	132	172	1,28	2	WOEX 05T304	**33095**
KUB-T.4D.340.R.05-ABS50	V30 93401	**34**	50	207	136	176	1,28	2	WOEX 05T304	**34095**
KUB-T.4D.350.R.05-ABS50	V30 93501	**35**	50	211	140	180	1,28	2	WOEX 05T304	**35095**
KUB-T.4D.360.R.05-ABS50	V30 93601	**36**	50	215	144	184	1,28	2	WOEX 05T304	**36095**
KUB-T.4D.370.R.06-ABS50	V30 93701	**37**	50	229	148	198	2,8	2	WOEX 06T304	**37095**
KUB-T.4D.375.R.06-ABS50	V30 93751	**37.5**	50	233	152	202	2,8	2	WOEX 06T304	**37595**
KUB-T.4D.380.R.06-ABS50	V30 93801	**38**	50	233	152	202	2,8	2	WOEX 06T304	**38095**
KUB-T.4D.390.R.06-ABS50	V30 93901	**39**	50	237	156	206	2,8	2	WOEX 06T304	**39095**

1) Not in stock

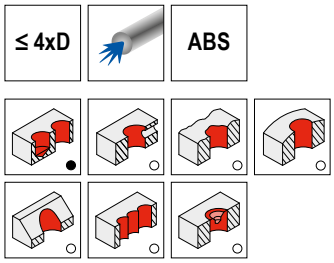
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

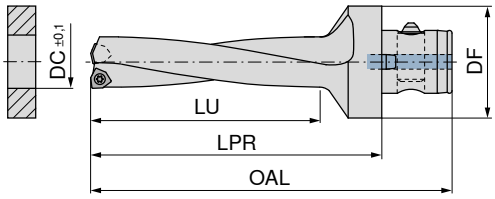
Continued on next page

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 894 ...
KUB-T.4D.395.R.06-ABS50	V30 93951	**39.5**	50	241	156	210	2,8	2	WOEX 06T304	**39595**
KUB-T.4D.400.R.06-ABS50	V30 94001	**40**	50	241	160	210	2,8	2	WOEX 06T304	**40095**
KUB-T.4D.410.R.06-ABS50	V30 94101	**41**	50	245	164	214	2,8	2	WOEX 06T304	**41095**
KUB-T.4D.420.R.06-ABS50	V30 94201	**42**	50	249	168	218	2,8	2	WOEX 06T304	**42095**
KUB-T.4D.430.R.06-ABS50	V30 94301	**43**	50	253	172	222	2,8	2	WOEX 06T304	**43095**
KUB-T.4D.440.R.06-ABS50	V30 94401	**44**	50	257	176	226	2,8	2	WOEX 06T304	**44095**

1) Not in stock

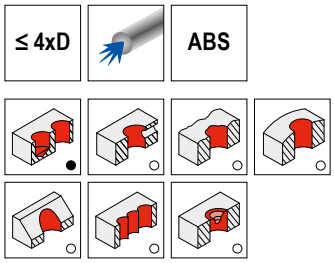
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

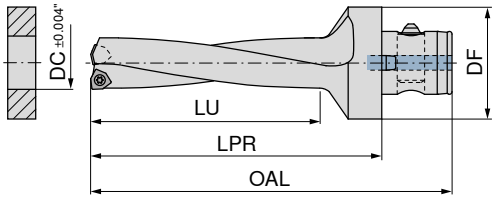
Spare parts DC	 Set CT 84 950 ...		 Screwdriver AS 80 950 ...	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...		 Clamping screw AS 10 950 ...
14 - 19	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,0x4,3 - 06IP	**10000**
20 - 24	**99900**	T06 - IP	**116**	**20200**	**20000**	**20100**	M2,2x5,5 - 06IP	**10700**
25 - 36	**99900**	T08 - IP	**039**	**20200**	**20000**	**20100**	M2,5x7,2 - 08IP	**10500**
37 - 44	**99900**	T10 - IP	**119**	**20200**	**20000**	**20100**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DF inch	OAL inch	LU inch	LPR inch	Tightening torque Nm	ZEFF	Indexable insert	TO 15 894 ...
KUB-T.4D.0562.R.03.ABS50-F	V30 91431	0.562	1.969	4.955	2.358	3.735	0,62	2	WOEX 030204	14395
KUB-T.4D.0593.R.03.ABS50-F	V30 91511	0.593	1.969	5.112	2.514	3.892	0,62	2	WOEX 030204	15195
KUB-T.4D.0625.R.03.ABS50-F	V30 91591	0.625	1.969	5.114	2.516	3.894	0,62	2	WOEX 030204	15995
KUB-T.4D.0656.R.03.ABS50-F	V30 91671	0.656	1.969	5.269	2.671	4.049	0,62	2	WOEX 030204	16795
KUB-T.4D.0687.R.03.ABS50-F	V30 91751	0.687	1.969	5.425	2.827	4.205	0,62	2	WOEX 030204	17595
KUB-T.4D.0703.R.03.ABS50-F	V30 91791	0.703	1.969	5.425	2.828	4.205	0,62	2	WOEX 030204	17995
KUB-T.4D.0750.R.03.ABS50-F	V30 91911	0.750	1.969	5.740	3.142	4.520	0,62	2	WOEX 030204	19195
KUB-T.4D.0765.R.03.ABS50-F	V30 91941	0.765	1.969	5.752	3.154	4.532	0,62	2	WOEX 030204	19495
KUB-T.4D.0781.R.03.ABS50-F	V30 91981	0.781	1.969	5.753	3.155	4.533	0,62	2	WOEX 030204	19895
KUB-T.4D.0812.R.04.ABS50-F	V30 92061	0.812	1.969	5.909	3.311	4.689	1,01	2	WOEX 040304	20695
KUB-T.4D.0875.R.04.ABS50-F	V30 92221	0.875	1.969	6.224	3.626	5.004	1,01	2	WOEX 040304	22295
KUB-T.4D.0937.R.04.ABS50-F	V30 92381	0.937	1.969	6.377	3.779	5.157	1,01	2	WOEX 040304	23895
KUB-T.4D.1000.R.05.ABS50-F	V30 92541	1.000	1.969	6.692	4.094	5.472	1,28	2	WOEX 05T304	25495
KUB-T.4D.1031.R.05.ABS50-F	V30 92621	1.031	1.969	6.848	4.250	5.628	1,28	2	WOEX 05T304	26295
KUB-T.4D.1109.R.05.ABS50-F	V30 92821	1.109	1.969	7.160	4.562	5.940	1,28	2	WOEX 05T304	28295
KUB-T.4D.1125.R.05.ABS50-F	V30 92861	1.125	1.969	7.161	4.563	5.941	1,28	2	WOEX 05T304	28695
KUB-T.4D.1156.R.05.ABS50-F	V30 92941	1.156	1.969	7.316	4.718	6.096	1,28	2	WOEX 05T304	29495
KUB-T.4D.1187.R.05.ABS50-F	V30 93021	1.187	1.969	7.685	4.874	6.465	1,28	2	WOEX 05T304	30195
KUB-T.4D.1218.R.05.ABS50-F	V30 93091	1.218	1.969	7.699	4.888	6.479	1,28	2	WOEX 05T304	30995
KUB-T.4D.1250.R.05.ABS50-F	V30 93181	1.250	1.969	7.842	5.031	6.622	1,28	2	WOEX 05T304	31895
KUB-T.4D.1281.R.05.ABS50-F	V30 93251	1.281	1.969	8.014	5.203	6.794	1,28	2	WOEX 05T304	32595
KUB-T.4D.1312.R.05.ABS50-F	V30 93331	1.312	1.969	8.161	5.350	6.941	1,28	2	WOEX 05T304	33395
KUB-T.4D.1328.R.05.ABS50-F	V30 93371	1.328	1.969	8.170	5.359	6.950	1,28	2	WOEX 05T304	33795
KUB-T.4D.1375.R.05.ABS50-F	V30 93491	1.375	1.969	8.327	5.516	7.107	1,28	2	WOEX 05T304	34995
KUB-T.4D.1406.R.05.ABS50-F	V30 93571	1.406	1.969	8.482	5.671	7.262	1,28	2	WOEX 05T304	35795
KUB-T.4D.1437.R.05.ABS50-F	V30 93651	1.437	1.969	8.638	5.827	7.418	1,28	2	WOEX 05T304	36595
KUB-T.4D.1469.R.06.ABS50-F	V30 93731	1.469	1.969	9.175	5.986	7.955	2,8	2	WOEX 06T304	37395
KUB-T.4D.1500.R.06.ABS50-F	V30 93811	1.500	1.969	9.331	6.142	8.111	2,8	2	WOEX 06T304	38195
KUB-T.4D.1531.R.06.ABS50-F	V30 93891	1.531	1.969	9.329	6.140	8.109	2,8	2	WOEX 06T304	38995
KUB-T.4D.1562.R.06.ABS50-F	V30 93971	1.562	1.969	9.484	6.295	8.264	2,8	2	WOEX 06T304	39795
KUB-T.4D.1625.R.06.ABS50-F	V30 94131	1.625	1.969	9.799	6.610	8.579	2,8	2	WOEX 06T304	41395
KUB-T.4D.1656.R.06.ABS50-F	V30 94211	1.656	1.969	9.955	6.766	8.735	2,8	2	WOEX 06T304	42195
KUB-T.4D.1687.R.06.ABS50-F	V30 94291	1.687	1.969	9.953	6.764	8.733	2,8	2	WOEX 06T304	42895
KUB-T.4D.1750.R.06.ABS50-F	V30 94451	1.750	1.969	10.268	7.079	9.048	2,8	2	WOEX 06T304	44595

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

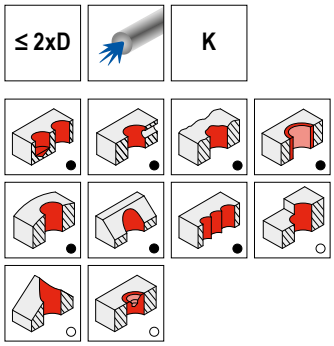

Clamping screw

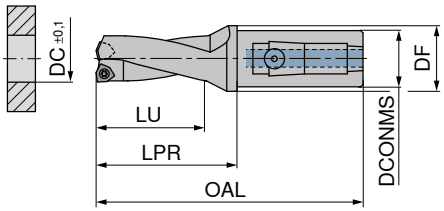
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 030204	T06 - IP	116	M2,0x4,3 - 06IP	10000
WOEX 040304	T06 - IP	116	M2,2x5,5 - 06IP	10700
WOEX 05T304	T08 - IP	039	M2,5x7,2 - 08IP	10500
WOEX 06T304	T10 - IP	119	M3,5x7,3 - 10IP	10600

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 892 ...
KUB-T.2D.140.R.03-K20	V43 31404	**14**	20	30	102	28	52	0,62	2	WOEX 030204	**14011**
KUB-T.2D.150.R.03-K20	V43 31504	**15**	20	30	104	30	54	0,62	2	WOEX 030204	**15011**
KUB-T.2D.160.R.03-K20	V43 31602	**16**	20	30	106	32	56	0,62	2	WOEX 030204	**16011**
KUB-T.2D.170.R.03-K20	V43 31702	**17**	20	30	108	34	58	0,62	2	WOEX 030204	**17011**
KUB-T.2D.180.R.03-K20	V43 31802	**18**	20	30	110	36	60	0,62	2	WOEX 030204	**18011**
KUB-T.2D.190.R.03-K20	V43 31902	**19**	20	30	112	38	62	0,62	2	WOEX 030204	**19011**
KUB-T.2D.200.R.04-K25	V44 32002	**20**	25	30	120	40	64	1,01	2	WOEX 040304	**20012**
KUB-T.2D.210.R.04-K25	V44 32102	**21**	25	30	122	42	66	1,01	2	WOEX 040304	**21012**
KUB-T.2D.220.R.04-K25	V44 32202	**22**	25	30	124	44	68	1,01	2	WOEX 040304	**22012**
KUB-T.2D.230.R.04-K25	V44 32302	**23**	25	30	126	46	70	1,01	2	WOEX 040304	**23012**
KUB-T.2D.240.R.04-K25	V44 32402	**24**	25	30	128	48	72	1,01	2	WOEX 040304	**24012**
KUB-T.2D.250.R.05-K32	V45 32502	**25**	32	39	134	50	74	1,28	2	WOEX 05T304	**25013**
KUB-T.2D.260.R.05-K32	V45 32602	**26**	32	39	136	52	76	1,28	2	WOEX 05T304	**26013**
KUB-T.2D.270.R.05-K32	V45 32702	**27**	32	39	138	54	78	1,28	2	WOEX 05T304	**27013**
KUB-T.2D.280.R.05-K32	V45 32802	**28**	32	39	140	56	80	1,28	2	WOEX 05T304	**28013**
KUB-T.2D.290.R.05-K32	V45 32902	**29**	32	39	142	58	82	1,28	2	WOEX 05T304	**29013**
KUB-T.2D.300.R.05-K32	V45 33002	**30**	32	39	149	60	89	1,28	2	WOEX 05T304	**30013**
KUB-T.2D.310.R.05-K32	V45 33102	**31**	32	39	151	62	91	1,28	2	WOEX 05T304	**31013**
KUB-T.2D.320.R.05-K32	V45 33202	**32**	32	39	153	64	93	1,28	2	WOEX 05T304	**32013**
KUB-T.2D.330.R.05-K32	V45 33302	**33**	32	39	155	66	95	1,28	2	WOEX 05T304	**33013**
KUB-T.2D.340.R.05-K32	V45 33402	**34**	32	39	157	68	97	1,28	2	WOEX 05T304	**34013**
KUB-T.2D.350.R.05-K32	V45 33502	**35**	32	39	159	70	99	1,28	2	WOEX 05T304	**35013**
KUB-T.2D.360.R.05-K32	V45 33602	**36**	32	39	161	72	101	1,28	2	WOEX 05T304	**36013**
KUB-T.2D.370.R.06-K32	V45 33702	**37**	32	39	173	74	113	2,8	2	WOEX 06T304	**37013**
KUB-T.2D.380.R.06-K32	V45 33802	**38**	32	39	175	76	115	2,8	2	WOEX 06T304	**38013**
KUB-T.2D.390.R.06-K32	V45 33902	**39**	32	39	177	78	117	2,8	2	WOEX 06T304	**39013**
KUB-T.2D.400.R.06-K32	V45 34002	**40**	32	39	179	80	119	2,8	2	WOEX 06T304	**40013**
KUB-T.2D.410.R.06-K32	V45 34102	**41**	32	39	181	82	121	2,8	2	WOEX 06T304	**41013**
KUB-T.2D.420.R.06-K32	V45 34202	**42**	32	39	183	84	123	2,8	2	WOEX 06T304	**42013**
KUB-T.2D.430.R.06-K32	V45 34302	**43**	32	39	185	86	125	2,8	2	WOEX 06T304	**43013**
KUB-T.2D.440.R.06-K32	V45 34402	**44**	32	39	187	88	127	2,8	2	WOEX 06T304	**44013**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

Spare parts
DC


Screwdriver

AS **80 950 ...**


Clamping screw

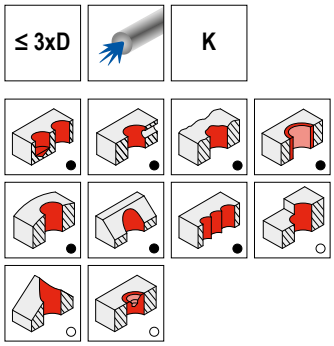
AS **10 950 ...**

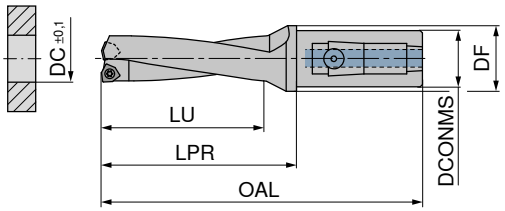
DC				
14 - 19	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
20 - 24	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
25 - 36	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
37 - 44	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.140.R.03-K20	V44 71404	14	25	30	122	42	66	0,62	2	WOEX 030204	14012
KUB-T.3D.140.R.03-K20	V43 71404	14	20	30	116	42	66	0,62	2	WOEX 030204	14011
KUB-T.3D.150.R.03-K20	V44 71504	15	25	30	125	45	69	0,62	2	WOEX 030204	15012
KUB-T.3D.150.R.03-K20	V43 71504	15	20	30	119	45	69	0,62	2	WOEX 030204	15011
KUB-T.3D.160.R.03-K20	V44 71602	16	25	30	128	48	72	0,62	2	WOEX 030204	16012
KUB-T.3D.160.R.03-K20	V43 71602	16	20	30	122	48	72	0,62	2	WOEX 030204	16011
KUB-T.3D.170.R.03-K20	V44 71702	17	25	30	131	51	75	0,62	2	WOEX 030204	17012
KUB-T.3D.170.R.03-K20	V43 71702	17	20	30	125	51	75	0,62	2	WOEX 030204	17011
KUB-T.3D.175.R.03-K20	V44 71752	17.5	25	30	134	54	78	0,62	2	WOEX 030204	17512
KUB-T.3D.180.R.03-K20	V44 71802	18	25	30	134	54	78	0,62	2	WOEX 030204	18012
KUB-T.3D.180.R.03-K20	V43 71802	18	20	30	128	54	78	0,62	2	WOEX 030204	18011
KUB-T.3D.185.R.03-K20	V44 71852	18.5	25	30	137	57	81	0,62	2	WOEX 030204	18512
KUB-T.3D.190.R.03-K20	V44 71902	19	25	30	137	57	81	0,62	2	WOEX 030204	19012
KUB-T.3D.190.R.03-K20	V43 71902	19	20	30	131	57	81	0,62	2	WOEX 030204	19011
KUB-T.3D.195.R.03-K20	V44 71952	19.5	25	30	140	60	84	0,62	2	WOEX 030204	19512
KUB-T.3D.200.R.04-K25	V44 72002	20	25	30	140	60	84	1,01	2	WOEX 040304	20012
KUB-T.3D.210.R.04-K25	V44 72102	21	25	30	143	63	87	1,01	2	WOEX 040304	21012
KUB-T.3D.220.R.04-K25	V44 72202	22	25	30	146	66	90	1,01	2	WOEX 040304	22012
KUB-T.3D.225.R.04-K25	V44 72252	22.5	25	30	149	69	93	1,01	2	WOEX 040304	22512
KUB-T.3D.230.R.04-K25	V44 72302	23	25	30	149	69	93	1,01	2	WOEX 040304	23012
KUB-T.3D.240.R.04-K25	V44 72402	24	25	30	152	72	96	1,01	2	WOEX 040304	24012
KUB-T.3D.245.R.04-K25	V44 72452	24.5	25	30	155	75	99	1,01	2	WOEX 040304	24512
KUB-T.3D.250.R.05-K32	V45 72502	25	32	39	159	75	99	1,28	2	WOEX 05T304	25013
KUB-T.3D.250.R.04-K25	V44 72502	25	25	30	155	75	99	1,28	2	WOEX 05T304	25012
KUB-T.3D.260.R.05-K32	V45 72602	26	32	39	162	78	102	1,28	2	WOEX 05T304	26013
KUB-T.3D.265.R.05-K32	V45 72652	26.5	32	39	165	81	105	1,28	2	WOEX 05T304	26513
KUB-T.3D.270.R.05-K32	V45 72702	27	32	39	165	81	105	1,28	2	WOEX 05T304	27013
KUB-T.3D.280.R.05-K32	V45 72802	28	32	39	168	84	108	1,28	2	WOEX 05T304	28013
KUB-T.3D.290.R.05-K32	V45 72902	29	32	39	171	87	111	1,28	2	WOEX 05T304	29013
KUB-T.3D.295.R.05-K32	V45 72952	29.5	32	39	174	90	114	1,28	2	WOEX 05T304	29513
KUB-T.3D.300.R.05-K32	V45 73002	30	32	39	179	90	119	1,28	2	WOEX 05T304	30013
KUB-T.3D.310.R.05-K32	V45 73102	31	32	39	182	93	122	1,28	2	WOEX 05T304	31013
KUB-T.3D.320.R.05-K32	V45 73202	32	32	39	185	96	125	1,28	2	WOEX 05T304	32013
KUB-T.3D.330.R.05-K32	V45 73302	33	32	39	188	99	128	1,28	2	WOEX 05T304	33013
KUB-T.3D.340.R.05-K32	V45 73402	34	32	39	191	102	131	1,28	2	WOEX 05T304	34013
KUB-T.3D.350.R.05-K32	V45 73502	35	32	39	194	105	134	1,28	2	WOEX 05T304	35013
KUB-T.3D.360.R.05-K32	V45 73602	36	32	39	197	108	137	1,28	2	WOEX 05T304	36013

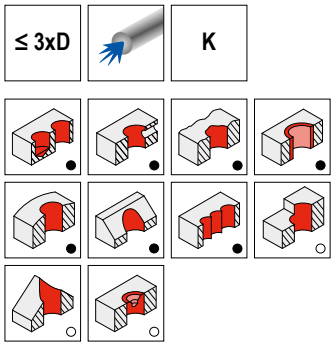
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

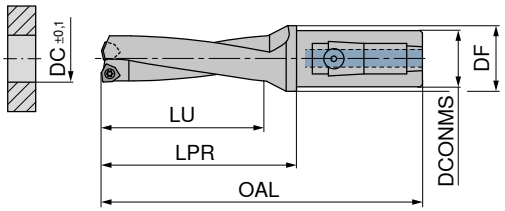
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CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 893 ...
KUB-T.3D.370.R.06-K32	V45 73702	**37**	32	39	210	111	150	2,8	2	WOEX 06T304	**37013**
KUB-T.3D.380.R.06-K32	V45 73802	**38**	32	39	213	114	153	2,8	2	WOEX 06T304	**38013**
KUB-T.3D.390.R.06-K32	V45 73902	**39**	32	39	216	117	156	2,8	2	WOEX 06T304	**39013**
KUB-T.3D.400.R.06-K32	V45 74002	**40**	32	39	219	120	159	2,8	2	WOEX 06T304	**40013**
KUB-T.3D.410.R.06-K32	V45 74102	**41**	32	39	222	123	162	2,8	2	WOEX 06T304	**41013**
KUB-T.3D.420.R.06-K32	V45 74202	**42**	32	39	225	126	165	2,8	2	WOEX 06T304	**42013**
KUB-T.3D.430.R.06-K32	V45 74302	**43**	32	39	228	129	168	2,8	2	WOEX 06T304	**43013**
KUB-T.3D.440.R.06-K32	V45 74402	**44**	32	39	231	132	171	2,8	2	WOEX 06T304	**44013**



→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



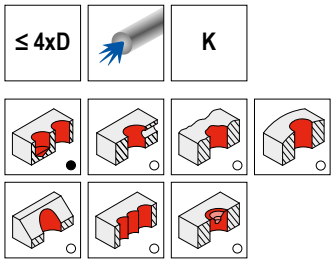


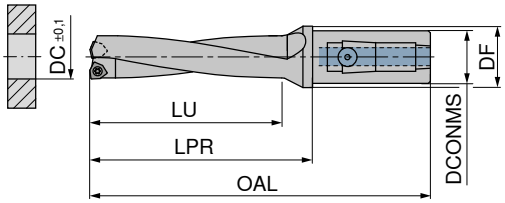
Spare parts DC		AS 80 950 ...		AS 10 950 ...
14 - 19	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
20 - 24	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
25 - 36	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
37 - 44	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 894 ...
KUB-T.4D.140.R.03-K20	V43 91404	**14**	20	30	130	56	80	0,62	2	WOEX 030204	**14011**
KUB-T.4D.150.R.03-K20	V43 91504	**15**	20	30	134	60	84	0,62	2	WOEX 030204	**15011**
KUB-T.4D.160.R.03-K20	V43 91602	**16**	20	30	138	64	88	0,62	2	WOEX 030204	**16011**
KUB-T.4D.170.R.03-K20	V43 91702	**17**	20	30	142	68	92	0,62	2	WOEX 030204	**17011**
KUB-T.4D.180.R.03-K20	V43 91802	**18**	20	30	146	72	96	0,62	2	WOEX 030204	**18011**
KUB-T.4D.190.R.03-K20	V43 91902	**19**	20	30	150	76	100	0,62	2	WOEX 030204	**19011**
KUB-T.4D.200.R.04-K25	V44 92002	**20**	25	30	160	80	104	1,01	2	WOEX 040304	**20012**
KUB-T.4D.210.R.04-K25	V44 92102	**21**	25	30	164	84	108	1,01	2	WOEX 040304	**21012**
KUB-T.4D.220.R.04-K25	V44 92202	**22**	25	30	168	88	112	1,01	2	WOEX 040304	**22012**
KUB-T.4D.230.R.04-K25	V44 92302	**23**	25	30	172	92	116	1,01	2	WOEX 040304	**23012**
KUB-T.4D.240.R.04-K25	V44 92402	**24**	25	30	176	96	120	1,01	2	WOEX 040304	**24012**
KUB-T.4D.250.R.05-K32	V45 92502	**25**	32	39	184	100	124	1,28	2	WOEX 05T304	**25013**
KUB-T.4D.260.R.05-K32	V45 92602	**26**	32	39	188	104	128	1,28	2	WOEX 05T304	**26013**
KUB-T.4D.270.R.05-K32	V45 92702	**27**	32	39	192	108	132	1,28	2	WOEX 05T304	**27013**
KUB-T.4D.280.R.05-K32	V45 92802	**28**	32	39	196	112	136	1,28	2	WOEX 05T304	**28013**
KUB-T.4D.290.R.05-K32	V45 92902	**29**	32	39	200	116	140	1,28	2	WOEX 05T304	**29013**
KUB-T.4D.300.R.05-K32	V45 93002	**30**	32	39	209	120	149	1,28	2	WOEX 05T304	**30013**
KUB-T.4D.310.R.05-K32	V45 93102	**31**	32	39	213	124	153	1,28	2	WOEX 05T304	**31013**
KUB-T.4D.320.R.05-K32	V45 93202	**32**	32	39	217	128	157	1,28	2	WOEX 05T304	**32013**
KUB-T.4D.330.R.05-K32	V45 93302	**33**	32	39	221	132	161	1,28	2	WOEX 05T304	**33013**
KUB-T.4D.340.R.05-K32	V45 93402	**34**	32	39	225	136	165	1,28	2	WOEX 05T304	**34013**
KUB-T.4D.350.R.05-K32	V45 93502	**35**	32	39	229	140	169	1,28	2	WOEX 05T304	**35013**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

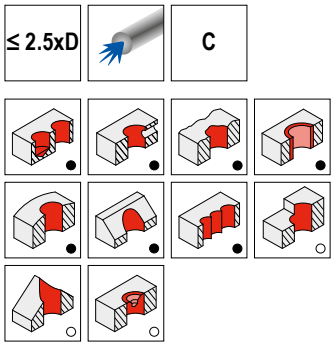
Spare parts

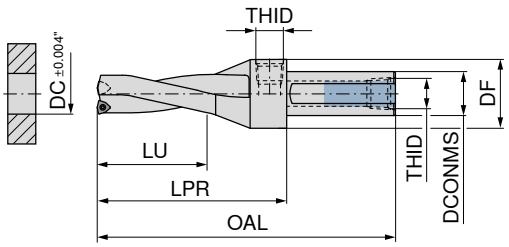
DC		Screwdriver AS 80 950 ...		Clamping screw AS 10 950 ...
14 - 19	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
20 - 24	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
25 - 35	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 896 ...
KUB-T.2,5D.0562.R.03.C0750-EF	V57 41432	**0.562**	0.750	1.130	5.125	1.405	2.875	1/8" NPT	0,62	2	WOEX 030204	**14309**
KUB-T.2,5D.0593.R.03.C0750-EF	V57 41510	**0.593**	0.750	1.130	5.125	1.483	2.875	1/8" NPT	0,62	2	WOEX 030204	**15109**
KUB-T.2,5D.0625.R.03.C0750-EF	V57 41590	**0.625**	0.750	1.130	5.125	1.563	2.875	1/8" NPT	0,62	2	WOEX 030204	**15909**
KUB-T.2,5D.0687.R.03.C0750-E	V57 41750	**0.687**	0.750	1.130	5.375	1.718	3.125	1/8" NPT	0,62	2	WOEX 030204	**17509**
KUB-T.2,5D.0703.R.03.C0750-EF	V57 41790	**0.703**	0.750	1.130	5.375	1.758	3.125	1/8" NPT	0,62	2	WOEX 030204	**17909**
KUB-T.2,5D.0750.R.03.C0750-EF	V57 41910	**0.750**	0.750	1.130	5.375	1.875	3.125	1/8" NPT	0,62	2	WOEX 030204	**19109**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



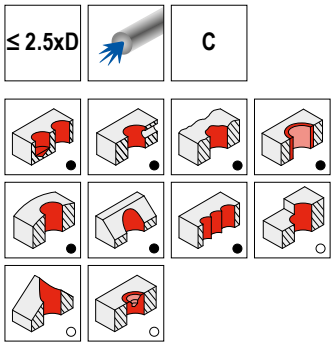


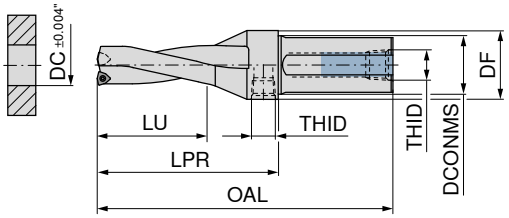
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 030204	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 896 ...
KUB-T.2,5D.0562.R.03.C1250-EF	V57 51434	0.562	1.250	1.575	6.125	1.405	2.875	1/8" NPT	0,62	2	WOEX 030204	14301
KUB-T.2,5D.0593.R.03.C1250-EF	V57 51512	0.593	1.250	1.575	6.125	1.483	2.875	1/8" NPT	0,62	2	WOEX 030204	15101
KUB-T.2,5D.0625.R.03.C1250-EF	V57 51592	0.625	1.250	1.575	6.125	1.563	2.875	1/8" NPT	0,62	2	WOEX 030204	15901
KUB-T.2,5D.0656.R.03.C1250-EF	V57 51672	0.656	1.250	1.575	6.375	1.718	3.125	1/8" NPT	0,62	2	WOEX 030204	16701
KUB-T.2,5D.0687.R.03.C1250-E	V57 51752	0.687	1.250	1.575	6.375	1.718	3.125	1/8" NPT	0,62	2	WOEX 030204	17501
KUB-T.2,5D.0703.R.03.C1250-EF	V57 51792	0.703	1.250	1.575	6.375	1.758	3.125	1/8" NPT	0,62	2	WOEX 030204	17901
KUB-T.2,5D.0750.R.03.C1250-EF	V57 51912	0.750	1.250	1.575	6.375	1.625	3.125	1/8" NPT	0,62	2	WOEX 030204	19101
KUB-T.2,5D.0765.R.03.C1250-EF	V57 51942	0.765	1.250	1.575	6.375	1.625	3.125	1/8" NPT	0,62	2	WOEX 030204	19401
KUB-T.2,5D.0781.R.03.C1250-EF	V57 51982	0.781	1.250	1.575	6.375	1.625	3.125	1/8" NPT	0,62	2	WOEX 030204	19801
KUB-T.2,5D.0812.R.04.C1250-EF	V57 52062	0.812	1.250	1.575	6.375	1.625	3.125	1/8" NPT	1,01	2	WOEX 040304	20601
KUB-T.2,5D.0828.R.04.C1250-E	V57 52102	0.828	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,01	2	WOEX 040304	21001
KUB-T.2,5D.0843.R.04.C1250-EF	V57 52142	0.843	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,01	2	WOEX 040304	21401
KUB-T.2,5D.0875.R.04.C1250-EF	V57 52222	0.875	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,01	2	WOEX 040304	22201
KUB-T.2,5D.0906.R.04.C1250-E	V57 52302	0.906	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,01	2	WOEX 040304	23001
KUB-T.2,5D.0937.R.04.C1250-EF	V57 52382	0.937	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,01	2	WOEX 040304	23801
KUB-T.2,5D.0985.R.05.C1250-E	V57 52502	0.985	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,28	2	WOEX 05T304	25001
KUB-T.2,5D.1000.R.05.C1250-EF	V57 52542	1.000	1.250	1.575	6.875	2.000	3.625	1/8" NPT	1,28	2	WOEX 05T304	25401
KUB-T.2,5D.1031.R.05.C1250-EF	V57 52622	1.031	1.250	1.575	7.562	2.750	4.312	1/8" NPT	1,28	2	WOEX 05T304	26201
KUB-T.2,5D.1062.R.05.C1250-E	V57 52702	1.062	1.250	1.575	7.562	2.750	4.312	1/8" NPT	1,28	2	WOEX 05T304	27001
KUB-T.2,5D.1109.R.05.C1250-EF	V57 52822	1.109	1.250	1.575	7.562	2.750	4.312	1/8" NPT	1,28	2	WOEX 05T304	28201
KUB-T.2,5D.1125.R.05.C1250-EF	V57 52862	1.125	1.250	1.575	7.562	2.750	4.312	1/8" NPT	1,28	2	WOEX 05T304	28601
KUB-T.2,5D.1156.R.05.C1250-EF	V57 52942	1.156	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	29401
KUB-T.2,5D.1187.R.05.C1250-EF	V57 53022	1.187	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	30101
KUB-T.2,5D.1218.R.05.C1250-EF	V57 53092	1.218	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	30901
KUB-T.2,5D.1250.R.05.C1250-EF	V57 53182	1.250	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	31801
KUB-T.2,5D.1281.R.05.C1250-E	V57 53252	1.281	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	32501
KUB-T.2,5D.1312.R.05.C1250-EF	V57 53332	1.312	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	33301
KUB-T.2,5D.1328.R.05.C1250-EF	V57 53372	1.328	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	33701
KUB-T.2,5D.1375.R.05.C1250-EF	V57 53492	1.375	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	34901
KUB-T.2,5D.1406.R.05.C1250-EF	V57 53572	1.406	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	35701
KUB-T.2,5D.1437.R.05.C1250-E	V57 53652	1.437	1.250	1.575	8.250	3.250	5.000	1/8" NPT	1,28	2	WOEX 05T304	36501
KUB-T.2,5D.1469.R.06.C1250-EF	V57 53732	1.469	1.250	1.575	8.368	3.500	5.118	1/8" NPT	2,8	2	WOEX 06T304	37301
KUB-T.2,5D.1500.R.06.C1250-EF	V57 53812	1.500	1.250	1.575	8.368	3.500	5.118	1/8" NPT	2,8	2	WOEX 06T304	38101
KUB-T.2,5D.1531.R.06.C1250-EF	V57 53892	1.531	1.250	1.575	8.368	3.500	5.118	1/8" NPT	2,8	2	WOEX 06T304	38911
KUB-T.2,5D.1562.R.06.C1250-EF	V57 53972	1.562	1.250	1.575	8.368	3.500	5.118	1/8" NPT	2,8	2	WOEX 06T304	39701
KUB-T.2,5D.1625.R.06.C1250-EF	V57 54132	1.625	1.250	1.575	8.368	3.500	5.118	1/8" NPT	2,8	2	WOEX 06T304	41301
KUB-T.2,5D.1656.R.06.C1500-EF	V57 54212	1.656	1.500	1.970	10.709	4.000	5.709	1/4" NPT	2,8	2	WOEX 06T304	42102

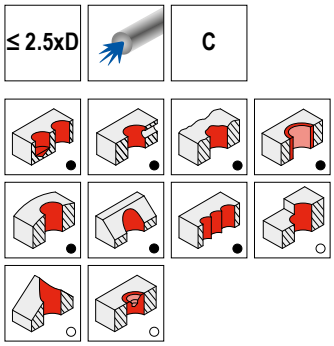
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

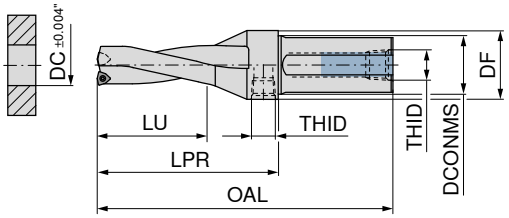
Continued on next page

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 896 ...
KUB-T.2,5D.1687.R.06.C1500-EF	V57 54262	**1.687**	1.500	1.970	10.709	4.000	5.709	1/4" NPT	2,8	2	WOEX 06T304	**42802**
KUB-T.2,5D.1750.R.06.C1500-EF	V57 54452	**1.750**	1.500	1.970	10.709	4.000	5.709	1/4" NPT	2,8	2	WOEX 06T304	**44502**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

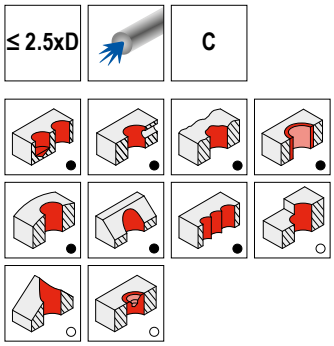

Clamping screw

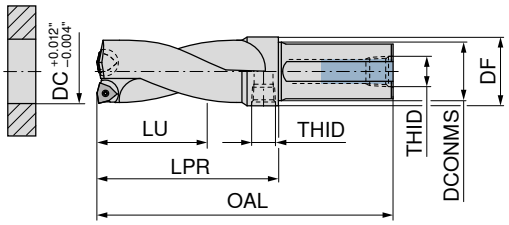
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 030204	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
WOEX 040304	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
WOEX 05T304	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
with insert seat (10 897 ...) incl. fixing screw, cylindrical pin and clamping screw
with insert seat (10 898 ...) incl. fixing screw, cylindrical pin and clamping screw







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 896 ...
KUB-T.2,5D.1812.R.08.C1500-E	V57 34602	**1.812**	1.500	1.969	10.709	4.000	5.709	1/4" NPT	4,3	2	WOEX 080404	**46002**
KUB-T.2,5D.1875.R.08.C1500-EF	V57 34762	**1.875**	1.500	1.969	10.709	4.000	5.709	1/4" NPT	4,3	2	WOEX 080404	**47602**
KUB-T.2,5D.1937.R.08.C1500-EF	V57 34922	**1.937**	1.500	1.969	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 080404	**49202**
KUB-T.2,5D.2000.R.08.C1500-EF	V57 35082	**2.000**	1.500	1.969	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 080404	**50802**
KUB-T.2,5D.2125.R.08.C1500-E	V57 35402	**2.125**	1.500	2.067	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 080404	**54002**
KUB-T.2,5D.2250.R.10.C2000-EF	V57 35722	**2.250**	2.000	2.362	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 100504	**57204**
KUB-T.2,5D.2375.R.10.C2000-EF	V57 36032	**2.375**	2.000	2.362	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 100504	**60304**
KUB-T.2,5D.2500.R.10.C2000-EF	V57 36352	**2.500**	2.000	2.492	11.890	5.000	6.890	1/4" NPT	4,3	2	WOEX 100504	**63504**
KUB-T.2,5D.2750.R.12.C2000-EF	V57 36992	**2.750**	2.000	2.657	13.268	6.000	8.267	1/4" NPT	6,25	2	WOEX 120608	**69904**
KUB-T.2,5D.3000.R.12.C2000-EF	V57 37622	**3.000**	2.000	2.933	13.268	6.000	8.267	1/4" NPT	6,25	2	WOEX 120608	**76204**
KUB-T.2,5D.3250.R.12.C2000-EF	V57 38262	**3.250**	2.000	3.130	13.268	6.000	8.267	1/4" NPT	6,25	2	WOEX 120608	**82604**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver


Clamping screw


Fixing screw

Spare parts DC		AS 80 950 ...		AS 10 950 ...		AS 10 950 ...
1.812 - 2.125	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.250 - 2.500	T15 - IP	**120**	M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
2.750 - 3.250	T20 - IP	**121**	M5,5x11 - 20IP	**17400**	M5,5x13,5 - 20IP	**17100**


Cylindrical pin


Insert seat, internal

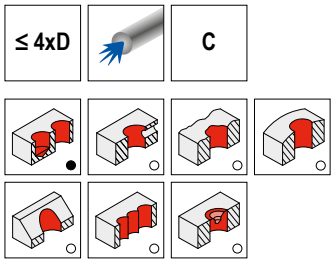

Insert seat, external

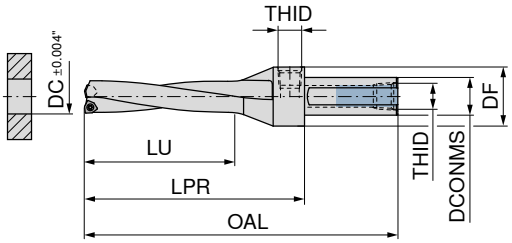
Spare parts DC		AS 10 950 ...	TO 10 897 ...	TO 10 898 ...
1.812 - 2.125	Ø3	**17200**	**14800**	**14800**
2.250 - 2.500	Ø3	**17200**	**25300**	**25300**
2.750 - 3.250	Ø4	**17300**	**36000**	**36000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 894 ...
KUB-T.4D.0562.R.03.C0750-EF	V57 61432	**0.562**	0.750	1.130	5.875	2.248	3.625	1/8" NPT	0,62	2	WOEX 030204	**14309**
KUB-T.4D.0593.R.03.C0750-EF	V57 61510	**0.593**	0.750	1.130	6.000	2.372	3.750	1/8" NPT	0,62	2	WOEX 030204	**15109**
KUB-T.4D.0625.R.03.C0750-EF	V57 61590	**0.625**	0.750	1.130	6.128	2.500	3.878	1/8" NPT	0,62	2	WOEX 030204	**15909**
KUB-T.4D.0687.R.03.C0750-E	V57 61750	**0.687**	0.750	1.130	6.376	2.748	4.126	1/8" NPT	0,62	2	WOEX 030204	**17509**
KUB-T.4D.0703.R.03.C0750-EF	V57 61790	**0.703**	0.750	1.130	6.439	2.812	4.189	1/8" NPT	0,62	2	WOEX 030204	**17909**
KUB-T.4D.0750.R.03.C0750-EF	V57 61910	**0.750**	0.750	1.130	6.628	3.000	4.378	1/8" NPT	0,62	2	WOEX 030204	**19109**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

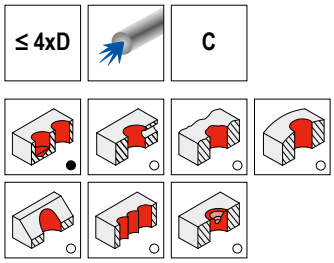

Clamping screw

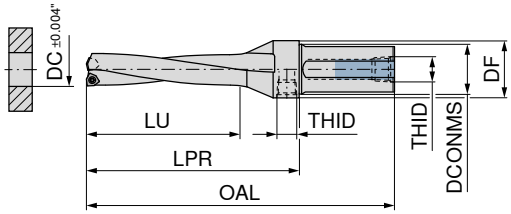
Spare parts		AS		AS
Indexable insert		**80 950 ...**		**10 950 ...**
WOEX 030204	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**

CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 894 ...
KUB-T.4D.0562.R.03.C1250-EF	V57 71434	**0.562**	1.250	1.575	6.875	2.248	3.625	1/8" NPT	0,62	2	WOEX 030204	**14301**
KUB-T.4D.0593.R.03.C1250-EF	V57 71512	**0.593**	1.250	1.575	7.000	2.372	3.750	1/8" NPT	0,62	2	WOEX 030204	**15101**
KUB-T.4D.0625.R.03.C1250-EF	V57 71592	**0.625**	1.250	1.575	7.128	2.500	3.878	1/8" NPT	0,62	2	WOEX 030204	**15901**
KUB-T.4D.0656.R.03.C1250-EF	V57 71672	**0.656**	1.250	1.575	7.252	2.624	4.002	1/8" NPT	0,62	2	WOEX 030204	**16701**
KUB-T.4D.0687.R.03.C1250-E	V57 71752	**0.687**	1.250	1.575	7.376	2.748	4.126	1/8" NPT	0,62	2	WOEX 030204	**17501**
KUB-T.4D.0703.R.03.C1250-EF	V57 71792	**0.703**	1.250	1.575	7.439	2.812	4.189	1/8" NPT	0,62	2	WOEX 030204	**17901**
KUB-T.4D.0750.R.03.C1250-EF	V57 71912	**0.750**	1.250	1.575	7.628	3.000	4.378	1/8" NPT	0,62	2	WOEX 030204	**19101**
KUB-T.4D.0765.R.03.C1250-EF	V57 71942	**0.765**	1.250	1.575	7.688	3.060	4.438	1/8" NPT	0,62	2	WOEX 030204	**19401**
KUB-T.4D.0781.R.03.C1250-EF	V57 71982	**0.781**	1.250	1.575	7.752	3.124	4.502	1/8" NPT	0,62	2	WOEX 030204	**19801**
KUB-T.4D.0812.R.04.C1250-EF	V57 72062	**0.812**	1.250	1.575	7.876	3.248	4.626	1/8" NPT	1,01	2	WOEX 040304	**20601**
KUB-T.4D.0828.R.04.C1250-E	V57 72102	**0.828**	1.250	1.575	7.940	3.312	4.690	1/8" NPT	1,01	2	WOEX 040304	**21001**
KUB-T.4D.0843.R.04.C1250-EF	V57 72142	**0.843**	1.250	1.575	8.000	3.372	4.750	1/8" NPT	1,01	2	WOEX 040304	**21401**
KUB-T.4D.0875.R.04.C1250-EF	V57 72222	**0.875**	1.250	1.575	8.128	3.500	4.878	1/8" NPT	1,01	2	WOEX 040304	**22201**
KUB-T.4D.0906.R.04.C1250-E	V57 72302	**0.906**	1.250	1.575	8.252	3.624	5.002	1/8" NPT	1,01	2	WOEX 040304	**23001**
KUB-T.4D.0937.R.04.C1250-EF	V57 72382	**0.937**	1.250	1.575	8.376	3.748	5.126	1/8" NPT	1,01	2	WOEX 040304	**23801**
KUB-T.4D.0985.R.05.C1250-E	V57 72502	**0.985**	1.250	1.575	8.568	3.940	5.318	1/8" NPT	1,28	2	WOEX 05T304	**25001**
KUB-T.4D.1000.R.05.C1250-EF	V57 72542	**1.000**	1.250	1.575	8.628	4.000	5.378	1/8" NPT	1,28	2	WOEX 05T304	**25401**
KUB-T.4D.1031.R.05.C1250-EF	V57 72622	**1.031**	1.250	1.575	8.752	4.124	5.502	1/8" NPT	1,28	2	WOEX 05T304	**26201**
KUB-T.4D.1062.R.05.C1250-E	V57 72702	**1.062**	1.250	1.575	8.876	4.248	5.626	1/8" NPT	1,28	2	WOEX 05T304	**27001**
KUB-T.4D.1109.R.05.C1250-EF	V57 72822	**1.109**	1.250	1.575	9.064	4.436	5.814	1/8" NPT	1,28	2	WOEX 05T304	**28201**
KUB-T.4D.1125.R.05.C1250-EF	V57 72862	**1.125**	1.250	1.575	9.128	4.500	5.878	1/8" NPT	1,28	2	WOEX 05T304	**28601**
KUB-T.4D.1156.R.05.C1250-EF	V57 72942	**1.156**	1.250	1.575	9.252	4.624	6.002	1/8" NPT	1,28	2	WOEX 05T304	**29401**
KUB-T.4D.1187.R.05.C1250-EF	V57 73022	**1.187**	1.250	1.575	9.589	4.748	6.339	1/8" NPT	1,28	2	WOEX 05T304	**30101**
KUB-T.4D.1218.R.05.C1250-EF	V57 73092	**1.218**	1.250	1.575	9.713	4.872	6.463	1/8" NPT	1,28	2	WOEX 05T304	**30901**
KUB-T.4D.1250.R.05.C1250-EF	V57 73182	**1.250**	1.250	1.575	9.841	5.000	6.591	1/8" NPT	1,28	2	WOEX 05T304	**31801**
KUB-T.4D.1281.R.05.C1250-E	V57 73252	**1.281**	1.250	1.575	9.965	5.124	6.715	1/8" NPT	1,28	2	WOEX 05T304	**32501**
KUB-T.4D.1312.R.05.C1250-EF	V57 73332	**1.312**	1.250	1.575	10.089	5.248	6.839	1/8" NPT	1,28	2	WOEX 05T304	**33301**
KUB-T.4D.1328.R.05.C1250-EF	V57 73372	**1.328**	1.250	1.575	10.137	5.312	6.887	1/8" NPT	1,28	2	WOEX 05T304	**33701**
KUB-T.4D.1375.R.05.C1250-EF	V57 73492	**1.375**	1.250	1.575	10.341	5.500	7.091	1/8" NPT	1,28	2	WOEX 05T304	**34901**
KUB-T.4D.1406.R.05.C1250-EF	V57 73572	**1.406**	1.250	1.575	10.449	5.624	7.199	1/8" NPT	1,28	2	WOEX 05T304	**35701**
KUB-T.4D.1437.R.05.C1250-E	V57 73652	**1.437**	1.250	1.575	10.589	5.748	7.339	1/8" NPT	1,28	2	WOEX 05T304	**36501**
KUB-T.4D.1469.R.06.C1250-EF	V57 73732	**1.469**	1.250	1.575	11.095	5.876	7.845	1/8" NPT	2,8	2	WOEX 06T304	**37301**
KUB-T.4D.1500.R.06.C1250-EF	V57 73812	**1.500**	1.250	1.575	11.219	6.000	7.969	1/8" NPT	2,8	2	WOEX 06T304	**38101**
KUB-T.4D.1531.R.06.C1250-EF	V57 73892	**1.531**	1.250	1.575	11.343	6.124	8.093	1/8" NPT	2,8	2	WOEX 06T304	**38901**
KUB-T.4D.1562.R.06.C1250-EF	V57 73972	**1.562**	1.250	1.575	11.467	6.248	8.217	1/8" NPT	2,8	2	WOEX 06T304	**39701**
KUB-T.4D.1625.R.06.C1250-EF	V57 74132	**1.625**	1.250	1.575	11.719	6.500	8.469	1/8" NPT	2,8	2	WOEX 06T304	**41301**
KUB-T.4D.1656.R.06.C1500-EF	V57 74212	**1.656**	1.500	1.970	13.593	6.624	8.593	1/4" NPT	2,8	2	WOEX 06T304	**42102**

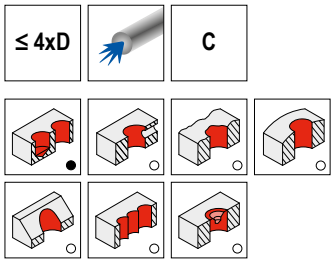
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

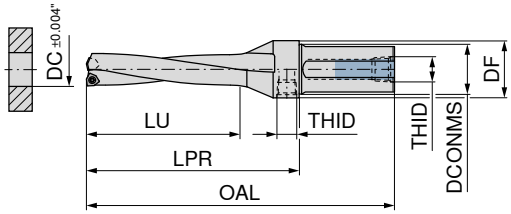
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CoreLine – Indexable drill – Trigon

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







ANSI designation	Product Reference No.	DC inch	DCONMS inch	DF inch	OAL inch	LU inch	LPR inch	THID	Tightening torque Nm	ZEFF	Indexable insert	TO 15 894 ...
KUB-T.4D.1687.R.06.C1500-EF	V57 74292	**1.687**	1.500	1.970	13.717	6.748	8.717	1/4" NPT	2,8	2	WOEX 06T304	**42802**
KUB-T.4D.1750.R.06.C1500-EF	V57 74452	**1.750**	1.500	1.970	13.969	7.000	8.969	1/4" NPT	2,8	2	WOEX 06T304	**44502**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

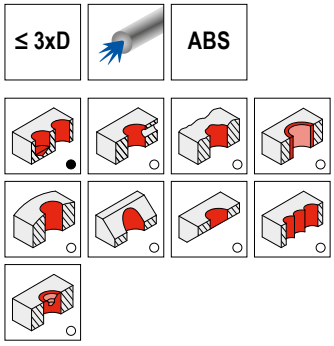

Clamping screw

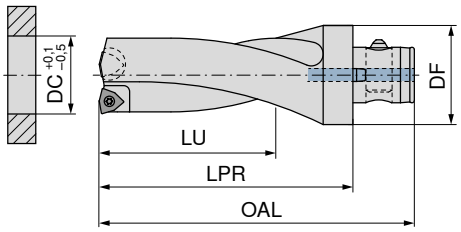
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 030204	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
WOEX 040304	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
WOEX 05T304	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**

CoreLine – Adjustable indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
Indexable drill with indexable insert seating, fixing screws, cylindrical pins, and clamping screws
Please order indexable inserts separately







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 857 ...
KUB-B.3D.39,5-41.R.06-ABS50	V82 74000	39,5 - 41	50	201	120	170	2,8	2	WOEX 06T304	41095 1)
KUB-B.3D.40,5-42.R.06-ABS50	V82 74100	40,5 - 42	50	204	123	173	2,8	2	WOEX 06T304	42095
KUB-B.3D.41,5-43.R.06-ABS50	V82 74200	41,5 - 43	50	207	126	176	2,8	2	WOEX 06T304	43095
KUB-B.3D.43,5-45.R.06-ABS50	V82 74400	43,5 - 45	50	213	132	182	2,8	2	WOEX 06T304	45095
KUB-B.3D.44,5-46.R.08-ABS63	V83 74500	44,5 - 46	63	228	135	190	6,25	2	WOEX 080404	46096
KUB-B.3D.45,5-47.R.08-ABS63	V83 74600	45,5 - 47	63	231	138	193	6,25	2	WOEX 080404	47096
KUB-B.3D.46,5-48.R.08-ABS63	V83 74700	46,5 - 48	63	234	141	196	6,25	2	WOEX 080404	48096
KUB-B.3D.47,5-49.R.08-ABS63	V83 74800	47,5 - 49	63	237	144	199	6,25	2	WOEX 080404	49096
KUB-B.3D.48,5-50.R.08-ABS63	V83 74900	48,5 - 50	63	240	147	202	6,25	2	WOEX 080404	50096
KUB-B.3D.49,5-51.R.08-ABS63	V83 75000	49,5 - 51	63	243	150	205	6,25	2	WOEX 080404	51096
KUB-B.3D.50,5-52.R.08-ABS63	V83 75100	50,5 - 52	63	246	153	208	6,25	2	WOEX 080404	52096
KUB-B.3D.51,5-53.R.08-ABS63	V83 75200	51,5 - 53	63	249	156	211	6,25	2	WOEX 080404	53096
KUB-B.3D.52,5-54.R.08-ABS63	V83 75300	52,5 - 54	63	252	159	214	6,25	2	WOEX 080404	54096
KUB-B.3D.53,5-55.R.08-ABS63	V83 75400	53,5 - 55	63	255	162	217	6,25	2	WOEX 080404	55096
KUB-B.3D.54,5-56.R.10-ABS80	V84 75500	54,5 - 56	80	263	165	220	6,25	2	WOEX 100504	56098
KUB-B.3D.55,5-57.R.10-ABS80	V84 75600	55,5 - 57	80	266	168	223	6,25	2	WOEX 100504	57098
KUB-B.3D.56,5-58.R.10-ABS80	V84 75700	56,5 - 58	80	269	171	226	6,25	2	WOEX 100504	58098
KUB-B.3D.57,5-59.R.10-ABS80	V84 75800	57,5 - 59	80	272	174	229	6,25	2	WOEX 100504	59098
KUB-B.3D.58,5-60.R.10-ABS80	V84 75900	58,5 - 60	80	275	177	232	6,25	2	WOEX 100504	60098
KUB-B.3D.59,5-61.R.10-ABS80	V84 76000	59,5 - 61	80	278	180	235	6,25	2	WOEX 100504	61098
KUB-B.3D.60,5-62.R.10-ABS80	V84 76100	60,5 - 62	80	281	183	238	6,25	2	WOEX 100504	62098
KUB-B.3D.61,5-63.R.10-ABS80	V84 76200	61,5 - 63	80	284	186	241	6,25	2	WOEX 100504	63098
KUB-B.3D.62,5-64.R.10-ABS80	V84 76300	62,5 - 64	80	287	189	244	6,25	2	WOEX 100504	64098 1)
KUB-B.3D.63,5-65.R.10-ABS80	V84 76400	63,5 - 65	80	290	192	247	6,25	2	WOEX 100504	65098
KUB-B.3D.64,5-66.R.10-ABS80	V84 76500	64,5 - 66	80	293	195	250	6,25	2	WOEX 100504	66098
KUB-B.3D.65,5-67.R.10-ABS80	V84 76600	65,5 - 67	80	296	198	253	6,25	2	WOEX 100504	67098
KUB-B.3D.66,5-68.R.10-ABS80	V84 76700	66,5 - 68	80	299	201	256	6,25	2	WOEX 100504	68098
KUB-B.3D.67,5-69.R.10-ABS80	V84 76800	67,5 - 69	80	302	204	259	6,25	2	WOEX 100504	69098
KUB-B.3D.68,5-70.R.12-ABS80	V84 76900	68,5 - 70	80	315	207	272	6,25	2	WOEX 120608	70098
KUB-B.3D.69,5-71.R.12-ABS80	V84 77000	69,5 - 71	80	318	210	275	6,25	2	WOEX 120608	71098
KUB-B.3D.70,5-72.R.12-ABS80	V84 77100	70,5 - 72	80	321	213	278	6,25	2	WOEX 120608	72098 1)
KUB-B.3D.71,5-73.R.12-ABS80	V84 77200	71,5 - 73	80	324	216	281	6,25	2	WOEX 120608	73098
KUB-B.3D.72,5-74.R.12-ABS80	V84 77300	72,5 - 74	80	327	219	284	6,25	2	WOEX 120608	74098
KUB-B.3D.73,5-75.R.12-ABS80	V84 77400	73,5 - 75	80	330	220	287	6,25	2	WOEX 120608	75098
KUB-B.3D.74,5-76.R.12-ABS80	V84 77500	74,5 - 76	80	333	225	290	6,25	2	WOEX 120608	76098
KUB-B.3D.75,5-77.R.12-ABS80	V84 77600	75,5 - 77	80	336	228	293	6,25	2	WOEX 120608	77098 1)
KUB-B.3D.76,5-78.R.12-ABS80	V84 77700	76,5 - 78	80	339	231	296	6,25	2	WOEX 120608	78098 1)
KUB-B.3D.77,5-79.R.12-ABS80	V84 77800	77,5 - 79	80	342	234	299	6,25	2	WOEX 120608	79098

1) Not in stock

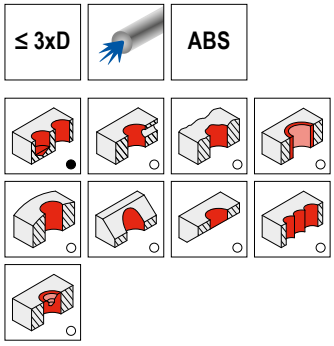
→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

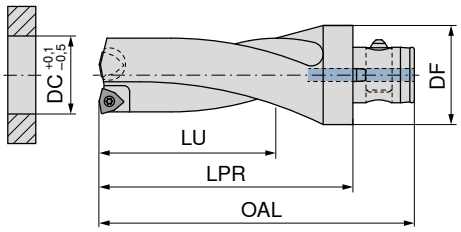
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CoreLine – Adjustable indexable drill – Trigon

▲ Tightening torque refers to the clamping screws of the indexable inserts
▲ ZEFF = Number of inserts

Scope of supply:
Indexable drill with indexable insert seating, fixing screws, cylindrical pins, and clamping screws
Please order indexable inserts separately







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 857 ...
KUB-B.3D.78,5-80.R.12-ABS80	V84 77900	**78,5 - 80**	80	345	237	302	6,25	2	WOEX 120608	**80098**
KUB-B.3D.79,5-81.R.12-ABS80	V84 78000	**79,5 - 81**	80	348	240	305	6,25	2	WOEX 120608	**81098**
KUB-B.3D.80,5-82.R.12-ABS80	V84 78100	**80,5 - 82**	80	351	243	308	6,25	2	WOEX 120608	**82098** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.

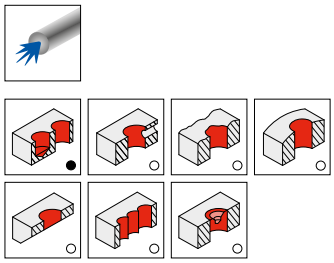
Spare parts Indexable insert	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...	 Clamping screw for guide pad AS 10 950 ...	 Clamping screw FI 10 950 ...	 Fixing screw AS 10 950 ...	 Fixing screw FI 10 950 ...
WOEX 06T304	**20200**	**20000**	**20100**	**11800**	**16400**		**16300**
WOEX 080404	**23900**	**26300**	**24700**		**12700**	**17000**	**09600**
WOEX 100504	**24000**	**26400**	**24800**		**12700**	**17000**	**13500**
WOEX 120608	**24000**	**26400**	**24800**		**17400**	**20100**	**09700**

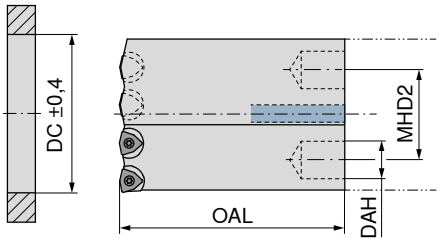
Spare parts Indexable insert	 Cylindrical pin AS 10 950 ...	 Cylindrical pin AS 10 950 ...	 Insert seat, internal TO 10 897 ...	 Insert seat, external AS 10 950 ...	 Adjustment screw AS 10 950 ...	 Set CT 84 950 ...	 Screwdriver AS 80 950 ...
WOEX 06T304		**11500**	**13800**	**07000**	**09400**	**99900**	**119**
WOEX 080404	**17200**		**14800**	**07100**	**11200**	**98600**	**121**
WOEX 100504	**17200**		**25300**	**07200**	**09500**	**98500**	**121**
WOEX 120608	**17300**		**36000**	**07300**	**11200**	**98500**	**121**

Pentron – Indexable insert drill drill bit – V50

▲ **Basic elements available on request**

Scope of supply:
Drill bit with indexable insert seating, fixing screws, cylindrical pins, and clamping screws
Please order indexable insert separately







Designation	Product Reference No.	DC mm	OAL mm	DAH mm	MHD2 mm	Tightening torque Nm	Indexable insert	TO 10 859 ...
KUB.BK.83.R.06-V50/48	V50 30830	**83**	120	20	48	2,8	WOEX 06T3..	**08300** [1]
KUB.BK.88.R.06-V50/48	V50 30880	**88**	120	20	48	2,8	WOEX 06T3..	**08800**
KUB.BK.93.R.08-V50/48	V50 30930	**93**	120	20	48	6,25	WOEX 0804..	**09300** [1]
KUB.BK.98.R.08-V50/52	V50 30980	**98**	120	24	52	6,25	WOEX 0804..	**09800**
KUB.BK.103.R.08-V50/52	V50 31030	**103**	120	24	52	6,25	WOEX 0804..	**10300** [1]
KUB.BK.108.R.08-V50/52	V50 31080	**108**	120	24	52	6,25	WOEX 0804..	**10800** [1]
KUB.BK.113.R.10-V50/52	V50 31130	**113**	120	24	52	6,25	WOEX 1005..	**11300** [1]
KUB.BK.118.R.10-V50/64	V50 31180	**118**	120	28	64	6,25	WOEX 1005..	**11800** [1]

1) Not in stock

→ Find suitable indexable inserts here.


Clamping screw for guide pad


Clamping screw


Fixing screw

Spare parts DC		AS 10 950 ...		AS 10 950 ...		AS 10 950 ...
83 - 88	M3,5x5,0 - 8IP - 2,25Nm	**11800**	M3,5x7,3 - 10IP	**10600**		
93 - 108			M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**
113 - 118			M4,5x9 - 15IP	**12700**	M4,5x9 - 10IP	**17000**


Cylindrical pin


Cylindrical pin


Insert seat, internal

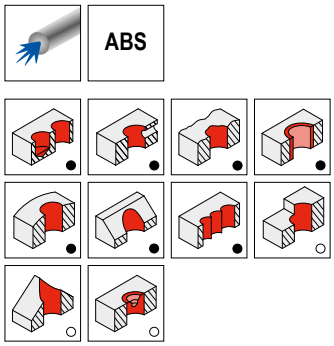

Insert seat, external

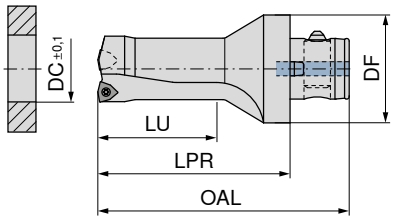
Spare parts DC		AS 10 950 ...		AS 10 950 ...	TO 10 897 ...	TO 10 898 ...
83 - 88			Ø1,8	**11500**	**13800**	**13800**
93 - 108	Ø3	**17200**			**14800**	**14800**
113 - 118	Ø3	**17200**			**25300**	**25300**

CoreLine – Indexable drill – Trigon

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 888 ...
KUB-T.92.380.R.06-ABS80	U70 03800	**38**	80	190	92	147	2,8	2	WOEX 06T304	**38098** [1]
KUB-T.92.400.R.06-ABS80	U70 04000	**40**	80	190	92	147	2,8	2	WOEX 06T304	**40098** [1]
KUB-T.92.420.R.06-ABS80	U70 04200	**42**	80	190	92	147	2,8	2	WOEX 06T304	**42098** [1]
KUB-T.92.440.R.06-ABS80	U70 04400	**44**	80	190	92	147	2,8	2	WOEX 06T304	**44098** [1]
KUB-T.92.460.R.08-ABS80	U70 04600	**46**	80	190	92	147	4,3	2	WOEX 080404	**46098** [1]
KUB-T.92.470.R.08-ABS80	U70 04700	**47**	80	190	92	147	4,3	2	WOEX 080404	**47098**
KUB-T.92.480.R.08-ABS80	U70 04800	**48**	80	190	92	147	4,3	2	WOEX 080404	**48098** [1]
KUB-T.92.500.R.08-ABS80	U70 05000	**50**	80	190	92	147	4,3	2	WOEX 080404	**50098** [1]
KUB-T.92.530.R.08-ABS80	U70 05300	**53**	80	190	92	147	4,3	2	WOEX 080404	**53098** [1]
KUB-T.92.560.R.10-ABS80	U70 05600	**56**	80	190	92	147	4,3	2	WOEX 100504	**56098** [1]
KUB-T.92.570.R.10-ABS80	U70 05700	**57**	80	190	92	147	4,3	2	WOEX 100504	**57098** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

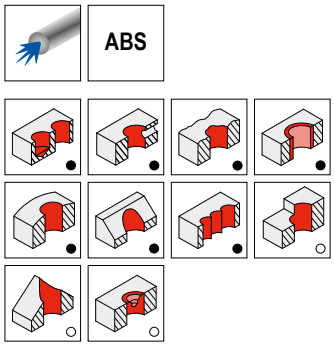

Clamping screw

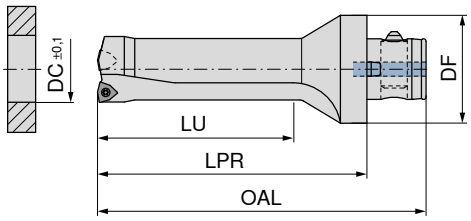
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WOEX 080404	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WOEX 100504	T15 - IP	**120**	M4,5x9 - 15IP	**12700**

CoreLine – Indexable drill – Trigon

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 889 ...
KUB-T.145.380.R.06-ABS80	U70 43800	**38**	80	243	145	200	2,8	2	WOEX 06T304	**38098** [1]
KUB-T.145.400.R.06-ABS80	U70 44000	**40**	80	243	145	200	2,8	2	WOEX 06T304	**40098** [1]
KUB-T.145.420.R.06-ABS80	U70 44200	**42**	80	243	145	200	2,8	2	WOEX 06T304	**42098** [1]
KUB-T.145.440.R.06-ABS80	U70 44400	**44**	80	243	145	200	2,8	2	WOEX 06T304	**44098**
KUB-T.145.460.R.08-ABS80	U70 44600	**46**	80	243	145	200	4,3	2	WOEX 080404	**46098** [1]
KUB-T.145.470.R.08-ABS80	U70 44700	**47**	80	243	145	200	4,3	2	WOEX 080404	**47098**
KUB-T.145.480.R.08-ABS80	U70 44800	**48**	80	243	145	200	4,3	2	WOEX 080404	**48098** [1]
KUB-T.145.490.R.08-ABS80	U70 44900	**49**	80	243	145	200	4,3	2	WOEX 080404	**49098**
KUB-T.145.500.R.08-ABS80	U70 45000	**50**	80	243	145	200	4,3	2	WOEX 080404	**50098** [1]
KUB-T.145.530.R.08-ABS80	U70 45300	**53**	80	243	145	200	4,3	2	WOEX 080404	**53098** [1]
KUB-T.145.560.R.10-ABS80	U70 45600	**56**	80	243	145	200	4,3	2	WOEX 100504	**56098** [1]
KUB-T.145.570.R.10-ABS80	U70 45700	**57**	80	243	145	200	4,3	2	WOEX 100504	**57098** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



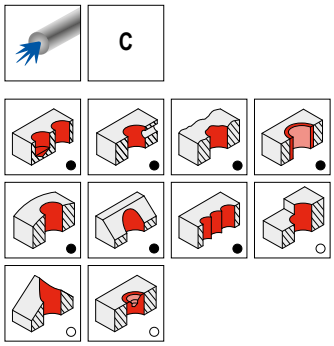


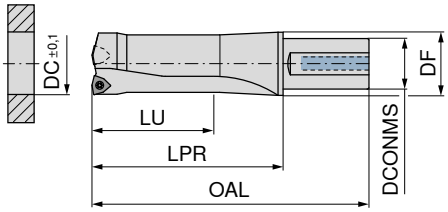
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WOEX 080404	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WOEX 100504	T15 - IP	**120**	M4,5x9 - 15IP	**12700**

CoreLine – Indexable drill – Trigon

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 888 ...
KUB-T.92.380.R.06-C40	U70 23800	**38**	40	50	215	92	147	2,8	2	WOEX 06T304	**38005** [1]
KUB-T.92.400.R.06-C40	U70 24000	**40**	40	50	215	92	147	2,8	2	WOEX 06T304	**40005** [1]
KUB-T.92.420.R.06-C40	U70 24200	**42**	40	50	215	92	147	2,8	2	WOEX 06T304	**42005** [1]
KUB-T.92.440.R.06-C40	U70 24400	**44**	40	50	215	92	147	2,8	2	WOEX 06T304	**44005** [1]
KUB-T.92.460.R.08-C40	U70 24600	**46**	40	50	215	92	147	4,3	2	WOEX 080404	**46005** [1]
KUB-T.92.470.R.08-C40	U70 24700	**47**	40	50	215	92	147	4,3	2	WOEX 080404	**47005**
KUB-T.92.480.R.08-C40	U70 24800	**48**	40	50	215	92	147	4,3	2	WOEX 080404	**48005** [1]
KUB-T.92.500.R.08-C40	U70 25000	**50**	40	50	215	92	147	4,3	2	WOEX 080404	**50005** [1]
KUB-T.92.530.R.08-C40	U70 25300	**53**	40	50	215	92	147	4,3	2	WOEX 080404	**53005** [1]
KUB-T.92.560.R.10-C40	U70 25600	**56**	40	50	215	92	147	4,3	2	WOEX 100504	**56005** [1]
KUB-T.92.560.R.10-C40	U70 25700	**57**	40	50	215	92	147	4,3	2	WOEX 100504	**57005** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

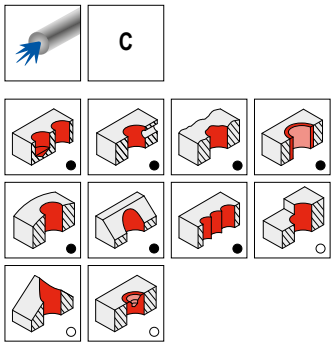

Clamping screw

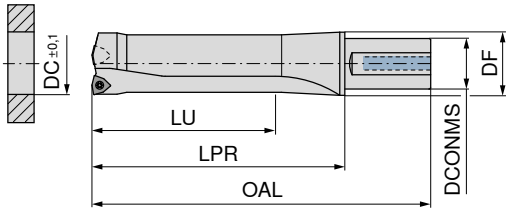
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WOEX 080404	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WOEX 100504	T15 - IP	**120**	M4,5x9 - 15IP	**12700**

CoreLine – Indexable drill – Trigon

▲ Component-specific indexable insert drill for machining aluminum wheels
▲ ZEFF = Number of indexable inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	Indexable insert	TO 10 889 ...
KUB-T.145.380.R.06-C40	U70 63800	**38**	40	50	268	145	200	2,8	WOEX 06T304	**38005** [1]
KUB-T.145.400.R.06-C40	U70 64000	**40**	40	50	268	145	200	2,8	WOEX 06T304	**40005** [1]
KUB-T.145.420.R.06-C40	U70 64200	**42**	40	50	268	145	200	2,8	WOEX 06T304	**42005** [1]
KUB-T.145.440.R.06-C40	U70 64400	**44**	40	50	268	145	200	2,8	WOEX 06T304	**44005** [1]
KUB-T.145.460.R.08-C40	U70 64600	**46**	40	50	268	145	200	4,3	WOEX 080404	**46005** [1]
KUB-T.145.470.R.08-C40	U70 64700	**47**	40	50	268	145	200	4,3	WOEX 080404	**47005**
KUB-T.145.480.R.08-C40	U70 64800	**48**	40	50	268	145	200	4,3	WOEX 080404	**48005** [1]
KUB-T.145.500.R.08-C40	U70 65000	**50**	40	50	268	145	200	4,3	WOEX 080404	**50005** [1]
KUB-T.145.530.R.08-C40	U70 65300	**53**	40	50	268	145	200	4,3	WOEX 080404	**53005** [1]
KUB-T.145.560.R.10-C40	U70 65600	**56**	40	50	268	145	200	4,3	WOEX 100504	**56005** [1]
KUB-T.145.570.R.10-C40	U70 65700	**57**	40	50	268	145	200	4,3	WOEX 100504	**57005** [1]

1) Not in stock

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.



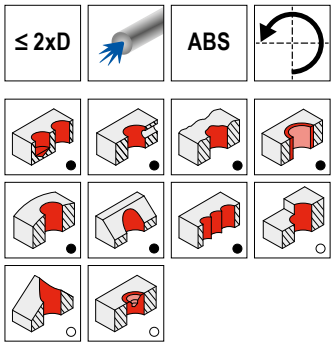


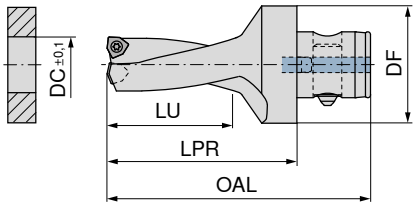
Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 06T304	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WOEX 080404	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WOEX 100504	T15 - IP	**120**	M4,5x9 - 15IP	**12700**

CoreLine – Indexable drill – Trigon

▲ Left-hand cutting
▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 11 892 ...
KUB-T.2D.140.L.03-ABS50	V30 21402	**14**	50	94	28	63	0,62	2	WOEX 030204	**14095**
KUB-T.2D.150.L.03-ABS50	V30 21502	**15**	50	96	30	65	0,62	2	WOEX 030204	**15095**
KUB-T.2D.160.L.03-ABS50	V30 21600	**16**	50	98	32	67	0,62	2	WOEX 030204	**16095**
KUB-T.2D.170.L.03-ABS50	V30 21700	**17**	50	100	34	69	0,62	2	WOEX 030204	**17095**
KUB-T.2D.180.L.03-ABS50	V30 21800	**18**	50	102	36	71	0,62	2	WOEX 030204	**18095**
KUB-T.2D.190.L.03-ABS50	V30 21900	**19**	50	104	38	73	0,62	2	WOEX 030204	**19095**
KUB-T.2D.200.L.04-ABS50	V30 22000	**20**	50	106	40	75	1,01	2	WOEX 040304	**20095**
KUB-T.2D.210.L.04-ABS50	V30 22100	**21**	50	108	42	77	1,01	2	WOEX 040304	**21095**
KUB-T.2D.220.L.04-ABS50	V30 22200	**22**	50	110	44	79	1,01	2	WOEX 040304	**22095**
KUB-T.2D.230.L.04-ABS50	V30 22300	**23**	50	112	46	81	1,01	2	WOEX 040304	**23095**
KUB-T.2D.240.L.04-ABS50	V30 22400	**24**	50	114	48	83	1,01	2	WOEX 040304	**24095**
KUB-T.2D.250.L.05-ABS50	V30 22500	**25**	50	116	50	85	1,28	2	WOEX 05T304	**25095**
KUB-T.2D.260.L.05-ABS50	V30 22600	**26**	50	118	52	87	1,28	2	WOEX 05T304	**26095**
KUB-T.2D.270.L.05-ABS50	V30 22700	**27**	50	120	54	89	1,28	2	WOEX 05T304	**27095**
KUB-T.2D.280.L.05-ABS50	V30 22800	**28**	50	122	56	91	1,28	2	WOEX 05T304	**28095**
KUB-T.2D.290.L.05-ABS50	V30 22900	**29**	50	124	58	93	1,28	2	WOEX 05T304	**29095**
KUB-T.2D.300.L.05-ABS50	V30 23000	**30**	50	131	60	100	1,28	2	WOEX 05T304	**30095**
KUB-T.2D.310.L.05-ABS50	V30 23100	**31**	50	133	62	102	1,28	2	WOEX 05T304	**31095**
KUB-T.2D.320.L.05-ABS50	V30 23200	**32**	50	135	64	104	1,28	2	WOEX 05T304	**32095**
KUB-T.2D.330.L.05-ABS50	V30 23300	**33**	50	137	66	106	1,28	2	WOEX 05T304	**33095**
KUB-T.2D.340.L.05-ABS50	V30 23400	**34**	50	139	68	108	1,28	2	WOEX 05T304	**34095**
KUB-T.2D.350.L.05-ABS50	V30 23500	**35**	50	141	70	110	1,28	2	WOEX 05T304	**35095**
KUB-T.2D.360.L.05-ABS50	V30 23600	**36**	50	143	72	112	1,28	2	WOEX 05T304	**36095**
KUB-T.2D.370.L.06-ABS50	V30 23700	**37**	50	155	74	124	2,8	2	WOEX 06T304	**37095**
KUB-T.2D.380.L.06-ABS50	V30 23800	**38**	50	157	76	126	2,8	2	WOEX 06T304	**38095**
KUB-T.2D.390.L.06-ABS50	V30 23900	**39**	50	159	78	128	2,8	2	WOEX 06T304	**39095**
KUB-T.2D.400.L.06-ABS50	V30 24000	**40**	50	161	80	130	2,8	2	WOEX 06T304	**40095**
KUB-T.2D.410.L.06-ABS50	V30 24100	**41**	50	163	82	132	2,8	2	WOEX 06T304	**41095**
KUB-T.2D.420.L.06-ABS50	V30 24200	**42**	50	165	84	134	2,8	2	WOEX 06T304	**42095**
KUB-T.2D.430.L.06-ABS50	V30 24300	**43**	50	167	86	136	2,8	2	WOEX 06T304	**43095**
KUB-T.2D.440.L.06-ABS50	V30 24400	**44**	50	169	88	138	2,8	2	WOEX 06T304	**44095**

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver

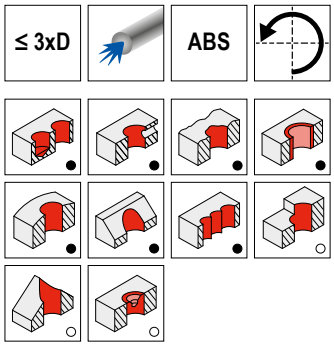

Clamping screw

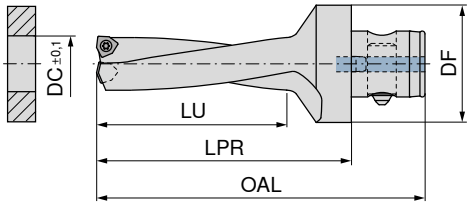
Spare parts DC		AS 80 950 ...		AS 10 950 ...
14 - 19	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
20 - 24	T06 - IP	**116**	M2,2x5,5 - 06IP	**10700**
25 - 36	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
37 - 44	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**

CoreLine – Indexable drill – Trigon

▲ Left-hand cutting
▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill incl. clamping screws







Designation	Product Reference No.	DC mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 11 893 ...
KUB-T.3D.140.L.03-ABS50	V30 61402	14	50	108	42	77	0,62	2	WOEX 030204	14095
KUB-T.3D.150.L.03-ABS50	V30 61502	15	50	111	45	80	0,62	2	WOEX 030204	15095
KUB-T.3D.160.L.03-ABS50	V30 61600	16	50	114	48	83	0,62	2	WOEX 030204	16095
KUB-T.3D.170.L.03-ABS50	V30 61700	17	50	117	51	86	0,62	2	WOEX 030204	17095
KUB-T.3D.180.L.03-ABS50	V30 61800	18	50	120	54	89	0,62	2	WOEX 030204	18095
KUB-T.3D.190.L.03-ABS50	V30 61900	19	50	123	57	92	0,62	2	WOEX 030204	19095
KUB-T.3D.200.L.04-ABS50	V30 62000	20	50	126	60	95	1,01	2	WOEX 040304	20095
KUB-T.3D.210.L.04-ABS50	V30 62100	21	50	129	63	98	1,01	2	WOEX 040304	21095
KUB-T.3D.220.L.04-ABS50	V30 62200	22	50	132	66	101	1,01	2	WOEX 040304	22095
KUB-T.3D.230.L.04-ABS50	V30 62300	23	50	135	69	104	1,01	2	WOEX 040304	23095
KUB-T.3D.240.L.04-ABS50	V30 62400	24	50	138	72	107	1,01	2	WOEX 040304	24095
KUB-T.3D.250.L.05-ABS50	V30 62500	25	50	141	75	110	1,28	2	WOEX 05T304	25095
KUB-T.3D.260.L.05-ABS50	V30 62600	26	50	144	78	113	1,28	2	WOEX 05T304	26095
KUB-T.3D.270.L.05-ABS50	V30 62700	27	50	147	81	116	1,28	2	WOEX 05T304	27095
KUB-T.3D.280.L.05-ABS50	V30 62800	28	50	150	84	119	1,28	2	WOEX 05T304	28095
KUB-T.3D.290.L.05-ABS50	V30 62900	29	50	153	87	122	1,28	2	WOEX 05T304	29095
KUB-T.3D.300.L.05-ABS50	V30 63000	30	50	161	90	130	1,28	2	WOEX 05T304	30095
KUB-T.3D.310.L.05-ABS50	V30 63100	31	50	164	93	133	1,28	2	WOEX 05T304	31095
KUB-T.3D.320.L.05-ABS50	V30 63200	32	50	167	96	136	1,28	2	WOEX 05T304	32095
KUB-T.3D.330.L.05-ABS50	V30 63300	33	50	170	99	139	1,28	2	WOEX 05T304	33095
KUB-T.3D.340.L.05-ABS50	V30 63400	34	50	173	102	142	1,28	2	WOEX 05T304	34095
KUB-T.3D.350.L.05-ABS50	V30 63500	35	50	176	105	145	1,28	2	WOEX 05T304	35095
KUB-T.3D.360.L.05-ABS50	V30 63600	36	50	179	108	148	1,28	2	WOEX 05T304	36095
KUB-T.3D.370.L.06-ABS50	V30 63700	37	50	192	111	161	2,8	2	WOEX 06T304	37095
KUB-T.3D.380.L.06-ABS50	V30 63800	38	50	195	114	164	2,8	2	WOEX 06T304	38095
KUB-T.3D.390.L.06-ABS50	V30 63900	39	50	198	117	167	2,8	2	WOEX 06T304	39095
KUB-T.3D.400.L.06-ABS50	V30 64000	40	50	201	120	170	2,8	2	WOEX 06T304	40095
KUB-T.3D.410.L.06-ABS50	V30 64100	41	50	204	123	173	2,8	2	WOEX 06T304	41095
KUB-T.3D.420.L.06-ABS50	V30 64200	42	50	207	126	176	2,8	2	WOEX 06T304	42095
KUB-T.3D.430.L.06-ABS50	V30 64300	43	50	210	129	179	2,8	2	WOEX 06T304	43095
KUB-T.3D.440.L.06-ABS50	V30 64400	44	50	213	132	182	2,8	2	WOEX 06T304	44095

→ Find suitable indexable inserts here.
→ Find the recommended values for cutting speeds here.
→ You can find the recommended feed values here.


Screwdriver


Clamping screw

Spare parts DC		AS 80 950 ...		AS 10 950 ...
14 - 19	T06 - IP	116	M2,0x4,3 - 06IP	10000
20 - 24	T06 - IP	116	M2,2x5,5 - 06IP	10700
25 - 36	T08 - IP	039	M2,5x7,2 - 08IP	10500
37 - 44	T10 - IP	119	M3,5x7,3 - 10IP	10600

Indexable insert recommendation WOEX for Trigon

The recommendation shown here is based on experience and serves to select the correct indexable insert for your application.

Guideline recommendation

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK8425		-01	BK8425
M	→ -01	BK7935		-01	BK7935
K	→ -01	BK6115	⚠	→ -01	BK8425
N	→ -11	BK7710		-11	BK7710
S.2.1 – S.2.3 (Ni)	→ -13	BK79		-13	BK79
S.3.1 – S.3.3 (Ti)	→ -11	BK7710		-11	BK7710
H	→ -01	BK7935		-01	BK7935
O	→ -11	BK77		-11	BK77

Alternative indexable inserts for improved chip control

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -03	BK8425	⚠	→ -01	BK8425
	→ -13	BK8425		-13	BK8425
M	→ -03	BK8425	⚠	→ -01	BK8425
	→ -13	BK79		-13	BK79
K					
N					
S.2.1 – S.2.3 (Ni)	→ -11	BK77	⚠	→ -13	BK79
S.3.1 – S.3.3 (Ti)					
H					
O					

Alternative indexable inserts for higher cutting speed

Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK6115	⚠	→ -01	BK8425
M	→ -01	BK6115	⚠	→ -01	BK8425
K	→ -01	BK7615	⚠	→ -01	BK8425
N	→ -11	BK50		-11	BK50
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

Alternative indexable inserts for increased toughness

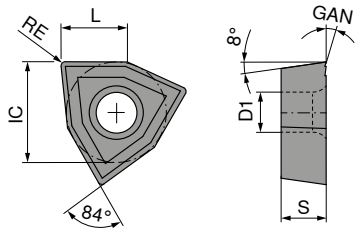
Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ -01	BK7935		-01	BK7935
	→ -13	BK79		-13	BK79
M					
K	→ -01	BK7935		-01	BK7935
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					



Please note: Outer and central cutting edge differ in the grade and/or chip breaker.

CoreLine – HM indexable insert

WOEX



-01 BK8425	-01 BK7935	-01 BK7615	-01 BK6115
			
WOEX	WOEX	WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.046115	3.2	2.30	2.3	5.00	12°	0.4				**40301**
WOEX 030204EN	W29 10010.047615	3.2	2.30	2.3	5.00	12°	0.4			**05301**	
WOEX 030204EN	W29 10010.047935	3.2	2.30	2.3	5.00	12°	0.4		**50301**		
WOEX 030204EN	W29 10010.048425	3.2	2.30	2.3	5.00	12°	0.4	**30301**			
WOEX 040304EN	W29 18010.046115	4.1	2.55	3.18	6.35	12°	0.4				**40401**
WOEX 040304EN	W29 18010.047615	4.1	2.55	3.18	6.35	12°	0.4			**05401**	
WOEX 040304EN	W29 18010.047935	4.1	2.55	3.18	6.35	12°	0.4		**50401**		
WOEX 040304EN	W29 18010.048425	4.1	2.55	3.18	6.35	12°	0.4	**30401**			
WOEX 05T304SN	W29 24010.046115	5.3	2.85	3.8	8.00	12°	0.4				**40501**
WOEX 05T304SN	W29 24010.047615	5.3	2.85	3.8	8.00	12°	0.4			**05501**	
WOEX 05T304SN	W29 24010.047935	5.3	2.85	3.8	8.00	12°	0.4		**50501**		
WOEX 05T304SN	W29 24010.048425	5.3	2.85	3.8	8.00	12°	0.4	**30501**			
WOEX 05T308SN	W29 24010.086115	5.3	2.85	3.8	8.00	12°	0.8				**47501**
WOEX 05T308SN	W29 24010.087615	5.3	2.85	3.8	8.00	12°	0.8			**07501**	
WOEX 05T308SN	W29 24010.087935	5.3	2.85	3.8	8.00	12°	0.8		**52501**		
WOEX 05T308SN	W29 24010.088425	5.3	2.85	3.8	8.00	12°	0.8	**38501**			
WOEX 06T304SN	W29 34010.046115	6.6	4.05	3.8	10.00	12°	0.4				**40601**
WOEX 06T304SN	W29 34010.047615	6.6	4.05	3.8	10.00	12°	0.4			**05601**	
WOEX 06T304SN	W29 34010.047935	6.6	4.05	3.8	10.00	12°	0.4		**50601**		
WOEX 06T304SN	W29 34010.048425	6.6	4.05	3.8	10.00	12°	0.4	**30601**			
WOEX 06T308SN	W29 34010.086115	6.6	4.05	3.8	10.00	12°	0.8				**47601**
WOEX 06T308SN	W29 34010.087615	6.6	4.05	3.8	10.00	12°	0.8			**07601**	
WOEX 06T308SN	W29 34010.087935	6.6	4.05	3.8	10.00	12°	0.8		**52601**		
WOEX 06T308SN	W29 34010.088425	6.6	4.05	3.8	10.00	12°	0.8	**38601**			
WOEX 080404SN	W29 42010.046115	7.9	4.90	4.8	12.00	12°	0.4				**40801**
WOEX 080404SN	W29 42010.047615	7.9	4.90	4.8	12.00	12°	0.4			**05801**	
WOEX 080404SN	W29 42010.047935	7.9	4.90	4.8	12.00	12°	0.4		**50801**		
WOEX 080404SN	W29 42010.048425	7.9	4.90	4.8	12.00	12°	0.4	**30801**			
WOEX 080408SN	W29 42010.086115	7.9	4.90	4.8	12.00	12°	0.8				**47801**
WOEX 080408SN	W29 42010.087615	7.9	4.90	4.8	12.00	12°	0.8			**07801**	
WOEX 080408SN	W29 42010.087935	7.9	4.90	4.8	12.00	12°	0.8		**52801**		
WOEX 080408SN	W29 42010.088425	7.9	4.90	4.8	12.00	12°	0.8	**38801**			
WOEX 100504SN	W29 50010.046115	9.9	4.90	5.3	15.00	12°	0.4				**41001**
WOEX 100504SN	W29 50010.047615	9.9	4.90	5.3	15.00	12°	0.4			**06001**	
WOEX 100504SN	W29 50010.047935	9.9	4.90	5.3	15.00	12°	0.4		**51001**		
WOEX 100504SN	W29 50010.048425	9.9	4.90	5.3	15.00	12°	0.4	**31001**			
WOEX 100508SN	W29 50010.086115	9.9	4.90	5.3	15.00	12°	0.8				**48001**
WOEX 100508SN	W29 50010.087615	9.9	4.90	5.3	15.00	12°	0.8			**08001**	
WOEX 100508SN	W29 50010.087935	9.9	4.90	5.3	15.00	12°	0.8		**53001**		
WOEX 100508SN	W29 50010.088425	9.9	4.90	5.3	15.00	12°	0.8	**39001**			
WOEX 120608SN	W29 58010.086115	11.6	5.95	6.0	17.60	12°	0.8				**41201**
WOEX 120608SN	W29 58010.087615	11.6	5.95	6.0	17.60	12°	0.8			**08201**	
WOEX 120608SN	W29 58010.087935	11.6	5.95	6.0	17.60	12°	0.8		**53201**		
WOEX 120608SN	W29 58010.088425	11.6	5.95	6.0	17.60	12°	0.8	**31201**			

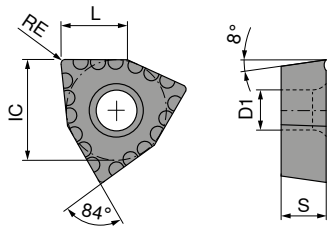
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→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -01 BK6115 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX



-03
BK8425



WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...
WOEX 030204EN	W29 10030.048425	3.2	2.30	2.3	5.00	0.4	**30303**
WOEX 040304EN	W29 18030.048425	4.1	2.55	3.18	6.35	0.4	**30403**
WOEX 05T304EN	W29 24030.048425	5.3	2.85	3.8	8.00	0.4	**30503**
WOEX 06T304EN	W29 34030.048425	6.6	4.05	3.8	10.00	0.4	**30603**
WOEX 06T308EN	W29 34030.088425	6.6	4.05	3.8	10.00	0.8	**37603**
WOEX 080404EN	W29 42030.048425	7.9	4.90	4.8	12.00	0.4	**30803**
WOEX 080408EN	W29 42030.088425	7.9	4.90	4.8	12.00	0.8	**37803**
WOEX 100504EN	W29 50030.048425	9.9	4.90	5.3	15.00	0.4	**31003**
WOEX 100508EN	W29 50030.088425	9.9	4.90	5.3	15.00	0.8	**38003**
WOEX 120608EN	W29 58030.088425	11.6	5.95	6.0	17.60	0.8	**33203**

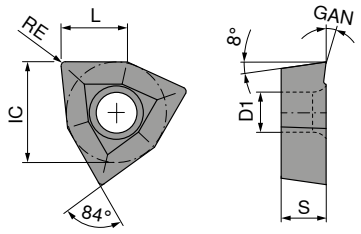
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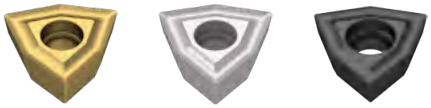
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -03 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX





-11 BK77	-11 BK7710	-11 BK50
WOEX	WOEX	WOEX

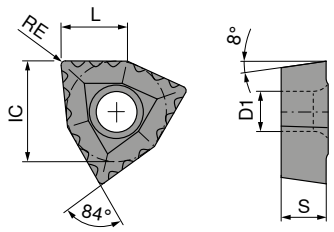
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 823 ...
WOEX 030204EN	W29 10110.0450	3.2	2.30	2.3	5.00	20°	0.4			**10311**
WOEX 030204EN	W29 10110.0477	3.2	2.30	2.3	5.00	20°	0.4	**80311**		
WOEX 030204EN	W29 10110.047710	3.2	2.30	2.3	5.00	20°	0.4		**90311**	
WOEX 040304EN	W29 18110.0450	4.1	2.55	3.18	6.35	20°	0.4			**10411**
WOEX 040304EN	W29 18110.0477	4.1	2.55	3.18	6.35	20°	0.4	**80411**		
WOEX 040304EN	W29 18110.047710	4.1	2.55	3.18	6.35	20°	0.4		**90411**	
WOEX 05T304EN	W29 24110.0450	5.3	2.85	3.8	8.00	20°	0.4			**10511**
WOEX 05T304EN	W29 24110.0477	5.3	2.85	3.8	8.00	20°	0.4	**80511**		
WOEX 05T304EN	W29 24110.047710	5.3	2.85	3.8	8.00	20°	0.4		**90511**	
WOEX 06T304EN	W29 34110.0450	6.6	4.05	3.8	10.00	20°	0.4			**10611**
WOEX 06T304EN	W29 34110.0477	6.6	4.05	3.8	10.00	20°	0.4	**80611**		
WOEX 06T304EN	W29 34110.047710	6.6	4.05	3.8	10.00	20°	0.4		**90611**	
WOEX 080404EN	W29 42110.0450	7.9	4.90	4.8	12.00	20°	0.4			**10811**
WOEX 080404EN	W29 42110.0477	7.9	4.90	4.8	12.00	20°	0.4	**80811**		
WOEX 080404EN	W29 42110.047710	7.9	4.90	4.8	12.00	20°	0.4		**90811**	
WOEX 100504EN	W29 50110.0477	9.9	4.90	5.3	15.00	20°	0.4	**81011**		
WOEX 100504EN	W29 50110.047710	9.9	4.90	5.3	15.00	20°	0.4		**91011**	

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K			
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S	●	●	
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX





-13 BK79	-13 BK8425
WOEX	WOEX

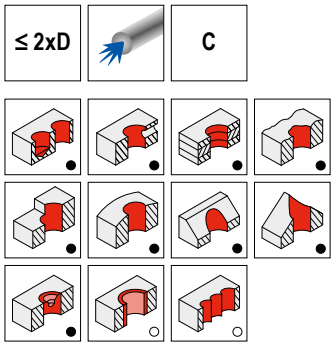
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10130.0479	3.2	2.30	2.3	5.00	0.4	**15313**	
WOEX 030204EN	W29 10130.048425	3.2	2.30	2.3	5.00	0.4		**30313**
WOEX 040304EN	W29 18130.0479	4.1	2.55	3.18	6.35	0.4	**15413**	
WOEX 040304EN	W29 18130.048425	4.1	2.55	3.18	6.35	0.4		**30413**
WOEX 05T304EN	W29 24130.0479	5.3	2.85	3.8	8.00	0.4	**15513**	
WOEX 05T304EN	W29 24130.048425	5.3	2.85	3.8	8.00	0.4		**30513**
WOEX 06T304EN	W29 34130.0479	6.6	4.05	3.8	10.00	0.4	**15613**	
WOEX 06T304EN	W29 34130.048425	6.6	4.05	3.8	10.00	0.4		**30613**
WOEX 080404EN	W29 42130.0479	7.9	4.90	4.8	12.00	0.4	**15813**	
WOEX 080404EN	W29 42130.048425	7.9	4.90	4.8	12.00	0.4		**30813**
WOEX 100504EN	W29 50130.0479	9.9	4.90	5.3	15.00	0.4	**16013**	
WOEX 100504EN	W29 50130.048425	9.9	4.90	5.3	15.00	0.4		**31013**
WOEX 120608EN	W29 58130.0879	11.6	5.95	6.0	17.60	0.8	**16213**	
WOEX 120608EN	W29 58130.088425	11.6	5.95	6.0	17.60	0.8		**38213**
P							●	●
M							●	●
K								●
N								
S								
H								
O								

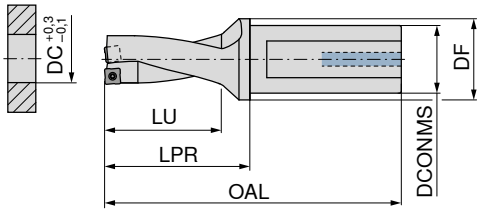
→ Find the recommended values for cutting speeds here.

CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 852 ...
MD900.2D.120.R.03-C20	12	20	28	90	24	40	0,4	2	SONT 031804	120
MD900.2D.125.R.03-C20	12.5	20	28	91	25	41	0,4	2	SONT 031804	125
MD900.2D.130.R.03-C20	13	20	28	92	26	42	0,4	2	SONT 031804	130
MD900.2D.135.R.03-C20	13.5	20	28	93	27	43	0,4	2	SONT 031804	135
MD900.2D.140.R.04-C20	14	20	30	96	28	46	0,7	2	SONT 042105	140
MD900.2D.145.R.04-C20	14.5	20	30	97	29	47	0,7	2	SONT 042105	145
MD900.2D.150.R.04-C20	15	20	30	98	30	48	0,7	2	SONT 042105	150
MD900.2D.155.R.04-C20	15.5	20	30	99	31	49	0,7	2	SONT 042105	155
MD900.2D.160.R.05-C20	16	20	30	100	32	50	0,7	2	SONT 052306	160
MD900.2D.165.R.05-C20	16.5	20	30	101	33	51	0,7	2	SONT 052306	165
MD900.2D.170.R.05-C20	17	20	30	102	34	52	0,7	2	SONT 052306	170
MD900.2D.175.R.05-C20	17.5	20	30	103	35	53	0,7	2	SONT 052306	175
MD900.2D.180.R.06-C25	18	25	32	111	36	55	1	2	SONT 062506	180
MD900.2D.185.R.06-C25	18.5	25	32	112	37	56	1	2	SONT 062506	185
MD900.2D.190.R.06-C25	19	25	32	113	38	57	1	2	SONT 062506	190
MD900.2D.195.R.06-C25	19.5	25	32	114	39	58	1	2	SONT 062506	195
MD900.2D.200.R.06-C25	20	25	32	115	40	59	1	2	SONT 062506	200
MD900.2D.205.R.06-C25	20.5	25	32	116	41	60	1	2	SONT 062506	205
MD900.2D.210.R.07-C25	21	25	32	118	42	62	1	2	SONT 072907	210
MD900.2D.220.R.07-C25	22	25	32	120	44	64	1	2	SONT 072907	220
MD900.2D.230.R.07-C25	23	25	32	122	46	66	1	2	SONT 072907	230
MD900.2D.240.R.08-C32	24	32	40	132	48	72	1,2	2	SONT 083308	240
MD900.2D.250.R.08-C32	25	32	40	134	50	74	1,2	2	SONT 083308	250
MD900.2D.260.R.08-C32	26	32	40	136	52	76	1,2	2	SONT 083308	260
MD900.2D.270.R.08-C32	27	32	40	138	54	78	1,2	2	SONT 083308	270
MD900.2D.280.R.09-C32	28	32	40	140	56	80	2,2	2	SONT 093808	280
MD900.2D.290.R.09-C32	29	32	40	142	58	82	2,2	2	SONT 093808	290
MD900.2D.300.R.09-C32	30	32	40	144	60	84	2,2	2	SONT 093808	300
MD900.2D.310.R.09-C32	31	32	40	146	62	86	2,2	2	SONT 093808	310
MD900.2D.320.R.09-C32	32	32	40	148	64	88	2,2	2	SONT 093808	320
MD900.2D.330.R.10-C40	33	40	50	163	66	93	3,2	2	SONT 104408	330
MD900.2D.340.R.10-C40	34	40	50	165	68	95	3,2	2	SONT 104408	340
MD900.2D.350.R.10-C40	35	40	50	167	70	97	3,2	2	SONT 104408	350
MD900.2D.360.R.10-C40	36	40	50	169	72	99	3,2	2	SONT 104408	360
MD900.2D.370.R.12-C40	37	40	56	174	74	104	3,2	2	SONT 124810	370
MD900.2D.380.R.12-C40	38	40	56	176	76	106	3,2	2	SONT 124810	380
MD900.2D.390.R.12-C40	39	40	56	178	78	108	3,2	2	SONT 124810	390
MD900.2D.400.R.12-C40	40	40	56	180	80	110	3,2	2	SONT 124810	400
MD900.2D.410.R.12-C40	41	40	56	182	82	112	3,2	2	SONT 124810	410

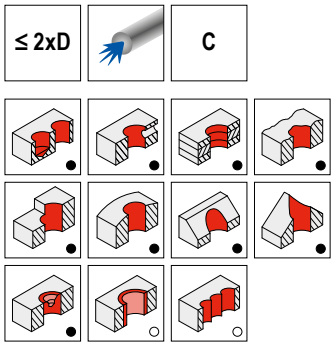
→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

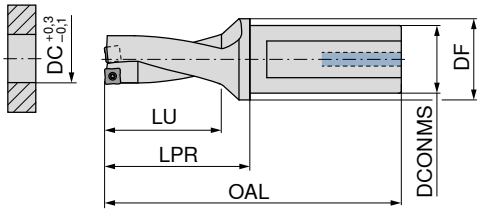
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CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 852 ...
MD900.2D.420.R.13-C40	42	40	60	187	84	117	5	2	SONT 135012	420
MD900.2D.430.R.13-C40	43	40	60	189	86	119	5	2	SONT 135012	430
MD900.2D.440.R.13-C40	44	40	60	191	88	121	5	2	SONT 135012	440
MD900.2D.450.R.13-C40	45	40	60	193	90	123	5	2	SONT 135012	450
MD900.2D.460.R.13-C40	46	40	60	195	92	125	5	2	SONT 135012	460
MD900.2D.470.R.15-C40	47	40	60	198	94	128	5	2	SONT 155312	470
MD900.2D.480.R.15-C40	48	40	60	200	96	130	5	2	SONT 155312	480
MD900.2D.490.R.15-C40	49	40	60	202	98	132	5	2	SONT 155312	490
MD900.2D.500.R.15-C40	50	40	60	204	100	134	5	2	SONT 155312	500
MD900.2D.520.R.15-C40	51	40	60	206	102	136	5	2	SONT 155312	510
MD900.2D.510.R.15-C40	52	40	60	208	104	138	5	2	SONT 155312	520
MD900.2D.530.R.15-C40	53	40	60	210	106	140	5	2	SONT 155312	530
MD900.2D.540.R.15-C40	54	40	60	212	108	142	5	2	SONT 155312	540
MD900.2D.550.R.17-C40	55	40	60	215	110	145	5	2	SONT 175612	550
MD900.2D.560.R.17-C40	56	40	60	217	112	147	5	2	SONT 175612	560
MD900.2D.570.R.17-C40	57	40	60	219	114	149	5	2	SONT 175612	570
MD900.2D.580.R.17-C40	58	40	60	221	116	151	5	2	SONT 175612	580
MD900.2D.590.R.17-C40	59	40	60	223	118	153	5	2	SONT 175612	590
MD900.2D.600.R.17-C40	60	40	62	225	120	155	5	2	SONT 175612	600
MD900.2D.610.R.17-C40	61	40	62	227	122	157	5	2	SONT 175612	610
MD900.2D.620.R.17-C40	62	40	64	229	124	159	5	2	SONT 175612	620
MD900.2D.630.R.17-C40	63	40	64	231	126	161	5	2	SONT 175612	630

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.


Screwdriver

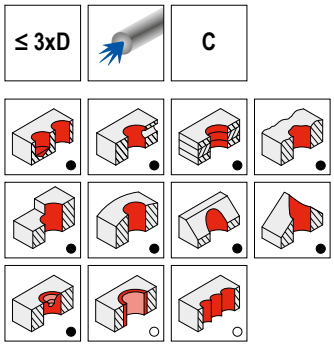

Clamping screw

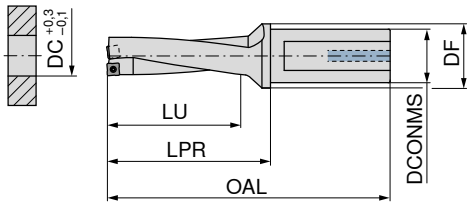
Spare parts DC		AS 80 950 ...		AS 70 950 ...
12 - 13,5	T06 - IP	116	M1,8x3,6 - 06IP	862
14 - 17,5	T06 - IP	116	M2x4,3 - 06IP	863
18 - 23	T07 - IP	117	M2,2x5 - 07IP	856
24 - 27	T08 - IP	039	M2,5x6 - 08IP	857
28 - 32	T09 - IP	118	M3x7 - 09IP	819
33 - 41	T15 - IP	120	M3,5x8,6 - 15IP	859
42 - 63	T20 - IP	121	M4,5x10,5 - 20IP	864

CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC	DCONMS	DF	OAL	LU	LPR	Tightening torque	ZEFF	Indexable insert	TO
	mm	mm	mm	mm	mm	mm	Nm			10 853 ...
MD900.3D.120.R.03-C20	12	20	28	102	36.0	52	0,4	2	SONT 031804	120
MD900.3D.125.R.03-C20	12.5	20	28	104	37.5	54	0,4	2	SONT 031804	125
MD900.3D.130.R.03-C20	13	20	28	105	39.0	55	0,4	2	SONT 031804	130
MD900.3D.135.R.03-C20	13.5	20	28	107	40.5	57	0,4	2	SONT 031804	135
MD900.3D.140.R.04-C20	14	20	30	109	42.0	59	0,7	2	SONT 042105	140
MD900.3D.145.R.04-C20	14.5	20	30	111	44.0	61	0,7	2	SONT 042105	145
MD900.3D.150.R.04-C20	15	20	30	112	45.0	62	0,7	2	SONT 042105	150
MD900.3D.155.R.04-C20	15.5	20	30	114	47.0	64	0,7	2	SONT 042105	155
MD900.3D.160.R.05-C20	16	20	30	115	48.0	65	0,7	2	SONT 052306	160
MD900.3D.165.R.05-C20	16.5	20	30	117	50.0	67	0,7	2	SONT 052306	165
MD900.3D.170.R.05-C20	17	20	30	118	51.0	68	0,7	2	SONT 052306	170
MD900.3D.175.R.05-C20	17.5	20	30	120	53.0	70	0,7	2	SONT 052306	175
MD900.3D.180.R.06-C25	18	25	32	128	54.0	72	1	2	SONT 062506	180
MD900.3D.185.R.06-C25	18.5	25	32	130	56.0	74	1	2	SONT 062506	185
MD900.3D.190.R.06-C25	19	25	32	131	57.0	75	1	2	SONT 062506	190
MD900.3D.195.R.06-C25	19.5	25	32	133	59.0	77	1	2	SONT 062506	195
MD900.3D.200.R.06-C25	20	25	32	134	60.0	78	1	2	SONT 062506	200
MD900.3D.205.R.06-C25	20.5	25	32	136	62.0	80	1	2	SONT 062506	205
MD900.3D.210.R.07-C25	21	25	32	138	63.0	82	1	2	SONT 072907	210
MD900.3D.215.R.07-C25	21.5	25	32	140	65.0	84	1	2	SONT 072907	215
MD900.3D.220.R.07-C25	22	25	32	141	66.0	85	1	2	SONT 072907	220
MD900.3D.225.R.07-C25	22.5	25	32	143	68.0	87	1	2	SONT 072907	225
MD900.3D.230.R.07-C25	23	25	32	144	69.0	88	1	2	SONT 072907	230
MD900.3D.235.R.07-C25	23.5	25	32	146	71.0	90	1	2	SONT 072907	235
MD900.3D.240.R.08-C32	24	32	40	155	72.0	95	1,2	2	SONT 083308	240
MD900.3D.245.R.08-C32	24.5	32	40	157	74.0	97	1,2	2	SONT 083308	245
MD900.3D.250.R.08-C32	25	32	40	158	75.0	98	1,2	2	SONT 083308	250
MD900.3D.255.R.08-C32	25.5	32	40	160	77.0	100	1,2	2	SONT 083308	255
MD900.3D.260.R.08-C32	26	32	40	161	78.0	101	1,2	2	SONT 083308	260
MD900.3D.265.R.08-C32	26.5	32	40	163	80.0	103	1,2	2	SONT 083308	265
MD900.3D.270.R.08-C32	27	32	40	164	81.0	104	1,2	2	SONT 083308	270
MD900.3D.275.R.08-C32	27.5	32	40	166	83.0	106	1,2	2	SONT 083308	275
MD900.3D.280.R.09-C32	28	32	40	167	84.0	107	2,2	2	SONT 093808	280
MD900.3D.285.R.09-C32	28.5	32	40	169	86.0	109	2,2	2	SONT 093808	285
MD900.3D.290.R.09-C32	29	32	40	170	87.0	110	2,2	2	SONT 093808	290
MD900.3D.295.R.09-C32	29.5	32	40	172	89.0	112	2,2	2	SONT 093808	295
MD900.3D.300.R.09-C32	30	32	40	173	90.0	113	2,2	2	SONT 093808	300
MD900.3D.305.R.09-C32	30.5	32	40	175	92.0	115	2,2	2	SONT 093808	305
MD900.3D.310.R.09-C32	31	32	40	176	93.0	116	2,2	2	SONT 093808	310
MD900.3D.315.R.09-C32	31.5	32	40	178	95.0	118	2,2	2	SONT 093808	315
MD900.3D.320.R.09-C32	32	32	40	179	96.0	119	2,2	2	SONT 093808	320
MD900.3D.325.R.10-C40	32.5	40	50	192	98.0	124	3,2	2	SONT 104408	325
MD900.3D.330.R.10-C40	33	40	50	193	99.0	125	3,2	2	SONT 104408	330
MD900.3D.335.R.10-C40	33.5	40	50	195	101.0	127	3,2	2	SONT 104408	335
MD900.3D.340.R.10-C40	34	40	50	196	102.0	128	3,2	2	SONT 104408	340
MD900.3D.345.R.10-C40	34.5	40	50	198	104.0	130	3,2	2	SONT 104408	345
MD900.3D.350.R.10-C40	35	40	50	199	105.0	131	3,2	2	SONT 104408	350
MD900.3D.355.R.10-C40	35.5	40	50	201	107.0	133	3,2	2	SONT 104408	355
MD900.3D.360.R.10-C40	36	40	50	202	108.0	134	3,2	2	SONT 104408	360
MD900.3D.365.R.10-C40	36.5	40	50	204	110.0	136	3,2	2	SONT 104408	365

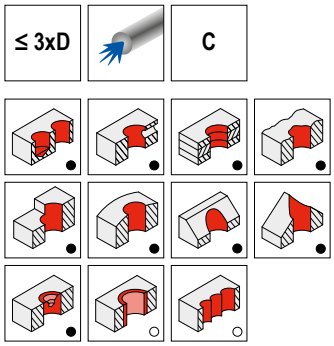
→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

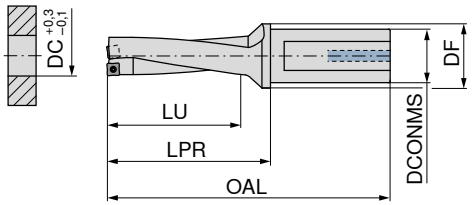
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CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key

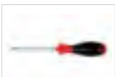






Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 853 ...
MD900.3D.370.R.12-C40	37	40	56	211	111.0	141	3,2	2	SONT 124810	370
MD900.3D.380.R.12-C40	38	40	56	214	114.0	144	3,2	2	SONT 124810	380
MD900.3D.390.R.12-C40	39	40	56	217	117.0	147	3,2	2	SONT 124810	390
MD900.3D.400.R.12-C40	40	40	56	220	120.0	150	3,2	2	SONT 124810	400
MD900.3D.410.R.12-C40	41	40	56	223	123.0	153	3,2	2	SONT 124810	410
MD900.3D.420.R.13-C40	42	40	60	229	126.0	159	5	2	SONT 135012	420
MD900.3D.430.R.13-C40	43	40	60	232	129.0	162	5	2	SONT 135012	430
MD900.3D.440.R.13-C40	44	40	60	235	132.0	165	5	2	SONT 135012	440
MD900.3D.450.R.13-C40	45	40	60	238	135.0	168	5	2	SONT 135012	450
MD900.3D.460.R.13-C40	46	40	60	241	138.0	171	5	2	SONT 135012	460
MD900.3D.470.R.15-C40	47	40	60	245	141.0	175	5	2	SONT 155312	470
MD900.3D.480.R.15-C40	48	40	60	248	144.0	178	5	2	SONT 155312	480
MD900.3D.490.R.15-C40	49	40	60	251	147.0	181	5	2	SONT 155312	490
MD900.3D.500.R.15-C40	50	40	60	254	150.0	184	5	2	SONT 155312	500
MD900.3D.510.R.15-C40	51	40	60	257	153.0	187	5	2	SONT 155312	510
MD900.3D.520.R.15-C40	52	40	60	260	156.0	190	5	2	SONT 155312	520
MD900.3D.530.R.15-C40	53	40	60	263	159.0	193	5	2	SONT 155312	530
MD900.3D.540.R.15-C40	54	40	60	266	162.0	196	5	2	SONT 155312	540
MD900.3D.550.R.17-C40	55	40	60	270	165.0	200	5	2	SONT 175612	550
MD900.3D.560.R.17-C40	56	40	60	273	168.0	203	5	2	SONT 175612	560
MD900.3D.570.R.17-C40	57	40	60	276	171.0	206	5	2	SONT 175612	570
MD900.3D.580.R.17-C40	58	40	60	279	174.0	209	5	2	SONT 175612	580
MD900.3D.590.R.17-C40	59	40	60	282	177.0	212	5	2	SONT 175612	590
MD900.3D.600.R.17-C40	60	40	62	285	180.0	215	5	2	SONT 175612	600
MD900.3D.610.R.17-C40	61	40	62	288	183.0	218	5	2	SONT 175612	610
MD900.3D.620.R.17-C40	62	40	64	291	186.0	221	5	2	SONT 175612	620
MD900.3D.630.R.17-C40	63	40	64	294	189.0	224	5	2	SONT 175612	630

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.



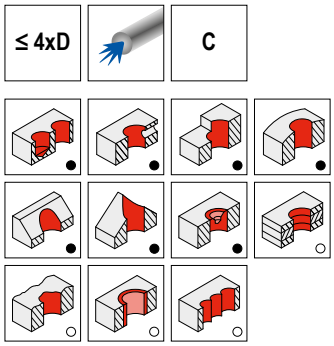


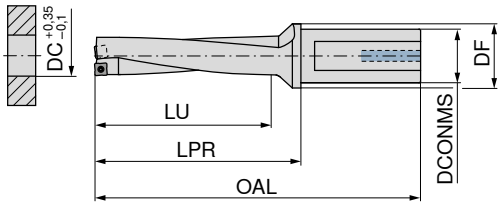
Spare parts DC		AS 80 950 ...		AS 70 950 ...
12 - 13,5	T06 - IP	116	M1,8x3,6 - 06IP	862
14 - 17,5	T06 - IP	116	M2x4,3 - 06IP	863
18 - 23,5	T07 - IP	117	M2,2x5 - 07IP	856
24 - 27,5	T08 - IP	039	M2,5x6 - 08IP	857
28 - 32	T09 - IP	118	M3x7 - 09IP	819
32,5 - 41	T15 - IP	120	M3,5x8,6 - 15IP	859
42 - 63	T20 - IP	121	M4,5x10,5 - 20IP	864

CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC	DCONMS	DF	OAL	LU	LPR	Tightening torque	ZEFF	Indexable insert	TO
	mm	mm	mm	mm	mm	mm	Nm			10 854 ...
MD900.4D.120.R.03-C20	12	20	28	114	48	64	0,4	2	SONT 031804	120
MD900.4D.125.R.03-C20	12.5	20	28	116	50	66	0,4	2	SONT 031804	125
MD900.4D.130.R.03-C20	13	20	28	118	52	68	0,4	2	SONT 031804	130
MD900.4D.135.R.03-C20	13.5	20	28	120	54	70	0,4	2	SONT 031804	135
MD900.4D.140.R.04-C20	14	20	30	123	56	73	0,7	2	SONT 042105	140
MD900.4D.145.R.04-C20	14.5	20	30	125	58	75	0,7	2	SONT 042105	145
MD900.4D.150.R.04-C20	15	20	30	127	60	77	0,7	2	SONT 042105	150
MD900.4D.155.R.04-C20	15.5	20	30	129	62	79	0,7	2	SONT 042105	155
MD900.4D.160.R.05-C20	16	20	30	131	64	81	0,7	2	SONT 052306	160
MD900.4D.165.R.05-C20	16.5	20	30	133	66	83	0,7	2	SONT 052306	165
MD900.4D.170.R.05-C20	17	20	30	135	68	85	0,7	2	SONT 052306	170
MD900.4D.175.R.05-C20	17.5	20	30	137	70	87	0,7	2	SONT 052306	175
MD900.4D.180.R.06-C25	18	25	32	146	72	90	1	2	SONT 062506	180
MD900.4D.185.R.06-C25	18.5	25	32	148	74	92	1	2	SONT 062506	185
MD900.4D.190.R.06-C25	19	25	32	150	76	94	1	2	SONT 062506	190
MD900.4D.195.R.06-C25	19.5	25	32	152	78	96	1	2	SONT 062506	195
MD900.4D.200.R.06-C25	20	25	32	154	80	98	1	2	SONT 062506	200
MD900.4D.205.R.06-C25	20.5	25	32	156	82	100	1	2	SONT 062506	205
MD900.4D.210.R.07-C25	21	25	32	159	84	103	1	2	SONT 072907	210
MD900.4D.220.R.07-C25	22	25	32	163	88	107	1	2	SONT 072907	220
MD900.4D.230.R.07-C25	23	25	32	167	92	111	1	2	SONT 072907	230
MD900.4D.240.R.08-C32	24	32	40	179	96	119	1,2	2	SONT 083308	240
MD900.4D.250.R.08-C32	25	32	40	183	100	123	1,2	2	SONT 083308	250
MD900.4D.260.R.08-C32	26	32	40	187	104	127	1,2	2	SONT 083308	260
MD900.4D.270.R.08-C32	27	32	40	191	108	131	1,2	2	SONT 083308	270
MD900.4D.280.R.09-C32	28	32	40	195	112	135	2,2	2	SONT 093808	280
MD900.4D.290.R.09-C32	29	32	40	199	116	139	2,2	2	SONT 093808	290
MD900.4D.300.R.09-C32	30	32	40	203	120	143	2,2	2	SONT 093808	300
MD900.4D.310.R.09-C32	31	32	40	207	124	147	2,2	2	SONT 093808	310
MD900.4D.320.R.09-C32	32	32	40	211	128	151	2,2	2	SONT 093808	320
MD900.4D.330.R.10-C40	33	40	50	228	132	158	3,2	2	SONT 104408	330
MD900.4D.340.R.10-C40	34	40	50	232	136	162	3,2	2	SONT 104408	340
MD900.4D.350.R.10-C40	35	40	50	236	140	166	3,2	2	SONT 104408	350
MD900.4D.360.R.10-C40	36	40	50	240	144	170	3,2	2	SONT 104408	360
MD900.4D.370.R.12-C40	37	40	56	248	148	178	3,2	2	SONT 124810	370
MD900.4D.380.R.12-C40	38	40	56	252	152	182	3,2	2	SONT 124810	380
MD900.4D.390.R.12-C40	39	40	56	256	156	186	3,2	2	SONT 124810	390
MD900.4D.400.R.12-C40	40	40	56	260	160	190	3,2	2	SONT 124810	400
MD900.4D.410.R.12-C40	41	40	56	264	164	194	3,2	2	SONT 124810	410

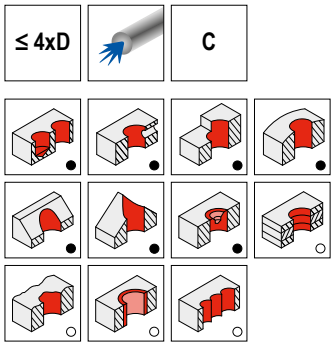
→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

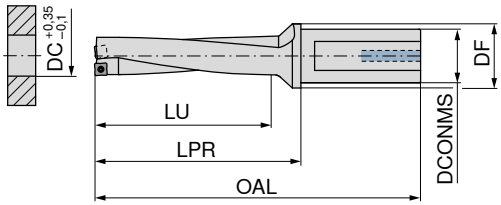
Continued on next page

CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 854 ...
MD900.4D.420.R.13-C40	**42**	40	60	271	168	201	5	2	SONT 135012	**420**
MD900.4D.430.R.13-C40	**43**	40	60	275	172	205	5	2	SONT 135012	**430**
MD900.4D.440.R.13-C40	**44**	40	60	279	176	209	5	2	SONT 135012	**440**
MD900.4D.450.R.13-C40	**45**	40	60	283	180	213	5	2	SONT 135012	**450**
MD900.4D.460.R.13-C40	**46**	40	60	287	184	217	5	2	SONT 135012	**460**
MD900.4D.470.R.15-C40	**47**	40	60	292	188	222	5	2	SONT 155312	**470**
MD900.4D.480.R.15-C40	**48**	40	60	296	192	226	5	2	SONT 155312	**480**
MD900.4D.490.R.15-C40	**49**	40	60	300	196	230	5	2	SONT 155312	**490**
MD900.4D.500.R.15-C40	**50**	40	60	304	200	234	5	2	SONT 155312	**500**
MD900.4D.510.R.15-C40	**51**	40	60	308	204	238	5	2	SONT 155312	**510**
MD900.4D.520.R.15-C40	**52**	40	60	312	208	242	5	2	SONT 155312	**520**
MD900.4D.530.R.15-C40	**53**	40	60	316	212	246	5	2	SONT 155312	**530**
MD900.4D.540.R.15-C40	**54**	40	60	320	216	250	5	2	SONT 155312	**540**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.



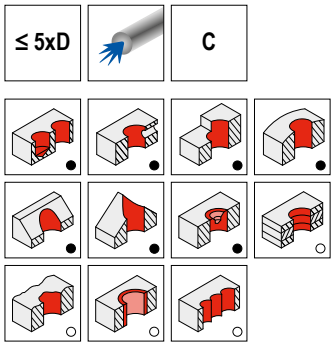


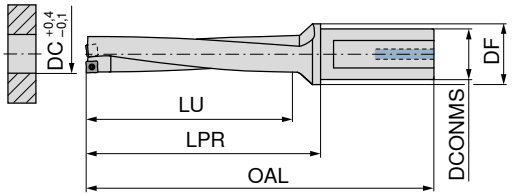
Spare parts DC		AS 80 950 ...		AS 70 950 ...
12 - 13,5	T06 - IP	**116**	M1,8x3,6 - 06IP	**862**
14 - 17,5	T06 - IP	**116**	M2x4,3 - 06IP	**863**
18 - 23	T07 - IP	**117**	M2,2x5 - 07IP	**856**
24 - 27	T08 - IP	**039**	M2,5x6 - 08IP	**857**
28 - 32	T09 - IP	**118**	M3x7 - 09IP	**819**
33 - 41	T15 - IP	**120**	M3,5x8,6 - 15IP	**859**
42 - 54	T20 - IP	**121**	M4,5x10,5 - 20IP	**864**

CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 855 ...
MD900.5D.120.R.03-C20	12	20	28	126	60.0	76.0	0,4	2	SONT 031804	120
MD900.5D.125.R.03-C20	12.5	20	28	128	62.5	78.0	0,4	2	SONT 031804	125
MD900.5D.130.R.03-C20	13	20	28	131	65.0	81.0	0,4	2	SONT 031804	130
MD900.5D.135.R.03-C20	13.5	20	28	132	67.5	82.0	0,4	2	SONT 031804	135
MD900.5D.140.R.04-C20	14	20	30	137	70.0	87.0	0,7	2	SONT 042105	140
MD900.5D.145.R.04-C20	14.5	20	30	139	72.5	89.0	0,7	2	SONT 042105	145
MD900.5D.150.R.04-C20	15	20	30	142	75.0	92.0	0,7	2	SONT 042105	150
MD900.5D.155.R.04-C20	15.5	20	30	144	77.5	94.5	0,7	2	SONT 042105	155
MD900.5D.160.R.05-C20	16	20	30	147	80.0	97.0	0,7	2	SONT 052306	160
MD900.5D.165.R.05-C20	16.5	20	30	149	82.5	99.0	0,7	2	SONT 052306	165
MD900.5D.170.R.05-C20	17	20	30	152	85.0	102.0	0,7	2	SONT 052306	170
MD900.5D.175.R.05-C20	17.5	20	30	154	87.5	104.0	0,7	2	SONT 052306	175
MD900.5D.180.R.06-C25	18	25	32	164	90.0	108.0	1	2	SONT 062506	180
MD900.5D.185.R.06-C25	18.5	25	32	166	92.5	110.0	1	2	SONT 062506	185
MD900.5D.190.R.06-C25	19	25	32	169	95.0	113.0	1	2	SONT 062506	190
MD900.5D.195.R.06-C25	19.5	25	32	171	97.5	115.0	1	2	SONT 062506	195
MD900.5D.200.R.06-C25	20	25	32	174	100.0	118.0	1	2	SONT 062506	200
MD900.5D.205.R.06-C25	20.5	25	32	175	102.5	119.0	1	2	SONT 062506	205
MD900.5D.210.R.07-C25	21	25	32	180	105.0	124.0	1	2	SONT 072907	210
MD900.5D.220.R.07-C25	22	25	32	184	110.0	128.0	1	2	SONT 072907	220
MD900.5D.230.R.07-C25	23	25	32	189	115.0	133.0	1	2	SONT 072907	230
MD900.5D.240.R.08-C32	24	32	40	203	120.0	143.0	1,2	2	SONT 083308	240
MD900.5D.250.R.08-C32	25	32	40	208	125.0	148.0	1,2	2	SONT 083308	250
MD900.5D.260.R.08-C32	26	32	40	212	130.0	152.0	1,2	2	SONT 083308	260
MD900.5D.270.R.08-C32	27	32	40	217	135.0	157.0	1,2	2	SONT 083308	270
MD900.5D.280.R.09-C32	28	32	40	221	140.0	161.0	2,2	2	SONT 093808	280
MD900.5D.290.R.09-C32	29	32	40	226	145.0	166.0	2,2	2	SONT 093808	290
MD900.5D.300.R.09-C32	30	32	40	230	150.0	170.0	2,2	2	SONT 093808	300
MD900.5D.310.R.09-C32	31	32	40	235	155.0	175.0	2,2	2	SONT 093808	310
MD900.5D.320.R.09-C32	32	32	40	239	160.0	179.0	2,2	2	SONT 093808	320
MD900.5D.330.R.10-C40	33	40	50	259	165.0	191.0	3,2	2	SONT 104408	330
MD900.5D.340.R.10-C40	34	40	50	264	170.0	196.0	3,2	2	SONT 104408	340
MD900.5D.350.R.10-C40	35	40	50	269	175.0	201.0	3,2	2	SONT 104408	350
MD900.5D.360.R.10-C40	36	40	50	274	180.0	206.0	3,2	2	SONT 104408	360

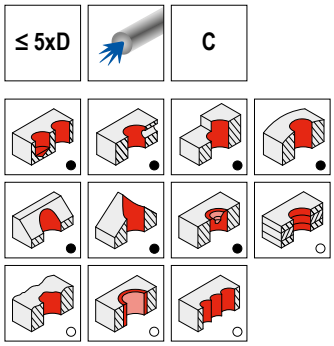
→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

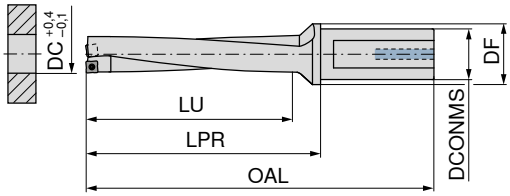
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CoreLine – Indexable drill – MaxiDrill 900

▲ ZEFF = Number of inserts

Scope of supply:
Indexable insert drill including clamping screws and key







Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	Tightening torque Nm	ZEFF	Indexable insert	TO 10 855 ...
MD900.5D.370.R.12-C40	**37**	40	56	285	185.0	215.0	3,2	2	SONT 124810	**370**
MD900.5D.380.R.12-C40	**38**	40	56	290	190.0	220.0	3,2	2	SONT 124810	**380**
MD900.5D.390.R.12-C40	**39**	40	56	295	195.0	225.0	3,2	2	SONT 124810	**390**
MD900.5D.400.R.12-C40	**40**	40	56	300	200.0	230.0	3,2	2	SONT 124810	**400**
MD900.5D.410.R.12-C40	**41**	40	56	305	205.0	235.0	3,2	2	SONT 124810	**410**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

Spare parts DC		 Screwdriver AS 80 950 ...		 Clamping screw AS 70 950 ...
12 - 13,5	T06 - IP	**116**	M1,8x3,6 - 06IP	**862**
14 - 17,5	T06 - IP	**116**	M2x4,3 - 06IP	**863**
18 - 23	T07 - IP	**117**	M2,2x5 - 07IP	**856**
24 - 27	T08 - IP	**039**	M2,5x6 - 08IP	**857**
28 - 32	T09 - IP	**118**	M3x7 - 09IP	**819**
33 - 41	T15 - IP	**120**	M3,5x8,6 - 15IP	**859**

Indexable insert recommendation SONT for MaxiDrill 900

The recommendation shown here is based on experience and serves to select the correct indexable insert for your application.

Guideline recommendation					
Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ **-M30**	CTPP430		**-M30**	CTPP430
M	→ **-M30**	CTPP430		**-M30**	CTPP430
K	→ **-M30**	CTPP430		**-M30**	CTPP430
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

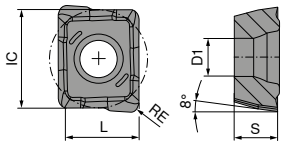
Alternative indexable inserts for higher cutting speed					
Material group	Outer cutting edge			Central cutting edge	
	Chip breaker	Grade		Chip breaker	Grade
P	→ **-M30**	CTCP420	⚠	→ **-M30**	CTPP430
M					
K	→ **-M30**	CTCP420	⚠	→ **-M30**	CTPP430
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					



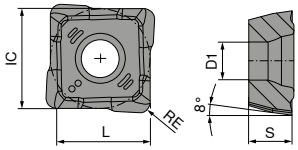
Please note: Outer and central cutting edge differ in the grade and/or chip breaker.

CoreLine – Carbide drilling indexable insert

SONT



SONT 03..



SONT 04.. / 05.. / 06.. / 07.. / 08.. / 09.. / 10.. / 12.. / 13.. / 15.. / 17..

-M30 CTPP430 DRAGONSKIN	-M30 CTPP430 DRAGONSKIN	-M30 CTCP420 DRAGONSKIN	-M30 CTCP420 DRAGONSKIN
			
SONT	SONT	SONT	SONT
IH	IH	IH	IH
10 830 ...	**10 830 ...**	**10 830 ...**	**10 830 ...**

Designation	IC mm	D1 mm	L mm	S mm	RE mm				
SONT 031804	5.4	2.10	3.8	1.8	0.4	**103** [1]		**703** [1]	
SONT 042105	4.6	2.25	4.2	2.1	0.5		**104**		**704**
SONT 052306	5.3	2.25	4.8	2.3	0.6		**105**		**705**
SONT 062506	5.9	2.50	5.5	2.5	0.6		**106**		**706**
SONT 072907	6.5	2.50	6.1	2.9	0.7		**107**		**707**
SONT 083308	7.7	2.90	7.3	3.3	0.8		**108**		**708**
SONT 093808	8.9	3.50	8.5	3.8	0.8		**109**		**709**
SONT 104408	10.1	4.10	9.6	4.4	0.8		**110**		**710**
SONT 124810	11.6	4.10	11.0	4.8	1.0		**112**		**712**
SONT 135012	13.0	5.30	12.2	5.0	1.2		**113**		**713**
SONT 155312	15.2	5.30	14.4	5.3	1.2		**115**		**715**
SONT 175612	17.5	5.30	16.7	5.6	1.2		**117**		**717**

P	●	●	●	●
M	●	●		
K	○	○	●	●
N	○	○		
S	○	○		
H				
O				

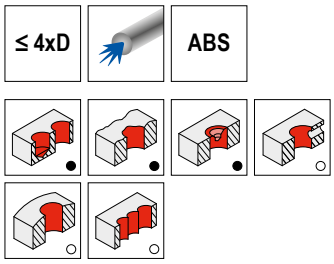
1) Two usable cutting edges

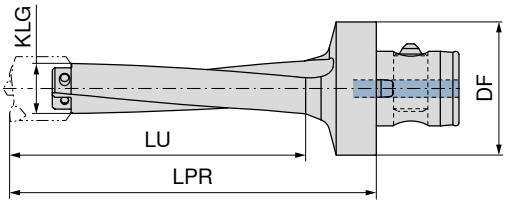
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use CTCP420 -M30 as an outer cutting edge,
Use CTPP430 -M30 as a central cutting edge!

CoreLine – Indexable drill basic element – Centron

▲ KLG = Coupling size







Designation	Product Reference No.	DF mm	LU mm	LPR mm	KLG	TO 10 864 ...
KUB-C.GH.4D.190-ABS50	V47 20201	50	113	145	19	19095
KUB-C.GH.4D.250-ABS50	V47 20261	50	130	160	25	25095
KUB-C.GH.4D.320-ABS50	V47 20331	50	160	195	32	32095
KUB-C.GH.4D.385-ABS63	V47 20401	63	185	235	38,5	38596
KUB-C.GH.4D.445-ABS80	V47 20461	80	215	280	44,5	44598
KUB-C.GH.4D.535-ABS80	V47 20551	80	260	325	53,5	53598
KUB-C.GH.4D.635-ABS80	V47 20651	80	295	375	63,5	63598
KUB-C.GH.4D.705-ABS100	V47 20721	100	325	405	70,5	70591



Designation	Product Reference No.	DF mm	LU mm	LPR mm	KLG	TO 10 866 ...
KUB-C.GH.6D.190-ABS50	V47 40201	50	150	185	19	19095
KUB-C.GH.6D.250-ABS50	V47 40261	50	175	210	25	25095
KUB-C.GH.6D.320-ABS50	V47 40331	50	215	255	32	32095
KUB-C.GH.6D.385-ABS63	V47 40401	63	260	310	38,5	38596
KUB-C.GH.6D.445-ABS80	V47 40461	80	310	375	44,5	44598
KUB-C.GH.6D.535-ABS80	V47 40551	80	370	435	53,5	53598
KUB-C.GH.6D.635-ABS80	V47 40651	80	420	500	63,5	63598
KUB-C.GH.6D.705-ABS100	V47 40721	100	460	540	70,5	70591



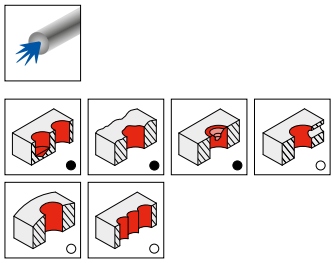
Designation	Product Reference No.	DF mm	LU mm	LPR mm	KLG	TO 10 869 ...
KUB-C.GH.9D.190-ABS50	V47 60201	50	200	235	19	19095
KUB-C.GH.9D.250-ABS50	V47 60261	50	230	260	25	25095
KUB-C.GH.9D.320-ABS50	V47 60331	50	290	330	32	32095
KUB-C.GH.9D.385-ABS63	V47 60401	63	340	390	38,5	38596
KUB-C.GH.9D.445-ABS80	V47 60461	80	415	480	44,5	44598
KUB-C.GH.9D.535-ABS80	V47 60551	80	495	560	53,5	53598
KUB-C.GH.9D.635-ABS80	V47 60651	80	560	640	63,5	63598
KUB-C.GH.9D.705-ABS100	V47 60721	100	610	690	70,5	70591

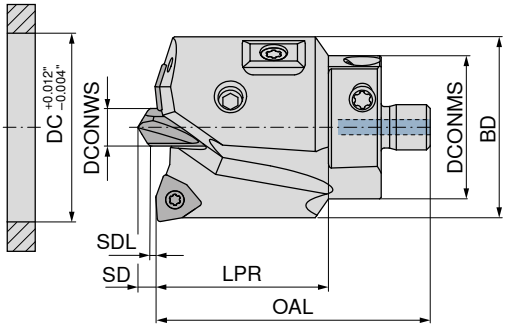
A detailed operating manual is available for download in the online shop next to the product.

CoreLine – Drill head Ø 0.812–2.500 inch – Centron

- The pre-assembled drill head is ready to use
- The center drill height must be set to the SD dimension
- Tightening torque refers to the clamping screw of the indexable inserts
- KLG = Coupling size

Scope of supply:
- Drill head incl. screws, guide pads and shim set
- Order center drill and indexable inserts separately





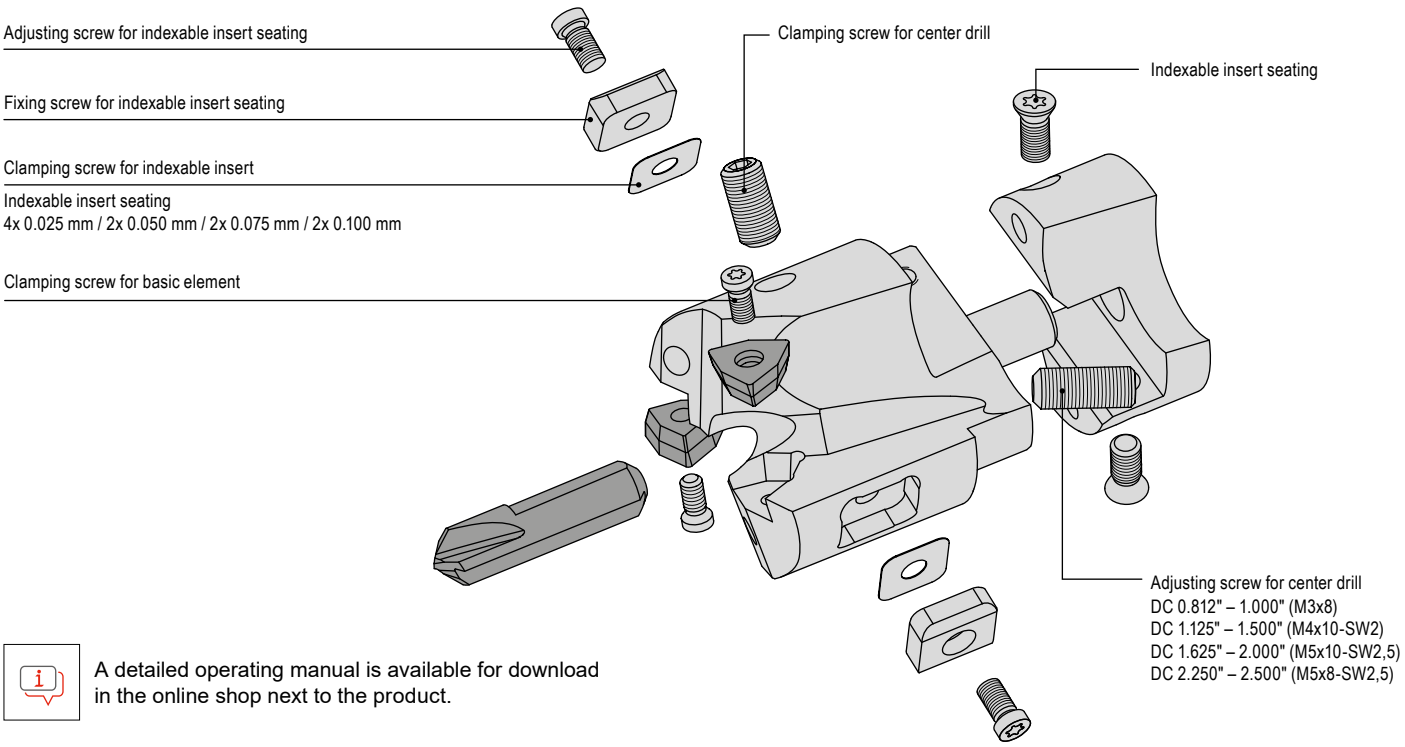


Designation	Product Reference No.	DC inch	OAL inch	LPR inch	SD inch	BD inch	SDL inch	DCONMS inch	DCONWS inch	KLG	Tightening torque Nm	Indexable insert	TO 15 860 ...
KUB-C.BK.0812.R.03.0748-F	V46 52060	**0.812**	1.440	0.910	0.089	0.768	0.039	0.748	0.197	**19**	0,62	WOEX 030204	**20600**
KUB-C.BK.0875.R.03.0748-F	V46 52220	**0.875**	1.440	0.910	0.089	0.835	0.039	0.748	0.197	**19**	0,62	WOEX 030204	**22200**
KUB-C.BK.1000.R.03.0748-F	V46 52540	**1.000**	1.440	0.910	0.089	0.961	0.039	0.748	0.197	**19**	0,62	WOEX 030204	**25400**
KUB-C.BK.1125.R.04.0984-F	V46 52860	**1.125**	1.500	0.910	0.104	1.083	0.043	0.984	0.236	**25**	1,01	WOEX 040304	**28600**
KUB-C.BK.1250.R.04.0984-F	V46 53180	**1.250**	1.500	0.910	0.104	1.211	0.043	0.984	0.236	**25**	1,01	WOEX 040304	**31800**
KUB-C.BK.1375.R.05.1260-F	V46 53490	**1.375**	1.540	0.910	0.104	1.335	0.043	1.260	0.236	**32**	1,28	WOEX 05T304	**34900**
KUB-C.BK.1500.R.05.1260-F	V46 53810	**1.500**	1.540	0.910	0.104	1.461	0.043	1.260	0.236	**32**	1,28	WOEX 05T304	**38100**
KUB-C.BK.1625.R.05.1516-F	V46 54130	**1.625**	1.700	0.980	0.133	1.567	0.049	1.516	0.315	**38,5**	1,28	WOEX 05T304	**41300**
KUB-C.BK.1750.R.05.1516-F	V46 54450	**1.750**	1.700	0.980	0.133	1.689	0.049	1.516	0.315	**38,5**	1,28	WOEX 05T304	**44500**
KUB-C.BK.1875.R.06.1752-F	V46 54760	**1.875**	1.850	0.980	0.152	1.815	0.049	1.752	0.394	**44,5**	2,8	WOEX 06T304	**47600**
KUB-C.BK.2000.R.06.1752-F	V46 55080	**2.000**	1.850	0.980	0.152	1.941	0.049	1.752	0.394	**44,5**	2,8	WOEX 06T304	**50800**
KUB-C.BK.2250.R.08.2106-F	V46 55720	**2.250**	2.050	1.180	0.152	2.193	0.049	2.106	0.394	**53,5**	6,25	WOEX 080404	**57200**
KUB-C.BK.2375.R.08.2106-F	V46 56030	**2.375**	2.050	1.180	0.152	2.315	0.049	2.106	0.394	**53,5**	6,25	WOEX 080404	**60300**
KUB-C.BK.2500.R.08.2106-F	V46 56350	**2.500**	2.050	1.180	0.150	2.441	0.049	2.106	0.394	**53,5**	6,25	WOEX 080404	**63500**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

A detailed operating manual is available for download in the online shop next to the product.

Drill head Ø 0.812–2.500 inch exploded view



A detailed operating manual is available for download in the online shop next to the product.

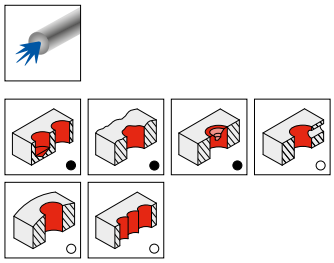
Spare parts DC		 Clamping screw for guide pad AS 10 950 ...		 Clamping screw AS 10 950 ...	 Guide pad AS 10 950 ...	 Shim set AS 10 950 ...
0.812 - 1.000	M2,5x4,2 - 8IP - 1,28Nm	11900	M2,0x4,3 - 06IP	10000	14700	15200
1.125 - 1.250	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,2x5,5 - 06IP	10700	14700	15200
1.375	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14800	15200
1.500 - 1.750	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14900	15200
1.875 - 2.000	M3,5x5,0 - 8IP - 2,25Nm	11800	M3,5x7,3 - 10IP	10600	15000	15300
2.250 - 2.500	M3,5x5,0 - 8IP - 2,25Nm	11800	M4,5x9 - 15IP	12700	15100	15300

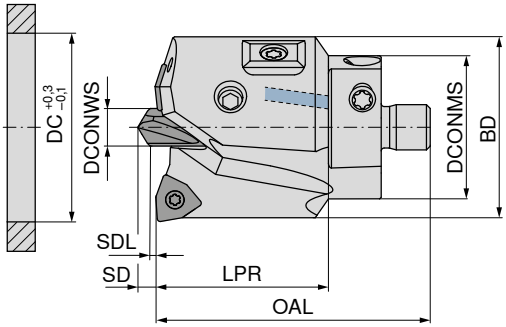
Spare parts DC		 Clamping screw for basic element AS 10 950 ...		 Clamping screw for centering tip AS 10 950 ...
0.812 - 1.000	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x6 - SW2 - 1,5Nm	12800
1.125 - 1.250	M3x7,4 - 08IP - 2,25Nm	12500	M5x10 - SW2,5 - 2,5Nm	13000
1.375	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm	13100
1.500 - 1.750	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm	13100
1.875 - 2.000	M5x11,5 - 20IP - 6,25Nm	12100	M8x16 - SW4 - 8Nm	13300
2.250 - 2.500	M5,5x14 - 20IP - 6,25Nm	12200	M8x16 - SW4 - 8Nm	13300

CoreLine – Drill head Ø 20–64 mm – Centron

- The pre-assembled drill head is ready to use
- The center drill height must be set to the SD dimension
- Tightening torque refers to the clamping screws of the indexable inserts
- KLG = Coupling size

Scope of supply:
- Drill head incl. screws, guide pads and shim set
- Order center drill and indexable inserts separately







Designation	Product Reference No.	DC mm	OAL mm	LPR mm	SD mm	BD mm	SDL mm	DCONMS mm	DCONWS mm	KLG	Tightening torque Nm	Indexable insert	TO 10 860 ...
KUB-C.BK.200.R.03-19	V46 50201	**20**	36.5	23	2.25	19.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**20000**
KUB-C.BK.210.R.03-19	V46 50211	**21**	36.5	23	2.25	20.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**21000**
KUB-C.BK.220.R.03-19	V46 50221	**22**	36.5	23	2.25	21.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**22000**
KUB-C.BK.230.R.03-19	V46 50231	**23**	36.5	23	2.25	22.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**23000**
KUB-C.BK.240.R.03-19	V46 50241	**24**	36.5	23	2.25	23.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**24000**
KUB-C.BK.250.R.03-19	V46 50251	**25**	36.5	23	2.25	24.0	1.00	19.0	5	**19**	0,62	WOEX 030204	**25000**
KUB-C.BK.260.R.04-25	V46 50260	**26**	38.0	23	2.65	25.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**26000**
KUB-C.BK.270.R.04-25	V46 50270	**27**	38.0	23	2.65	26.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**27000**
KUB-C.BK.280.R.04-25	V46 50280	**28**	38.0	23	2.65	27.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**28000**
KUB-C.BK.290.R.04-25	V46 50290	**29**	38.0	23	2.65	28.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**29000**
KUB-C.BK.300.R.04-25	V46 50300	**30**	38.0	23	2.65	29.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**30000**
KUB-C.BK.310.R.04-25	V46 50310	**31**	38.0	23	2.65	30.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**31000**
KUB-C.BK.320.R.04-25	V46 50320	**32**	38.0	23	2.65	31.0	1.10	25.0	6	**25**	1,01	WOEX 040304	**32000**
KUB-C.BK.330.R.05-32	V46 50330	**33**	39.2	23	2.65	32.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**33000**
KUB-C.BK.340.R.05-32	V46 50340	**34**	39.2	23	2.65	33.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**34000**
KUB-C.BK.350.R.05-32	V46 50350	**35**	39.2	23	2.65	34.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**35000**
KUB-C.BK.360.R.05-32	V46 50360	**36**	39.2	23	2.65	35.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**36000**
KUB-C.BK.370.R.05-32	V46 50370	**37**	39.2	23	2.65	36.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**37000**
KUB-C.BK.380.R.05-32	V46 50380	**38**	39.2	23	2.65	37.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**38000**
KUB-C.BK.390.R.05-32	V46 50390	**39**	39.2	23	2.65	38.0	1.10	32.0	6	**32**	1,28	WOEX 05T304	**39000**
KUB-C.BK.400.R.05-38,5	V46 50400	**40**	43.1	25	3.38	38.5	1.25	38.5	8	**38,5**	1,28	WOEX 05T304	**40000**
KUB-C.BK.410.R.05-38,5	V46 50410	**41**	43.1	25	3.38	39.5	1.25	38.5	8	**38,5**	1,28	WOEX 05T304	**41000**
KUB-C.BK.420.R.05-38,5	V46 50420	**42**	43.1	25	3.38	40.5	1.09	38.5	8	**38,5**	1,28	WOEX 05T304	**42000**
KUB-C.BK.430.R.05-38,5	V46 50430	**43**	43.1	25	3.38	41.5	1.09	38.5	8	**38,5**	1,28	WOEX 05T304	**43000**
KUB-C.BK.440.R.05-38,5	V46 50440	**44**	43.1	25	3.38	42.5	1.25	38.5	8	**38,5**	1,28	WOEX 05T304	**44000**
KUB-C.BK.450.R.05-38,5	V46 50450	**45**	43.1	25	3.38	43.5	1.25	38.5	8	**38,5**	1,28	WOEX 05T304	**45000**
KUB-C.BK.460.R.06-44,5	V46 50460	**46**	47.0	25	3.86	44.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**46000**
KUB-C.BK.470.R.06-44,5	V46 50470	**47**	47.0	25	3.86	45.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**47000**
KUB-C.BK.480.R.06-44,5	V46 50480	**48**	47.0	25	3.86	46.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**48000**
KUB-C.BK.490.R.06-44,5	V46 50490	**49**	47.0	25	3.86	47.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**49000**
KUB-C.BK.500.R.06-44,5	V46 50500	**50**	47.0	25	3.86	48.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**50000**
KUB-C.BK.510.R.06-44,5	V46 50510	**51**	47.0	25	3.86	49.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**51000**
KUB-C.BK.520.R.06-44,5	V46 50520	**52**	47.0	25	3.86	50.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**52000**
KUB-C.BK.530.R.06-44,5	V46 50530	**53**	47.0	25	3.86	51.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**53000**
KUB-C.BK.540.R.06-44,5	V46 50540	**54**	47.0	25	3.86	52.5	1.25	44.5	10	**44,5**	2,8	WOEX 06T304	**54000**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

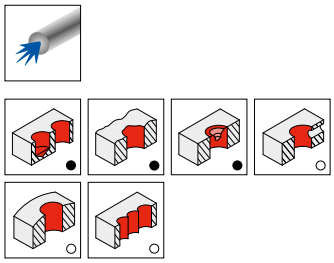
A detailed operating manual is available for download in the online shop next to the product.

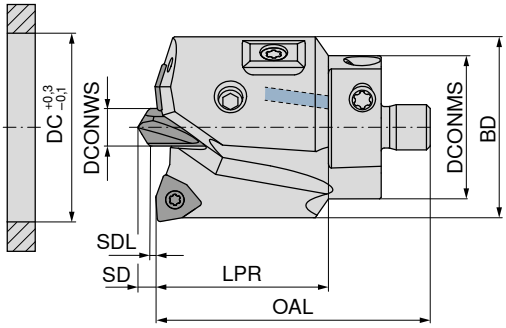
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CoreLine – Drill head Ø 20–64 mm – Centron

- The pre-assembled drill head is ready to use
- The center drill height must be set to the SD dimension
- Tightening torque refers to the clamping screws of the indexable inserts
- KLG = Coupling size

Scope of supply:
- Drill head incl. screws, guide pads and shim set
- Order center drill and indexable inserts separately





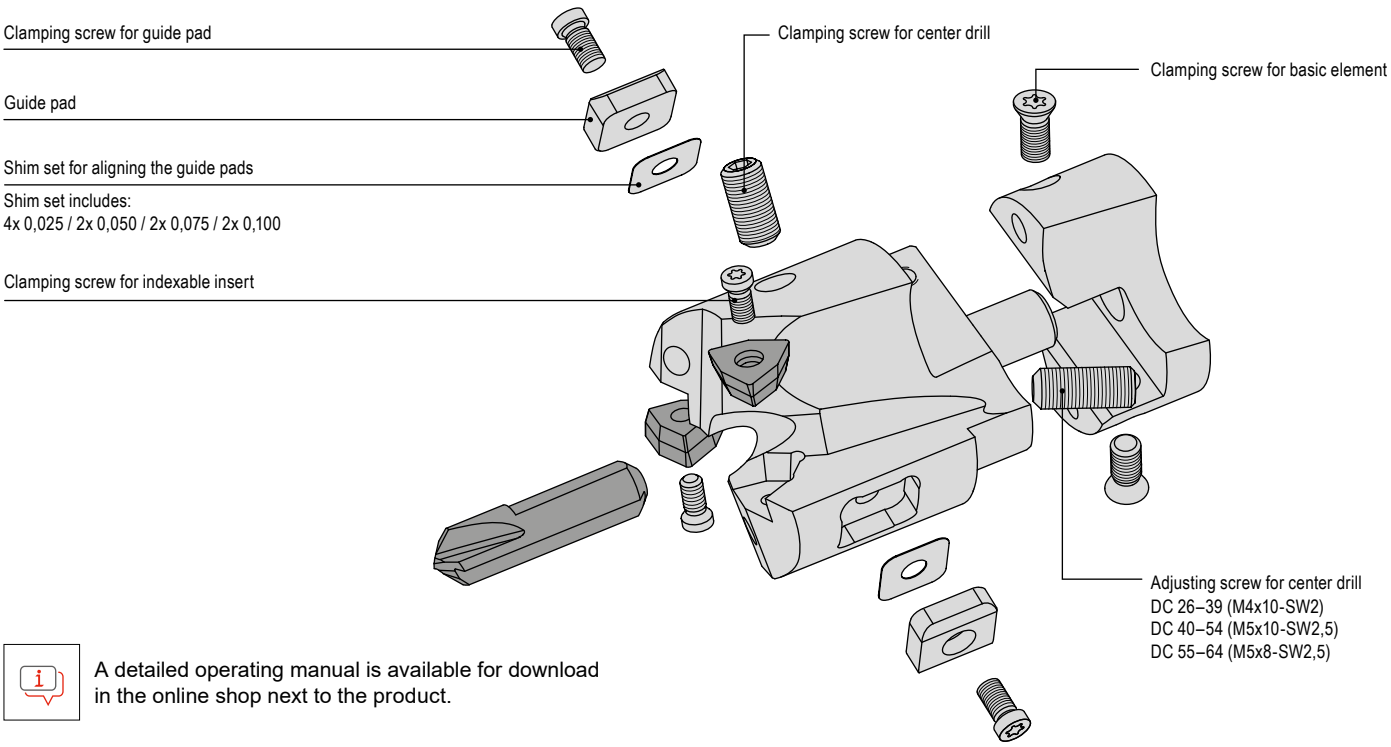


Designation	Product Reference No.	DC mm	OAL mm	LPR mm	SD mm	BD mm	SDL mm	DCONMS mm	DCONWS mm	KLG	Tightening torque Nm	Indexable insert	TO 10 860 ...
KUB-C.BK.550.R.08-53,5	V46 50550	**55**	52.0	30	3.86	53.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**55000**
KUB-C.BK.560.R.08-53,5	V46 50560	**56**	52.0	30	3.86	54.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**56000**
KUB-C.BK.570.R.08-53,5	V46 50570	**57**	52.0	30	3.86	55.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**57000**
KUB-C.BK.580.R.08-53,5	V46 50580	**58**	52.0	30	3.86	56.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**58000**
KUB-C.BK.590.R.08-53,5	V46 50590	**59**	52.0	30	3.86	57.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**59000**
KUB-C.BK.600.R.08-53,5	V46 50600	**60**	52.0	30	3.86	58.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**60000**
KUB-C.BK.610.R.08-53,5	V46 50610	**61**	52.0	30	3.86	59.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**61000**
KUB-C.BK.620.R.08-53,5	V46 50620	**62**	52.0	30	3.86	60.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**62000**
KUB-C.BK.630.R.08-53,5	V46 50630	**63**	52.0	30	3.86	61.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**63000**
KUB-C.BK.640.R.08-53,5	V46 50640	**64**	52.0	30	3.86	62.5	1.25	53.5	10	**53,5**	6,25	WOEX 080404	**64000**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

A detailed operating manual is available for download in the online shop next to the product.

Drill bit Ø 20–64 mm exploded view



A detailed operating manual is available for download in the online shop next to the product.

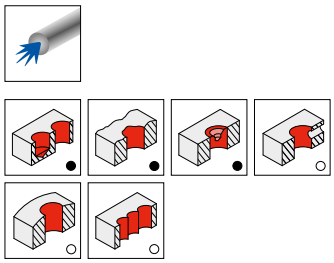
Spare parts DC		Clamping screw for guide pad AS 10 950 ...		Clamping screw AS 10 950 ...	Guide pad AS 10 950 ...	Shim set AS 10 950 ...
20	M2,5x4,2 - 8IP - 1,28Nm	11900	M2,0x4,3 - 06IP	10000	14600	15200
21 - 22	M2,5x4,2 - 8IP - 1,28Nm	11900	M2,0x4,3 - 06IP	10000	14600	15200
23 - 25	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,0x4,3 - 06IP	10000	14700	15200
26 - 29	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,2x5,5 - 06IP	10700	14700	15200
30 - 32	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,2x5,5 - 06IP	10700	14800	15200
33 - 36	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14800	15200
37 - 39	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14900	15200
40 - 45	M2,5x4,5 - 8IP - 1,28Nm	11700	M2,5x7,2 - 08IP	10500	14900	15200
46 - 54	M3,5x5,0 - 8IP - 2,25Nm	11800	M3,5x7,3 - 10IP	10600	15000	15300
55 - 64	M3,5x5,0 - 8IP - 2,25Nm	11800	M4,5x9 - 15IP	12700	15100	15300

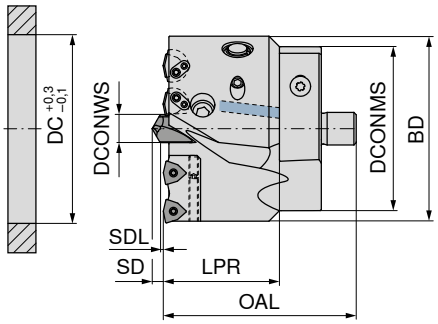
Spare parts DC		Clamping screw for basic element AS 10 950 ...		Clamping screw for centering tip AS 10 950 ...
20	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x6 - SW2 - 1,5Nm	12800
21 - 22	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x8 - SW2 - 1,5Nm	12900
23 - 25	M2,5x6,4 - 08IP - 1,28Nm	12400	M4x8 - SW2 - 1,5Nm	12900
26 - 29	M3x7,4 - 08IP - 2,25Nm	12500	M5x10 - SW2,5 - 2,5Nm	13000
30 - 32	M3x7,4 - 08IP - 2,25Nm	12500	M5x10 - SW2,5 - 2,5Nm	13000
33 - 36	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm	13100
37 - 39	M4x8,9 - 15IP - 4,3Nm	12000	M5x12 - SW2,5 - 2,5Nm	13100
40 - 45	M4,5x10,5 - 20IP - 6,25Nm	12600	M6x12 - SW3 - 5Nm	13200
46 - 54	M5x11,5 - 20IP - 6,25Nm	12100	M8x16 - SW4 - 8Nm	13300
55 - 64	M5,5x14 - 20IP - 6,25Nm	12200	M8x16 - SW4 - 8Nm	13300

CoreLine – Drill head Ø 65–81 mm – Centron

- ▲ The pre-assembled drill head is ready to use
- ▲ The center drill height must be set to the SD dimension
- ▲ Tightening torque refers to the clamping screws of the indexable inserts
- ▲ Adjustable diameter of outer indexable insert seat
- ▲ KLG = Coupling size

Scope of supply:
Drill head incl. screws, indexable insert seats, carbide bolt, key, grub screw and copper disc
Order center drill and indexable inserts separately







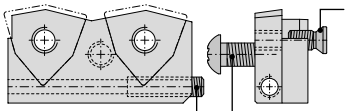
Designation	Product Reference No.	DC mm	OAL mm	LPR mm	SD mm	BD mm	SDL mm	DCONMS mm	DCONWS mm	KLG	Tightening torque Nm	Indexable insert	TO 10 860 ...
KUB-C.BK.650.R.05-63,5	V46 50650	**65**	63.0	35	4.67	63.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**65000**
KUB-C.BK.660.R.05-63,5	V46 50660	**66**	63.0	35	4.67	64.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**66000**
KUB-C.BK.670.R.05-63,5	V46 50670	**67**	63.0	35	4.67	65.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**67000**
KUB-C.BK.680.R.05-63,5	V46 50680	**68**	63.0	35	4.67	66.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**68000**
KUB-C.BK.690.R.05-63,5	V46 50690	**69**	63.0	35	4.67	67.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**69000**
KUB-C.BK.700.R.05-63,5	V46 50700	**70**	63.0	35	4.67	68.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**70000**
KUB-C.BK.710.R.05-63,5	V46 50710	**71**	63.0	35	4.67	69.5	1.45	63.5	12	**63,5**	1,28	WOEX 05T304	**71000**
KUB-C.BK.720.R.05-70,5	V46 50720	**72**	80.5	50	4.67	70.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**72000**
KUB-C.BK.730.R.05-70,5	V46 50730	**73**	80.5	50	4.67	71.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**73000**
KUB-C.BK.740.R.05-70,5	V46 50740	**74**	80.5	50	4.67	72.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**74000**
KUB-C.BK.750.R.05-70,5	V46 50750	**75**	80.5	50	4.67	73.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**75000**
KUB-C.BK.760.R.05-70,5	V46 50760	**76**	80.5	50	4.67	74.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**76000**
KUB-C.BK.770.R.05-70,5	V46 50770	**77**	80.5	50	4.67	75.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**77000**
KUB-C.BK.780.R.05-70,5	V46 50780	**78**	80.5	50	4.67	76.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**78000**
KUB-C.BK.790.R.05-70,5	V46 50790	**79**	80.5	50	4.67	77.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**79000**
KUB-C.BK.800.R.05-70,5	V46 50800	**80**	80.5	50	4.67	78.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**80000**
KUB-C.BK.810.R.05-70,5	V46 50810	**81**	80.5	50	4.67	79.5	1.45	70.5	12	**70,5**	1,28	WOEX 05T304	**81000**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

A detailed operating manual is available for download in the online shop next to the product.

Drill head Ø 65–81 mm exploded view

1 Indexable insert seating
DC 65–71 **10 950 13800**
DC 72–75 **10 950 13900**
DC 76–78 **10 950 14000**
DC 79–81 **10 950 14100**

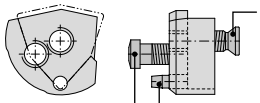


Clamping screw for indexable insert
10 950 10500 (M2,5x7,2 - 08IP)

Fixing screw for indexable insert seating
DC 65–71 **10 950 11100** (M4,5x11,5 - T15)
DC 72–81 **10 950 11200** (M5x12- SW2,5)

Adjusting screw for index-able insert seating
DC 65–71 **10 950 11100** (M4x8 - SW2)
DC 72–81 **10 950 11200** (M4x10- SW2)

2 Indexable insert seating
DC 72–81 **10 950 13600**

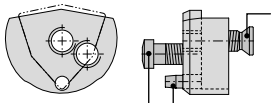


Clamping screw for indexable insert
10 950 10500 (M2,5x7,2 - 08IP)

Cylindrical pin for indexable insert seating
10 950 11500

Fixing screw for indexable insert seating
10 950 11600 (M2,5x6 - 08 IP - 1,28Nm)

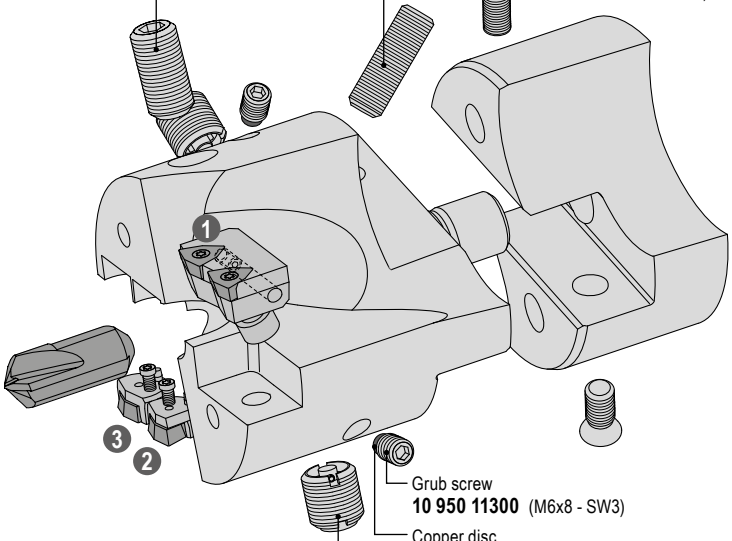
3 Indexable insert seating
DC 72–81 **10 950 13700**



Clamping screw for indexable insert
10 950 10500

Cylindrical pin for indexable insert seating
10 950 11500

Fixing screw for indexable insert seating
10 950 11600 (M2,5x6 - 08 IP - 1,28Nm)



Adjusting screw for center drill
DC 65–71 (M8x10-SW4)
DC 72–81 (M8x25-SW4)

Clamping screw for center drill
10 950 13400

Clamping screw for basic element
10 950 12300
M6x16 - 20IP - 6,25Nm)

Grub screw
10 950 11300 (M6x8 - SW3)

Copper disc
10 950 11400 (Ø4,5x1,5)

Carbide bolt
10 950 15400 (M12x1)

A detailed operating manual is available for download in the online shop next to the product.

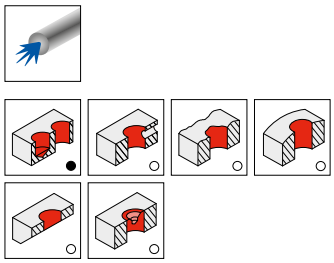
	 Clamping screw for centering tip	 Clamping screw	 Carbide bolt	 Grub screw	 Copper disc	 Fixing screw	 Fixing screw
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**
65 - 71	**13400**	**10500**	**15400**	**11300**	**11400**	**13500**	
72 - 75	**13400**	**10500**	**15400**	**11300**	**11400**	**11000**	**11600**
76 - 78	**13400**	**10500**	**15400**	**11300**	**11400**	**11000**	**11600**
79 - 81	**13400**	**10500**	**15400**	**11300**	**11400**	**11000**	**11600**

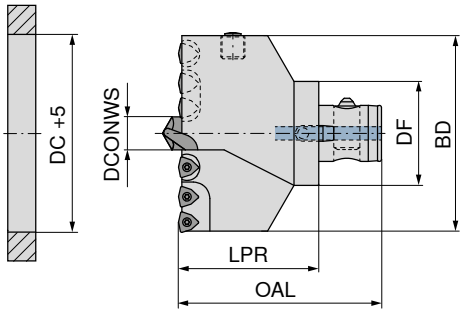
	 Cylindrical pin	 Indexable insert seating	 Indexable insert seating	 Indexable insert seating	 Adjustment screw	 Clamping screw for basic element	 Carbide bolt key
	AS	AS	AS	AS	AS	AS	AS
Spare parts DC	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**	**10 950 ...**
65 - 71		**13800**			**11100**	**12300**	**15500**
72 - 75	**11500**	**13900**	**13700**	**13600**	**11200**	**12300**	**15500**
76 - 78	**11500**	**14000**	**13700**	**13600**	**11200**	**12300**	**15500**
79 - 81	**11500**	**14100**	**13700**	**13600**	**11200**	**12300**	**15500**

Pentron – Indexable insert drill drill bit ABS-T – Centron V464

- The indexable insert seating for the external indexable insert can be adjusted +5 mm in diameter
- The pre-assembled drill bit is ready to use
- The indexable inserts and centering tip must be professionally assembled
- Tightening torque refers to the clamping screw of the indexable inserts
- For torsional vibration dampers, the use of suitable reducers is recommended

Scope of supply:
Drill bit incl. screws, indexable insert seating, carbide bolt, key, grub screw, and copper disc.
Order centering tip and indexable inserts separately.







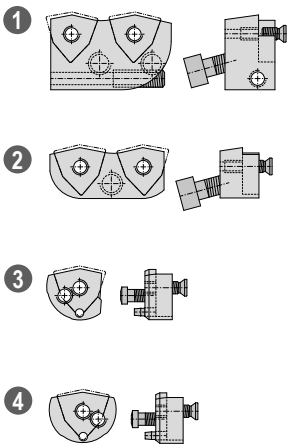
Designation	Product Reference No.	DC mm	Adapter	OAL mm	LPR mm	DF mm	BD mm	DCONWS mm	Tightening torque Nm	Indexable insert	TO 10 858 ...
KUB-V464.BK.80-85.R.06-ABS50T	V46 40801	**80**	ABS 50 T	106	75	50	78.5	16	2,8	WOEX 06T3..	**08590**
KUB-V464.BK.85-90.R.06-ABS50T	V46 40851	**85**	ABS 50 T	106	75	50	83.5	16	2,8	WOEX 06T3..	**09090**
KUB-V464.BK.90-95.R.06-ABS50T	V46 40901	**90**	ABS 50 T	106	75	50	87.5	16	2,8	WOEX 06T3..	**09590**
KUB-V464.BK.95-100.R.06-ABS50T	V46 40951	**95**	ABS 50 T	106	75	50	92.5	16	2,8	WOEX 06T3..	**10090**
KUB-V464.BK.100-105.R.08-ABS63T	V46 41001	**100**	ABS 63 T	123	85	63	97.5	16	6,25	WOEX 0804..	**10597**
KUB-V464.BK.105-110.R.08-ABS63T	V46 41051	**105**	ABS 63 T	123	85	63	102.5	16	6,25	WOEX 0804..	**11097**
KUB-V464.BK.110-115.R.08-ABS63T	V46 41101	**110**	ABS 63 T	123	85	63	107.5	16	6,25	WOEX 0804..	**11597**
KUB-V464.BK.115-120.R.08-ABS63T	V46 41151	**115**	ABS 63 T	123	85	63	112.5	20	6,25	WOEX 0804..	**12097**
KUB-V464.BK.120-125.R.06-ABS63T	V46 41201	**120**	ABS 63 T	123	85	63	118.5	20	2,8	WOEX 06T3..	**12597**
KUB-V464.BK.125-130.R.06-ABS63T	V46 41251	**125**	ABS 63 T	123	85	63	123.5	20	2,8	WOEX 06T3..	**13097**
KUB-V464.BK.130-135.R.06-ABS80T	V46 41301	**130**	ABS 80 T	133	90	80	127.5	20	2,8	WOEX 06T3..	**13599**
KUB-V464.BK.135-140.R.06-ABS80T	V46 41351	**135**	ABS 80 T	133	90	80	132.5	20	2,8	WOEX 06T3..	**14099**
KUB-V464.BK.140-145.R.06-ABS80T	V46 41401	**140**	ABS 80 T	133	90	80	137.5	20	2,8	WOEX 06T3..	**14599**
KUB-V464.BK.145-150.R.08-ABS80T	V46 41451	**145**	ABS 80 T	133	90	80	142.5	20	6,25	WOEX 0804..	**15099**
KUB-V464.BK.150-155.R.08-ABS80T	V46 41501	**150**	ABS 80 T	133	90	80	147.5	20	6,25	WOEX 0804..	**15599**
KUB-V464.BK.155-160.R.08-ABS80T	V46 41551	**155**	ABS 80 T	133	90	80	152.5	20	6,25	WOEX 0804..	**16099**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

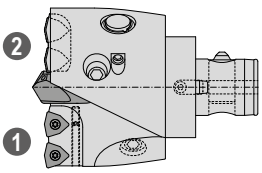
A detailed operating manual is available for download in the online shop next to the product.

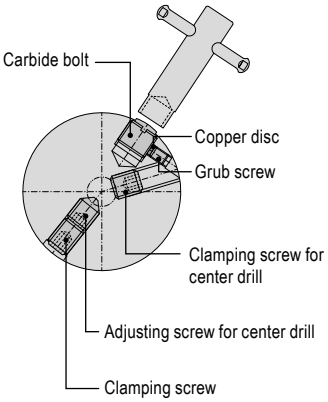
Spare parts

Indexable insert seating

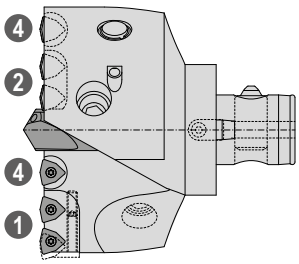


DC 80 mm

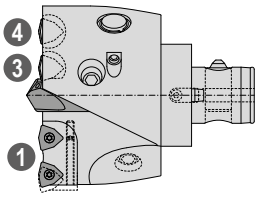




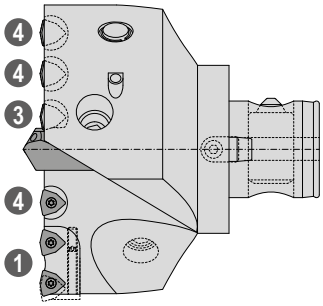
DC 120 mm



DC 85–115 mm



DC 125–155 mm



A detailed operating manual is available for download in the online shop next to the product.

Spare parts DC	Positioning pin CT 84 950 ...	Pendulum bolt CT 84 950 ...	Coolant pipe CT 84 950 ...	Clamping screw for centering tip AS 10 950 ...	Carbide bolt AS 10 950 ...	Grub screw AS 10 950 ...	Copper disc AS 10 950 ...
80	20200	20000	20100	19900	20000	11300	11400
85	20200	20000	20100	19600	20000	11300	11400
90	20200	20000	20100	19600	20000	11300	11400
95	20200	20000	20100	19600	20000	11300	11400
100	23900	26300	24700	19600	20000	11300	11400
105	23900	26300	24700	19600	20000	11300	11400
110	23900	26300	24700	19700	20000	11300	11400
115	23900	26300	24700	19700	20000	11300	11400
120	23900	26300	24700	19700	20000	11300	11400
125	23900	26300	24700	19700	20000	11300	11400
130 - 135	24000	26400	24800	19700	20000	11300	11400
140	24000	26400	24800	19700	20000	11300	11400
145 - 155	24000	26400	24800	19700	20000	11300	11400

Spare parts DC	Insert seat, internal TO 10 897 ...	Insert seat, external AS 10 950 ...	Indexable insert seating AS 10 950 ...	Indexable insert seating AS 10 950 ...	Adjustment screw AS 10 950 ...	Set CT 84 950 ...	Carbide bolt key AS 10 950 ...
80		08100	08000		19400	99900	20300
85	13800	08200		08900	19500	99900	20300
90	13800	08300		08900	19500	99900	20300
95	13800	08400		08900	19500	99900	20300
100	14800	08500		09000	19800	98600	20300
105	14800	08600		09000	19800	98600	20300
110	14800	08700		09000	19800	98600	20300
115	14800	08800		09000	19800	98600	20300
120	13800	08100	08000		19800	98600	20300
125	13800	08100		08900	19800	98600	20300
130 - 135	13800	08300		08900	19800	98500	20300
140	13800	08400		08900	19800	98500	20300
145 - 155	14800	08500		09000	19800	98500	20300

Indexable insert recommendation WOEX for Centron / Centron V464

The recommendation shown here is based on experience and serves to select the correct indexable insert for your application.

Guideline recommendation

Material group	Indexable insert		Center drill →		
	Chip breaker	Grade	* only suitable up to hole depth 6xD		
P	→ -13	BK8425	HSS (TiN)		
M	→ -13	BK79		HSS (TiAlN)	
K	→ -01	BK6115		HSS (TiAlN)	VHM (TiAlN/TiN) *
N	→ -11	BK7710	HSS (TiN)		VHM (TiAlN/TiN) *
S.2.1 – S.2.3 (Ni)	→ -13	BK79		HSS (TiAlN)	
S.3.1 – S.3.3 (Ti)	→ -11	BK7710		HSS (TiAlN)	
H					
O					

Alternative indexable inserts for improved chip control

Material group	Indexable insert		Center drill →		
	Chip breaker	Grade	* only suitable up to hole depth 6xD		
P	→ -03	BK8425	HSS (TiN)		
M	→ -03	BK8425		HSS (TiAlN)	
K					
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

Alternative indexable inserts for higher cutting speed

Material group	Indexable insert		Center drill →		
	Chip breaker	Grade	* only suitable up to hole depth 6xD		
P					
M	→ -13	BK7325		HSS (TiAlN)	
K	→ -01	BK7615		HSS (TiAlN)	VHM (TiAlN/TiN) *
N	→ -11	BK50	HSS (TiN)		VHM (TiAlN/TiN) *
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

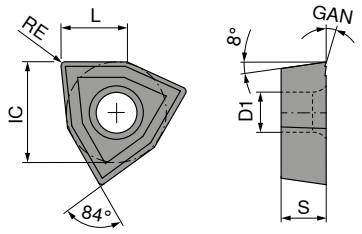
Alternative indexable inserts for increased toughness

Material group	Indexable insert		Center drill →		
	Chip breaker	Grade	* only suitable up to hole depth 6xD		
P	→ -13	BK79	HSS (TiN)		
M					
K	→ -01	BK7935		HSS (TiAlN)	VHM (TiAlN/TiN) *
N					
S.2.1 – S.2.3 (Ni)					
S.3.1 – S.3.3 (Ti)					
H					
O					

The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

CoreLine – Carbide drilling indexable insert

WOEX





-01 BK6115	-01 BK7615	-01 BK7935
WOEX	WOEX	WOEX

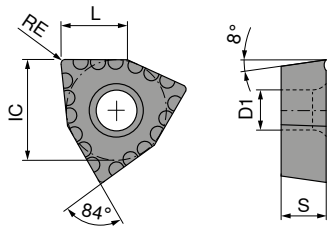
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.046115	3.2	2.30	2.3	5.00	12°	0.4	**40301**		
WOEX 030204EN	W29 10010.047615	3.2	2.30	2.3	5.00	12°	0.4		**05301**	
WOEX 030204EN	W29 10010.047935	3.2	2.30	2.3	5.00	12°	0.4			**50301**
WOEX 040304EN	W29 18010.046115	4.1	2.55	3.18	6.35	12°	0.4	**40401**		
WOEX 040304EN	W29 18010.047615	4.1	2.55	3.18	6.35	12°	0.4		**05401**	
WOEX 040304EN	W29 18010.047935	4.1	2.55	3.18	6.35	12°	0.4			**50401**
WOEX 05T304SN	W29 24010.046115	5.3	2.85	3.8	8.00	12°	0.4	**40501**		
WOEX 05T304SN	W29 24010.047615	5.3	2.85	3.8	8.00	12°	0.4		**05501**	
WOEX 05T304SN	W29 24010.047935	5.3	2.85	3.8	8.00	12°	0.4			**50501**
WOEX 05T308SN	W29 24010.086115	5.3	2.85	3.8	8.00	12°	0.8	**47501**		
WOEX 05T308SN	W29 24010.087615	5.3	2.85	3.8	8.00	12°	0.8		**07501**	
WOEX 05T308SN	W29 24010.087935	5.3	2.85	3.8	8.00	12°	0.8			**52501**
WOEX 06T304SN	W29 34010.046115	6.6	4.05	3.8	10.00	12°	0.4	**40601**		
WOEX 06T304SN	W29 34010.047615	6.6	4.05	3.8	10.00	12°	0.4		**05601**	
WOEX 06T304SN	W29 34010.047935	6.6	4.05	3.8	10.00	12°	0.4			**50601**
WOEX 06T308SN	W29 34010.086115	6.6	4.05	3.8	10.00	12°	0.8	**47601**		
WOEX 06T308SN	W29 34010.087615	6.6	4.05	3.8	10.00	12°	0.8		**07601**	
WOEX 06T308SN	W29 34010.087935	6.6	4.05	3.8	10.00	12°	0.8			**52601**
WOEX 080404SN	W29 42010.046115	7.9	4.90	4.8	12.00	12°	0.4	**40801**		
WOEX 080404SN	W29 42010.047615	7.9	4.90	4.8	12.00	12°	0.4		**05801**	
WOEX 080404SN	W29 42010.047935	7.9	4.90	4.8	12.00	12°	0.4			**50801**
WOEX 080408SN	W29 42010.086115	7.9	4.90	4.8	12.00	12°	0.8	**47801**		
WOEX 080408SN	W29 42010.087615	7.9	4.90	4.8	12.00	12°	0.8		**07801**	
WOEX 080408SN	W29 42010.087935	7.9	4.90	4.8	12.00	12°	0.8			**52801**
P								●		●
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O										

→ Find the cutting data standard values here.

The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

CoreLine – Carbide drilling indexable insert

WOEX



-03
BK8425



WOEX

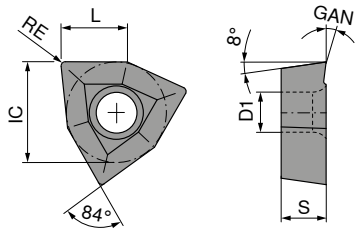
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...
WOEX 030204EN	W29 10030.048425	3.2	2.30	2.3	5.00	0.4	**30303**
WOEX 040304EN	W29 18030.048425	4.1	2.55	3.18	6.35	0.4	**30403**
WOEX 05T304EN	W29 24030.048425	5.3	2.85	3.8	8.00	0.4	**30503**
WOEX 06T304EN	W29 34030.048425	6.6	4.05	3.8	10.00	0.4	**30603**
WOEX 06T308EN	W29 34030.088425	6.6	4.05	3.8	10.00	0.8	**37603**
WOEX 080404EN	W29 42030.048425	7.9	4.90	4.8	12.00	0.4	**30803**
WOEX 080408EN	W29 42030.088425	7.9	4.90	4.8	12.00	0.8	**37803**
P							●
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→ Find the recommended values for cutting speeds here.

The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

CoreLine – Carbide drilling indexable insert

WOEX







	-11 BK7710	-11 BK50
	WOEX	WOEX
	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	10 821 ...	10 823 ...
WOEX 030204EN	W29 10110.0450	3.2	2.30	2.3	5.00	20°	0.4		**10311**
WOEX 030204EN	W29 10110.047710	3.2	2.30	2.3	5.00	20°	0.4	**90311**	
WOEX 040304EN	W29 18110.0450	4.1	2.55	3.18	6.35	20°	0.4		**10411**
WOEX 040304EN	W29 18110.047710	4.1	2.55	3.18	6.35	20°	0.4	**90411**	
WOEX 05T304EN	W29 24110.0450	5.3	2.85	3.8	8.00	20°	0.4		**10511**
WOEX 05T304EN	W29 24110.047710	5.3	2.85	3.8	8.00	20°	0.4	**90511**	
WOEX 06T304EN	W29 34110.0450	6.6	4.05	3.8	10.00	20°	0.4		**10611**
WOEX 06T304EN	W29 34110.047710	6.6	4.05	3.8	10.00	20°	0.4	**90611**	
WOEX 080404EN	W29 42110.0450	7.9	4.90	4.8	12.00	20°	0.4		**10811**
WOEX 080404EN	W29 42110.047710	7.9	4.90	4.8	12.00	20°	0.4	**90811**	

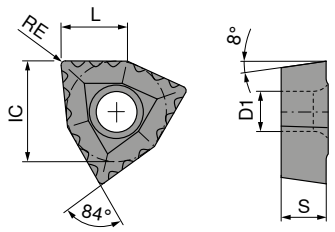
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→ Find the recommended values for cutting speeds here.

The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

CoreLine – Carbide drilling indexable insert

WOEX



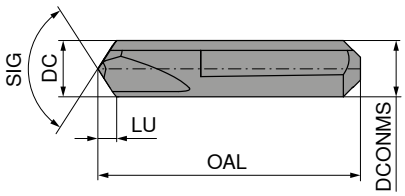
-13 BK7325	-13 BK79	-13 BK8425
		
WOEX	WOEX	WOEX
IH	IH	IH
10 821 ...	10 821 ...	10 821 ...

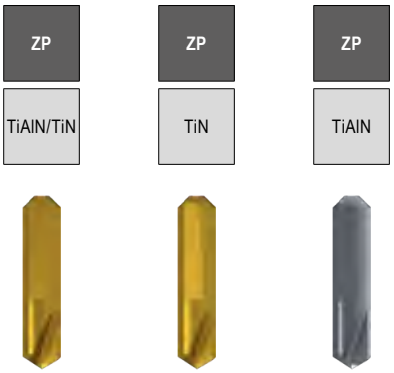
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	10 821 ...	10 821 ...	10 821 ...
WOEX 030204EN	W29 10130.047325	3.2	2.30	2.3	5.00	0.4	**95313**		
WOEX 030204EN	W29 10130.0479	3.2	2.30	2.3	5.00	0.4		**15313**	
WOEX 030204EN	W29 10130.048425	3.2	2.30	2.3	5.00	0.4			**30313**
WOEX 040304EN	W29 18130.047325	4.1	2.55	3.18	6.35	0.4	**95413**		
WOEX 040304EN	W29 18130.0479	4.1	2.55	3.18	6.35	0.4		**15413**	
WOEX 040304EN	W29 18130.048425	4.1	2.55	3.18	6.35	0.4			**30413**
WOEX 05T304EN	W29 24130.047325	5.3	2.85	3.8	8.00	0.4	**95513**		
WOEX 05T304EN	W29 24130.0479	5.3	2.85	3.8	8.00	0.4		**15513**	
WOEX 05T304EN	W29 24130.048425	5.3	2.85	3.8	8.00	0.4			**30513**
WOEX 06T304EN	W29 34130.047325	6.6	4.05	3.8	10.00	0.4	**95613**		
WOEX 06T304EN	W29 34130.0479	6.6	4.05	3.8	10.00	0.4		**15613**	
WOEX 06T304EN	W29 34130.048425	6.6	4.05	3.8	10.00	0.4			**30613**
WOEX 080404EN	W29 42130.047325	7.9	4.90	4.8	12.00	0.4	**95813**		
WOEX 080404EN	W29 42130.0479	7.9	4.90	4.8	12.00	0.4		**15813**	
WOEX 080404EN	W29 42130.048425	7.9	4.90	4.8	12.00	0.4			**30813**
P							●	●	●
M							●	●	●
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→ Find the recommended values for cutting speeds here.

The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

CoreLine – HSS centering tip





SIG 120°
Solid carbide

SIG 120°
HSS

SIG 120°
HSS

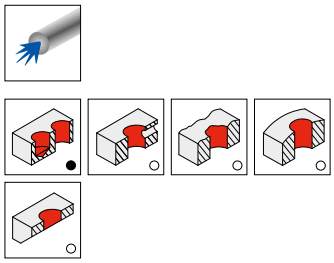
DC mm	Product Reference No.	OAL mm	LU mm	DCONMS mm	SD 10 863 ...	HD 10 862 ...	HD 10 862 ...
5	V95 10012.0089	23.0	2.25	5		**00500**	
5	V95 10012.0090	23.0	2.25	5			**10500**
5	V95 10310.8450	23.0	2.25	5	**20500**		
6	V95 10022.0089	23.0	2.65	6		**00600**	
6	V95 10022.0090	23.0	2.65	6			**10600**
6	V95 10320.8450	23.0	2.65	6	**20600**		
8	V95 10032.0089	27.0	3.38	8		**00800**	
8	V95 10032.0090	27.0	3.38	8			**10800**
8	V95 10330.8450	27.0	3.38	8	**20800**		
10	V95 10042.0089	28.0	3.86	10		**01000**	
10	V95 10042.0090	28.0	3.86	10			**11000**
10	V95 10340.8450	28.0	3.86	10	**21000**		
12	V95 10050.0089	30.8	4.67	12		**01200**	
12	V95 10050.0090	30.8	4.67	12			**11200**
16	V95 10063.0089	50.0	5.78	16		**01600**	
16	V95 10063.0090	50.0	5.78	16			**11600**
20	V95 10213.0089	58.0	7.91	20		**02000**	
20	V95 10213.0090	58.0	7.91	20			**12000**
P					●	●	
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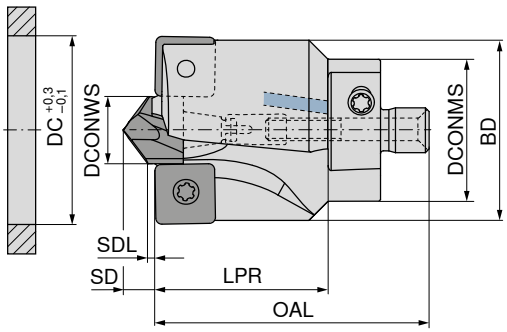
The cutting data of the Centron / Centron V464 depends on the center drill and not on the indexable inserts. Please select the cutting data of the center drill.
Article No. 10 863 ... is only suitable up to drilling depth 6xD.

CoreLine – Indexable insert drill drill bit – Centron Powerline

- The pre-assembled drill bit is ready to use
- The indexable inserts and centering tip must be professionally assembled
- Tightening torque refers to the clamping screw of the indexable inserts
- KLG = Coupling size

Scope of supply:
Drill bit incl. screws
Order centering tip and indexable inserts separately







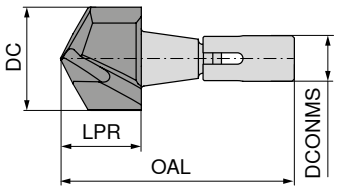
Designation	Product Reference No.	DC mm	LPR mm	SD mm	BD mm	DCONMS mm	DCONWS mm	KLG	Tightening torque Nm	Indexable insert	TO 10 861 ...
KUB-PL.BK.20.R.06-19	V46 22000	**20**	23	3.94	19.05	19	10.3	**19**	1,01	SOEX 060308	**20000**
KUB-PL.BK.21.R.06-19	V46 22100	**21**	23	3.94	20.00	19	10.3	**19**	1,01	SOEX 060308	**21000**
KUB-PL.BK.22.R.06-19	V46 22200	**22**	23	4.23	21.00	19	11.3	**19**	1,01	SOEX 060308	**22000**
KUB-PL.BK.23.R.06-19	V46 22300	**23**	23	4.72	22.00	19	12.3	**19**	1,01	SOEX 060308	**23000**
KUB-PL.BK.24.R.06-19	V46 22400	**24**	23	4.94	23.00	19	13.3	**19**	1,01	SOEX 060308	**24000**
KUB-PL.BK.25.R.07-19	V46 22500	**25**	23	4.23	24.00	19	11.3	**19**	1,28	SOEX 07T308	**25000**
KUB-PL.BK.27.R.07-25	V46 22700	**27**	23	4.94	26.00	25	13.3	**25**	1,28	SOEX 07T308	**27000**
KUB-PL.BK.28.R.07-25	V46 22800	**28**	23	5.18	27.00	25	14.3	**25**	1,28	SOEX 07T308	**28000**
KUB-PL.BK.29.R.07-25	V46 22900	**29**	23	5.57	28.00	25	15.3	**25**	2,8	SOEX 07T308	**29000**
KUB-PL.BK.30.R.09-25	V46 23000	**30**	23	4.94	29.00	25	13.3	**25**	2,8	SOEX 090408	**30000**
KUB-PL.BK.31.R.09-25	V46 23100	**31**	23	5.18	30.00	25	14.3	**25**	2,8	SOEX 090408	**31000**
KUB-PL.BK.32.R.09-25	V46 23200	**32**	23	5.57	31.00	25	15.3	**25**	2,8	SOEX 090408	**32000**
KUB-PL.BK.33,2.R.11-32	V46 23320	**33.2**	23	5.18	32.20	32	14.3	**32**	2,8	SOEX 110508	**33200**
KUB-PL.BK.34.R.11-32	V46 23400	**34**	23	5.18	33.00	32	14.3	**32**	2,8	SOEX 110508	**34000**
KUB-PL.BK.35.R.11-32	V46 23500	**35**	23	5.57	34.00	32	15.3	**32**	2,8	SOEX 110508	**35000**
KUB-PL.BK.36.R.11-32	V46 23600	**36**	23	6.06	35.00	32	16.3	**32**	2,8	SOEX 110508	**36000**
KUB-PL.BK.37.R.12-32	V46 23700	**37**	23	5.18	36.00	32	14.3	**32**	6,25	SOEX 120508	**37000**
KUB-PL.BK.38.R.12-32	V46 23800	**38**	23	5.57	37.00	32	15.3	**32**	6,25	SOEX 120508	**38000**
KUB-PL.BK.39.R.12-32	V46 23900	**39**	23	6.06	38.00	32	16.3	**32**	6,25	SOEX 120508	**39000**
KUB-PL.BK.39,2.R.12-32	V46 23920	**39.2**	23	6.06	38.20	32	16.3	**32**	6,25	SOEX 120508	**39200**

→ Find suitable indexable inserts here.
→ Find the cutting data standard values here.

A detailed operating manual is available for download in the online shop next to the product.

Spare parts DC		 Clamping screw for basic element AS 10 950 ...		 Clamping screw for centering tip AS 10 950 ...		 Screwdriver AS 80 950 ...		 Clamping screw AS 10 950 ...
20 - 24	M2,5x6,4 - 08IP - 1,28Nm	**12400**	M3X22 - 8IP	**19300**	T08 - IP	**039**	M2,2x5,5 - 06IP	**10700**
25	M2,5x6,4 - 08IP - 1,28Nm	**12400**	M3X22 - 8IP	**19300**	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
27 - 29	M3x7,4 - 08IP - 2,25Nm	**12500**	M3X22 - 8IP	**19300**	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
30 - 32	M3x7,4 - 08IP - 2,25Nm	**12500**	M3X22 - 8IP	**19300**	T08 - IP	**039**	M3,5x7,5 - 15IP	**10300**
33,2 - 36	M4x8,9 - 15IP - 4,3Nm	**12000**	M3X22 - 8IP	**19300**	T15 - IP	**120**	M3,5x8,5 - 15IP	**18600**
37 - 39,2	M4x8,9 - 15IP - 4,3Nm	**12000**	M3X22 - 8IP	**19300**	T15 - IP	**120**	M4,5x10 - 20IP	**10400**

CoreLine – Carbide centering tip



ZP

BK8450

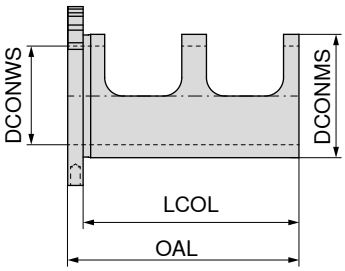


SIG 120°
Solid carbide

DC mm	Product Reference No.	LPR mm	OAL mm	DCONMS mm	HD 10 868 ...
10.3	V96 01100.8450	8.0	22.32	4	**31000**
11.3	V96 01110.8450	8.0	22.32	4	**31100**
12.3	V96 01120.8450	9.0	25.21	5	**31200**
13.3	V96 01130.8450	9.5	25.71	5	**31300**
14.3	V96 01140.8450	9.8	26.01	6	**31400**
15.3	V96 01150.8450	11.0	26.91	6	**31500**
16.3	V96 01160.8450	11.0	26.91	7	**31600**

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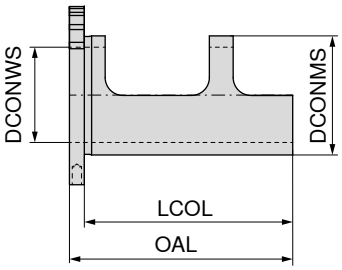
CoreLine – Eccentric sleeve – Indexable insert drill adapter DIN 6595





Designation	DCONWS mm	DCONMS mm	OAL mm	LCOL mm	TO 10 870 ...
EHB.D20.D25	20	25	61	56	**120**
EHB.D25.D32	25	32	65	60	**125**
EHB.D32.D40	32	40	75	70	**132**
EHB.D40.D50	40	50	85	80	**140**

CoreLine – Eccentric sleeve – Standard Weldon adapter ISO 9766





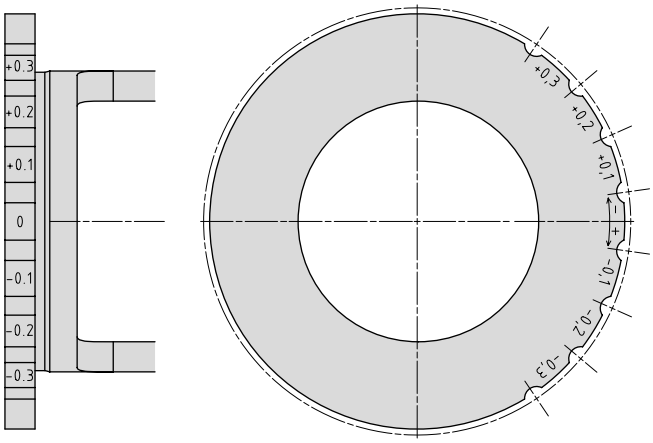
Designation	DCONWS mm	DCONMS mm	OAL mm	LCOL mm	TO 10 871 ...
EHW.D20.D25	20	25	61	56	**120**
EHW.D25.D32	25	32	65	60	**125**
EHW.D32.D40	32	40	75	70	**132**
EHW.D40.D50	40	50	85	80	**140**

Application tips – Vibration dampeners and eccentric devices

Using eccentric sleeves, the diameter of the hole can be varied and adjusted by ± 0.3 mm with ease.

Two types of eccentric sleeve are available:
One for use with the indexable insert drill adapter and one for use with the Weldon adapter.
The difference lies solely in the design and position of the slots for the adapter's clamping screws. There are four sizes per type, which are tailored to the shank diameter.

A scale is engraved on every eccentric sleeve (radially and on the face), so that the user can adjust the bore diameter according to requirements.



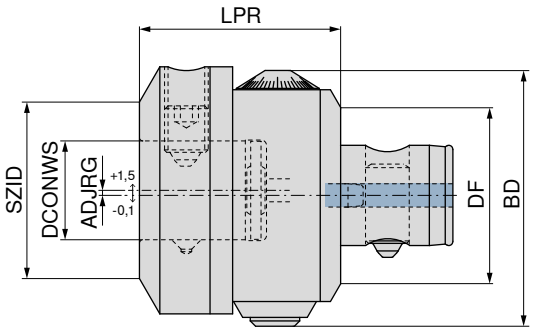
Instructions for use

1. Position the sleeve in the respective adapter and insert the indexable insert drill.
2. Set the sleeve to the zero position. → The "0" must align with the clamping screws on the adapter.
3. Clamp the adapter's clamping screws.
4. Drill.
5. Measure the bore diameter.
6. Loosen the clamping screws.
7. Correct the bore diameter using the sleeve. → Observe the scale on the sleeve. The value must align with the clamping screws on the adapter.
8. Clamp the clamping screws.
9. Drill.

Owing to the radial adjustment of the drill axis, the feed rate should be reduced by approx. 30% for longer drilling tools (4xD and 5xD).

CoreLine – Adjuster with ABS connection

- Precise adjustment using micrometric adjusting spindle
- Max. adjustment range 3 mm on diameter
- Graduation of scale 1 line = 0.02 mm on diameter
- Stable clamping of the top section after adjustment using four clamping screws arranged on the face
- SZID = nominal size



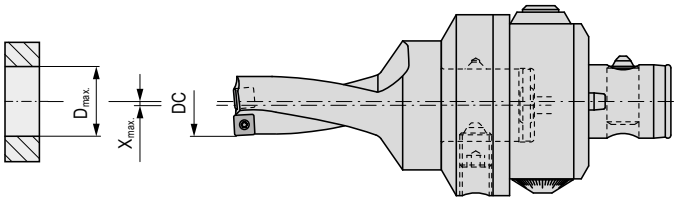




AD

Adapter	Product Reference No.	BD mm	LPR mm	DF mm	DCONWS mm	ADJRG mm	SZID	TO 84 210 ...
ABS 50	M01 00001	70	57	50	28	1.5	**ABS 50**	**05097**
ABS 63	M01 00011	88	70	63	28	1.5	**ABS 50**	**06397**
ABS 63	M01 00021	88	70	63	34	1.5	**ABS 63**	**06396**

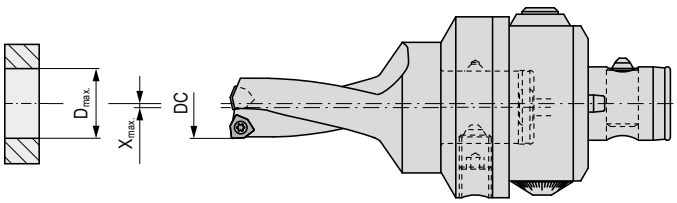
Pentron DC 14 – 54 mm



DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
14,0	14,5		
14,5	15,0		
15,0	15,5	0,25	SOGX 04
15,5	16,0		
16,0	16,5		
16,5	17,0		
17,0	17,5	0,25	SOGX 05
17,5	18,0		
18,0	18,5		
18,5	19,0		
19,0	19,5	0,25	SOGX 06
19,5	20,0		
20,0	20,5		
20,5	21,0		
21,0	21,5		
21,5	22,0	0,25	SOGX 07
22,0	22,5		
22,5	23,0		
23,0	23,5		
23,5	24,0		
24,0	24,5		
24,5	25,0	0,25	SOGX 08
25,0	25,5		
25,5	26,0		
26,0	26,5		
26,5	27,0		
27,0	27,5	0,25	SOGX 09
27,5	28,0		

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
28,0	28,5		
28,5	29,0		
29,0	29,5	0,25	SOGX 09
29,5	30,0		
30,0	30,5		
31,0	31,5		
32,0	32,5	0,25	SOGX 10
33,0	33,5		
34,0	34,5		
35,0	35,5	0,25	SOGX 11
36,0	36,5		
37,0	37,5		
38,0	38,5		
39,0	39,5		
40,0	40,5	0,25	SOGX 12
41,0	41,5		
42,0	42,5		
43,0	43,5		
44,0	44,5	0,25	SOGX 13
45,0	45,5		
46,0	46,5		
47,0	47,5		
48,0	48,5		
49,0	49,5	0,25	SOGX 08
50,0	50,5		
51,0	51,5		
52,0	52,5		
53,0	53,5	0,25	SOGX 10
54,0	54,5		

Trigon DC 14 – 54 mm



DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
14,0	15,0	0,5	
15,0	16,0	0,5	
16,0	17,0	0,5	WOEX 03
17,0	18,0	0,5	
18,0	19,0	0,5	
19,0	20,0	0,5	
20,0	21,0	0,5	
21,0	22,0	0,5	
22,0	23,0	0,5	WOEX 04
23,0	24,0	0,5	
24,0	25,0	0,5	
25,0	26,0	0,5	
26,0	28,0	1,0	
27,0	30,0	1,5	
28,0	31,0	1,5	
29,0	32,0	1,5	
30,0	32,5	1,25	WOEX 05
31,0	33,5	1,25	
32,0	34,0	1,0	
33,0	34,0	0,5	
34,0	35,0	0,5	
35,0	36,0	0,5	
36,0	37,0	0,5	

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
37,0	40,0	1,5	
38,0	41,0	1,5	
39,0	42,0	1,5	
40,0	43,0	1,5	WOEX 06
41,0	44,0	1,5	
42,0	45,0	1,5	
43,0	45,0	1,0	
44,0	45,0	0,5	
45,0	48,0	1,5	
46,0	49,0	1,5	
47,0	50,0	1,5	
48,0	51,0	1,5	
49,0	52,0	1,5	WOEX 08
50,0	53,0	1,5	
51,0	54,0	1,5	
52,0	55,0	1,5	
53,0	55,0	1,0	
54,0	55,0	0,5	

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values for SOGX indexable inserts

Index	10 820 ... SOGX -01				10 820 ... SOGX -03	10 820 ... SOGX -13	10 820 ..., 10 825 ... SOGX -21			10 820 ... SOGX -34
	BK6115	BK7710	BK7935	BK8425	BK8430	BK8425	BK7710	BK7935	BK8430	BK8425
	v_c (m/min) min. – Recommended – max.									v_c (m/min) Feedrate guide →
P.1.1	230-**300**-370		195-**250**-310	200-**260**-320	200-**260**-320	255-**260**-320		195-**250**-310	200-**260**-320	
P.1.2	230-**300**-370		170-**220**-270	200-**260**-320	200-**260**-320	255-**260**-320		170-**220**-270	200-**260**-320	255-**260**-320
P.1.3	210-**270**-330		210-**270**-330	210-**270**-330	210-**270**-330	175-**270**-330		210-**270**-330	210-**270**-330	
P.1.4	195-**250**-310		195-**250**-310	195-**250**-310	195-**250**-310	200-**250**-310		195-**250**-310	195-**250**-310	
P.1.5	230-**300**-370		155-**200**-245	210-**270**-330	210-**270**-330	200-**270**-330		155-**200**-245	210-**270**-330	200-**270**-330
P.2.1	210-**270**-330		210-**270**-330	210-**270**-330	210-**270**-330	210-**270**-330		210-**270**-330	210-**270**-330	
P.2.2	200-**260**-320		200-**260**-320	200-**260**-320	200-**260**-320	195-**260**-320		200-**260**-320	200-**260**-320	
P.2.3	185-**240**-295		125-**160**-195	140-**180**-220	140-**180**-220	140-**180**-220		125-**160**-195	140-**180**-220	140-**180**-220
P.2.4	155-**200**-245		100-**130**-160	115-**150**-185	115-**150**-185	115-**150**-185		100-**130**-160	115-**150**-185	115-**150**-185
P.3.1	155-**200**-245		110-**140**-170	125-**160**-195	125-**160**-195	125-**160**-195		110-**140**-170	125-**160**-195	125-**160**-195
P.3.2	125-**160**-195		90-**120**-150	100-**130**-160	100-**130**-160	100-**130**-160		90-**120**-150	100-**130**-160	100-**130**-160
P.3.3	110-**140**-170		85-**110**-135	90-**120**-150	90-**120**-150	115-**120**-150		85-**110**-135	90-**120**-150	115-**120**-150
P.4.1	170-**220**-270		115-**150**-185	140-**180**-220	140-**180**-220	125-**180**-220		115-**150**-185	140-**180**-220	
P.4.2	125-**160**-195		90-**120**-150	100-**130**-160	100-**130**-160	100-**130**-160		90-**120**-150	100-**130**-160	
M.1.1	170-**220**-270		125-**160**-195	115-**150**-185	115-**150**-185	90-**150**-185		125-**160**-195	115-**150**-185	
M.2.1	170-**220**-270		125-**160**-195	115-**150**-185	115-**150**-185	140-**150**-185		125-**160**-195	115-**150**-185	
M.3.1	155-**200**-245		115-**150**-185	110-**140**-170	110-**140**-170	100-**140**-170		115-**150**-185	110-**140**-170	
K.1.1	185-240-295		115-**150**-185	125-**160**-190		125-**160**-190		115-**150**-185	125-**160**-190	125-**160**-190
K.1.2	140-180-220		90-**120**-150	90-**120**-140		90-**120**-140		90-**120**-150	90-**120**-140	90-**120**-140
K.2.1	125-160-195		115-**150**-185	125-**160**-190		125-**160**-190		115-**150**-185	125-**160**-190	125-**160**-190
K.2.2	75-100-125		70-**90**-110	75-**100**-120		75-**100**-120		70-**90**-110	75-**100**-120	75-**100**-120
K.3.1	90-120-150		85-**110**-135	90-**120**-140		90-**120**-140		85-**110**-135	90-**120**-140	90-**120**-140
K.3.2	75-100-125		70-**90**-110	75-**100**-120		75-**100**-120		70-**90**-110	75-**100**-120	75-**100**-120
N.1.1		**500**					385-**500**-615		310-**400**-490	
N.1.2		**500**					385-**500**-615		310-**400**-490	
N.2.1		**280**					215-**280**-345		195-**250**-310	
N.2.2		**280**					215-**280**-345		195-**250**-310	
N.2.3		**250**					195-**250**-310		175-**230**-285	
N.3.1		**250**					195-**250**-310		155-**200**-245	
N.3.2		**280**					215-**280**-345		170-**220**-270	
N.3.3		**390**					300-**390**-480		255-**330**-405	
N.4.1		**250**					195-**250**-310		155-**200**-245	
S.1.1			45-**60**-75					45-**60**-75		
S.1.2			40-**50**-60					40-**50**-60		
S.2.1			45-**60**-75					45-**60**-75		
S.2.2			40-**50**-60					40-**50**-60		
S.2.3			25-**30**-35					25-**30**-35		
S.3.1		100					75-**100**-125			
S.3.2		80					60-**80**-100			
S.3.3		50					40-**50**-60			
H.1.1	40-**50**-60		40-**50**-60							
H.1.2	35-**45**-55		25-**35**-45							
H.1.3										
H.1.4										
H.2.1	75-**100**-125		60-**75**-90							
H.3.1	40-**50**-60		25-**35**-45							
O.1.1		100					75-**100**-125			
O.1.2		100					75-**100**-125			
O.2.1									155-**200**-245	
O.2.2		100					75-**100**-125		155-**200**-245	
O.3.1		100					75-**100**-125		155-**200**-245	

Only use **BK8425 -34** for KUB-P 2xD and 3xD (10 872 …/10 873 …)

Information on solid drilling:
Only use SOGX -01 BK6115 as an outer cutting edge,
Use SOGX -01 BK8425 as a central cutting edge!

Information on solid drilling:
Only use SOGX -21 BK7935 as an outer cutting edge,
Use SOGX -21 BK8430 as a central cutting edge!

Cutting data standard values for SOGX indexable inserts

Index	10 820 ... SOGX -01				10 820 ... SOGX -03	10 820 ... SOGX -13	10 820 ..., 10 825 ... SOGX -21			10 820 ... SOGX -34
	BK6115	BK7710	BK7935	BK8425	BK8430	BK8425	BK7710	BK7935	BK8430	BK8425
	v_c (ft/min) min. – Recommended – max.									v_c (ft/min) Feedrate guide →
P.1.1	755-**985**-1215		640-**820**-1015	655-**855**-1050	655-**855**-1050	655-**855**-1050		640-**820**-1015	655-**855**-1050	
P.1.2	755-**985**-1215		560-**720**-885	655-**855**-1050	655-**855**-1050	655-**855**-1050		560-**720**-885	655-**855**-1050	835-**855**-1050
P.1.3	690-**885**-1085		690-**885**-1085	690-**885**-1085	690-**885**-1085	690-**885**-1085		690-**885**-1085	690-**885**-1085	
P.1.4	640-**820**-1015		640-**820**-1015	640-**820**-1015	640-**820**-1015	640-**820**-1015		640-**820**-1015	640-**820**-1015	
P.1.5	755-**985**-1215		510-**655**-805	690-**885**-1085	690-**885**-1085	690-**885**-1085		510-**655**-805	690-**885**-1085	655-**885**-1085
P.2.1	690-**885**-1085		690-**885**-1085	690-**885**-1085	690-**885**-1085	690-**885**-1085		690-**885**-1085	690-**885**-1085	
P.2.2	655-**855**-1050		655-**855**-1050	655-**855**-1050	655-**855**-1050	655-**855**-1050		655-**855**-1050	655-**855**-1050	
P.2.3	605-**785**-970		410-**525**-640	460-**590**-720	460-**590**-720	460-**590**-720		410-**525**-640	460-**590**-720	460-**590**-720
P.2.4	510-**655**-805		330-**425**-525	375-**490**-605	375-**490**-605	375-**490**-605		330-**425**-525	375-**490**-605	375-**490**-605
P.3.1	510-**655**-805		360-**460**-560	410-**525**-640	410-**525**-640	410-**525**-640		360-**460**-560	410-**525**-640	410-**525**-640
P.3.2	410-**525**-640		295-**395**-490	330-**425**-525	330-**425**-525	330-**425**-525		295-**395**-490	330-**425**-525	330-**425**-525
P.3.3	360-**460**-560		280-**360**-445	295-**395**-490	295-**395**-490	295-**395**-490		280-**360**-445	295-**395**-490	375-**395**-490
P.4.1	560-**720**-885		375-**490**-605	460-**590**-720	460-**590**-720	460-**590**-720		375-**490**-605	460-**590**-720	
P.4.2	410-**525**-640		295-**395**-490	330-**425**-525	330-**425**-525	330-**425**-525		295-**395**-490	330-**425**-525	
M.1.1	560-**720**-885		410-**525**-640	375-**490**-605	375-**490**-605	375-**490**-605		410-**525**-640	375-**490**-605	
M.2.1	560-**720**-885		410-**525**-640	375-**490**-605	375-**490**-605	375-**490**-605		410-**525**-640	375-**490**-605	
M.3.1	510-**655**-805		375-**490**-605	360-**460**-560	360-**460**-560	360-**460**-560		375-**490**-605	360-**460**-560	
K.1.1	605-785-970		375-**490**-605	410-**525**-625		410-**525**-625		375-**490**-605	410-**525**-625	410-**525**-625
K.1.2	460-590-720		295-**395**-490	295-**395**-460		295-**395**-460		295-**395**-490	295-**395**-460	295-**395**-460
K.2.1	410-525-640		375-**490**-605	410-**525**-625		410-**525**-625		375-**490**-605	410-**525**-625	410-**525**-625
K.2.2	245-330-410		230-**295**-360	245-**330**-395		245-**330**-395		230-**295**-360	245-**330**-395	245-**330**-395
K.3.1	295-395-490		280-**360**-445	295-**395**-460		295-**395**-460		280-**360**-445	295-**395**-460	295-**395**-460
K.3.2	245-330-410		230-**295**-360	245-**330**-395		245-**330**-395		230-**295**-360	245-**330**-395	245-**330**-395
N.1.1		**1640**					1265-**1640**-2020		1015-**1310**-1610	
N.1.2		**1640**					1265-**1640**-2020		1015-**1310**-1610	
N.2.1		**920**					705-**920**-1130		640-**820**-1015	
N.2.2		**920**					705-**920**-1130		640-**820**-1015	
N.2.3		**820**					640-**820**-1015		575-**755**-935	
N.3.1		**820**					640-**820**-1015		510-**655**-805	
N.3.2		**920**					705-**920**-1130		560-**720**-885	
N.3.3		**1280**					985-**1280**-1575		835-**1085**-1330	
N.4.1		**820**					640-**820**-1015		510-**655**-805	
S.1.1			150-**195**-245					150-**195**-245		
S.1.2			130-**165**-195					130-**165**-195		
S.2.1			150-**195**-245					150-**195**-245		
S.2.2			130-**165**-195					130-**165**-195		
S.2.3			80-**100**-115					80-**100**-115		
S.3.1		330					245-**330**-410			
S.3.2		260					195-**260**-330			
S.3.3		165					130-**165**-195			
H.1.1	130-**165**-195		130-**165**-195							
H.1.2	115-**150**-180		80-**115**-150							
H.1.3										
H.1.4										
H.2.1	245-**330**-410		195-**245**-295							
H.3.1	130-**165**-195		80-**115**-150							
O.1.1		330					245-**330**-410			
O.1.2		330					245-**330**-410			
O.2.1									510-**655**-805	
O.2.2		330					245-**330**-410		510-**655**-805	
O.3.1		330					245-**330**-410		510-**655**-805	

Only use **BK8425 -34** for KUB-P 2xD and 3xD (10 872 …/10 873 …)

Information on solid drilling:
Only use SOGX -01 BK6115 as an outer cutting edge,
Use SOGX -01 BK8425 as a central cutting edge!

Information on solid drilling:
Only use SOGX -21 BK7935 as an outer cutting edge,
Use SOGX -21 BK8430 as a central cutting edge!

Cutting data standard values for Pentron – 2xD, 3xD

Index	10 872 ..., 10 873 ..., 10 886 ..., 10 887 ...							
	Pentron 2xD / 3xD / ABS / PSC / C							
	Ø 14–16 mm	Ø 16,1–18 mm	Ø 18,1–20 mm	Ø 20,1–23 mm	Ø 23,1–26 mm	Ø 26,1–30 mm	Ø 30,1–33 mm	Ø 33,1–37 mm
	f (mm/rev) min. – Recommended – max.							
P.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14
P.1.2	0,07-0,10-0,13	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,19-0,25
P.1.3	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
P.1.4	0,06-0,08-0,10	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17
P.1.5	0,06-0,09-0,12	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,12-0,17-0,22
P.2.1	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
P.2.2	0,06-0,08-0,10	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17
P.2.3	0,08-0,12-0,16	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,19-0,25
P.2.4	0,07-0,10-0,13	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20
P.3.1	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,19-0,25
P.3.2	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20
P.3.3	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
P.4.1	0,06-0,09-0,12	0,09-0,13-0,17	0,09-0,13-0,17	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,15-0,22-0,29
P.4.2	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20
M.1.1	0,05-0,10-0,12	0,05-0,10-0,12	0,05-0,10-0,12	0,06-0,12-0,14	0,06-0,14-0,17	0,07-0,15-0,18	0,07-0,15-0,18	0,07-0,16-0,19
M.2.1	0,04-0,08-0,10	0,04-0,08-0,10	0,04-0,08-0,10	0,06-0,11-0,13	0,06-0,12-0,14	0,07-0,14-0,17	0,07-0,14-0,17	0,07-0,15-0,18
M.3.1	0,04-0,07-0,09	0,04-0,07-0,09	0,04-0,07-0,09	0,05-0,10-0,12	0,05-0,11-0,13	0,06-0,13-0,15	0,06-0,13-0,15	0,06-0,14-0,17
K.1.1	0,08-0,12-0,16	0,11-0,15-0,20	0,11-0,15-0,20	0,13-0,18-0,23	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,19-0,27-0,35
K.1.2	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,14-0,20-0,26
K.2.1	0,08-0,12-0,16	0,11-0,15-0,20	0,11-0,15-0,20	0,13-0,18-0,23	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,19-0,27-0,35
K.2.2	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,15-0,22-0,29
K.3.1	0,08-0,12-0,16	0,11-0,15-0,20	0,11-0,15-0,20	0,13-0,18-0,23	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,19-0,27-0,35
K.3.2	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,15-0,22-0,29
N.1.1	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
N.1.2	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
N.2.1	0,07-0,10-0,13	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,16-0,21
N.2.2	0,07-0,10-0,13	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,16-0,21
N.2.3	0,06-0,09-0,12	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20
N.3.1	0,07-0,10-0,13	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,16-0,21
N.3.2	0,08-0,11-0,14	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22	0,13-0,18-0,23
N.3.3	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20
N.4.1	0,07-0,10-0,13	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,16-0,21
S.1.1	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13
S.1.2	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13
S.2.1	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13
S.2.2	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13
S.2.3	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,05-0,07
S.3.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,05-0,07-0,09
S.3.2	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16
S.3.3	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12
H.1.1	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
H.1.2	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06
H.1.3								
H.1.4								
H.2.1	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.3.1	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06
O.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.2.1								
O.2.2	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
O.3.1	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 2xD, 3xD / Pentron CS

Index	10 872 ..., 10 873 ..., 10 886 ..., 10 887 ...				10 876 ...			
	Pentron 2xD / 3xD / ABS / PSC / C				Pentron CS – 3xD			
	Ø 37,1–42 mm	Ø 42,1–46 mm	Ø 46,1–52 mm	Ø 52,1–65 mm	Ø 64–69 mm	Ø 69,1–75 mm	Ø 75,1–84 mm	Ø 84,1–96 mm
	f (mm/rev) min. – Recommended – max.				f (mm/rev) min. – Recommended – max.			
P.1.1	0,08-0,11-0,14	0,08-0,12-0,16	0,07-0,10-0,13	0,08-0,11-0,14	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.1.2	0,13-0,19-0,25	0,13-0,19-0,25	0,13-0,18-0,23	0,14-0,19-0,26	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.1.3	0,10-0,14-0,18	0,10-0,14-0,18	0,09-0,13-0,17	0,10-0,14-0,19	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.1.4	0,09-0,13-0,17	0,09-0,13-0,17	0,08-0,12-0,16	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.1.5	0,12-0,17-0,22	0,12-0,17-0,22	0,11-0,16-0,21	0,12-0,17-0,23	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.2.1	0,10-0,14-0,18	0,10-0,14-0,18	0,09-0,13-0,17	0,10-0,14-0,19	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.2.2	0,09-0,13-0,17	0,09-0,13-0,17	0,08-0,12-0,16	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.2.3	0,13-0,19-0,25	0,13-0,19-0,25	0,13-0,18-0,23	0,14-0,19-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
P.2.4	0,11-0,15-0,20	0,11-0,15-0,20	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
P.3.1	0,13-0,19-0,25	0,13-0,19-0,25	0,13-0,18-0,23	0,14-0,19-0,26	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
P.3.2	0,11-0,15-0,20	0,11-0,15-0,20	0,10-0,14-0,18	0,11-0,15-0,20	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.3.3	0,10-0,14-0,18	0,10-0,14-0,18	0,09-0,13-0,17	0,10-0,14-0,19	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17
P.4.1	0,15-0,22-0,29	0,15-0,22-0,29	0,14-0,20-0,26	0,15-0,22-0,29	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
P.4.2	0,11-0,15-0,20	0,11-0,15-0,20	0,10-0,14-0,18	0,11-0,15-0,20	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
M.1.1	0,07-0,16-0,21	0,07-0,16-0,21	0,07-0,15-0,18	0,06-0,16-0,20	0,07-0,16-0,21	0,07-0,16-0,21	0,07-0,16-0,21	0,07-0,16-0,21
M.2.1	0,07-0,15-0,20	0,07-0,15-0,20	0,07-0,14-0,17	0,06-0,15-0,18	0,07-0,15-0,20	0,07-0,15-0,20	0,07-0,15-0,20	0,07-0,15-0,20
M.3.1	0,06-0,14-0,18	0,06-0,14-0,18	0,06-0,13-0,15	0,05-0,14-0,17	0,06-0,14-0,18	0,06-0,14-0,18	0,06-0,14-0,18	0,06-0,14-0,18
K.1.1	0,19-0,27-0,35	0,19-0,27-0,35	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33
K.1.2	0,14-0,20-0,26	0,14-0,20-0,26	0,12-0,17-0,22	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,13-0,19-0,25	0,13-0,19-0,25
K.2.1	0,19-0,27-0,35	0,19-0,27-0,35	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33
K.2.2	0,15-0,22-0,29	0,15-0,22-0,29	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
K.3.1	0,19-0,27-0,35	0,19-0,27-0,35	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33
K.3.2	0,15-0,22-0,29	0,15-0,22-0,29	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
N.1.1	0,10-0,14-0,18	0,10-0,14-0,18	0,09-0,13-0,17	0,10-0,14-0,19	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.1.2	0,10-0,14-0,18	0,10-0,14-0,18	0,09-0,13-0,17	0,10-0,14-0,19	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.2.1	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,15-0,20	0,12-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
N.2.2	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,15-0,20	0,12-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
N.2.3	0,11-0,15-0,20	0,11-0,15-0,20	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
N.3.1	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,15-0,20	0,12-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
N.3.2	0,13-0,18-0,23	0,13-0,18-0,23	0,12-0,17-0,22	0,13-0,18-0,24	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
N.3.3	0,11-0,15-0,20	0,11-0,15-0,20	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
N.4.1	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,15-0,20	0,12-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
S.1.1	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.1.2	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.2.1	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.2.2	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.2.3	0,04-0,05-0,07	0,04-0,05-0,07	0,03-0,04-0,05	0,04-0,06-0,08	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
S.3.1	0,05-0,07-0,09	0,05-0,07-0,09	0,06-0,08-0,10	0,08-0,12-0,16	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
S.3.2	0,08-0,12-0,16	0,08-0,12-0,16	0,05-0,07-0,09	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.3.3	0,06-0,09-0,12	0,06-0,09-0,12	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12
H.1.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
H.1.2	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06
H.1.3								
H.1.4								
H.2.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.3.1	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06	0,04-0,04-0,06
O.1.1	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.1.2	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.2.1								
O.2.2	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
O.3.1	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 2xD, 3xD

Index	15 872 ..., 15 873 ...							
	Pentron 2xD / 3xD / ABS / PSC / C							
	Ø 0.551"–0.630"	Ø 0.634"–0.709"	Ø 0.713"–0.787"	Ø 0.791"–0.906"	Ø 0.909"–1.024"	Ø 1.028"–1.181"	Ø 1.185"–1.299"	Ø 1.303"–1.457"
	f (inch/rev) min. – Recommended – max.							
P.1.1	.002-.003-.004	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006
P.1.2	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.008-.010
P.1.3	.002-.003-.004	.003-.005-.006	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007
P.1.4	.002-.003-.004	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006	.004-.005-.007
P.1.5	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009
P.2.1	.002-.003-.004	.003-.005-.006	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007
P.2.2	.002-.003-.004	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006	.004-.005-.007
P.2.3	.003-.005-.006	.004-.006-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.008-.010
P.2.4	.003-.004-.005	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008
P.3.1	.002-.003-.004	.003-.005-.006	.003-.005-.006	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.008-.010
P.3.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008
P.3.3	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007
P.4.1	.002-.004-.005	.004-.005-.007	.004-.005-.007	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.008-.010	.006-.009-.011
P.4.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008
M.1.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.006	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.2.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.008
M.3.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007
K.1.1	.003-.005-.006	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.011-.014
K.1.2	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.005-.007-.009	.005-.008-.010	.005-.008-.010	.006-.008-.010
K.2.1	.003-.005-.006	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.011-.014
K.2.2	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.009-.011
K.3.1	.003-.005-.006	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.011-.014
K.3.2	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.009-.011
N.1.1	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007
N.1.2	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007
N.2.1	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.2	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.3	.002-.004-.005	.003-.005-.006	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008
N.3.1	.003-.004-.005	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.2	.003-.004-.006	.004-.005-.007	.004-.006-.007	.004-.006-.007	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.3.3	.003-.004-.006	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008
N.4.1	.003-.004-.005	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
S.1.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005
S.1.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005
S.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005
S.2.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005
S.2.3	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.0025-.003	.001-.002-.003
S.3.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.003-.005-.006	.003-.005-.006	.002-.003-.004
S.3.2	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.005-.006
S.3.3	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005
H.1.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003
H.1.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.1.3								
H.1.4								
H.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.3.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
O.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.2.1								
O.2.2	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.3.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 2xD, 3xD / Pentron CS

Index	15 872 ..., 15 873 ... Pentron 2xD / 3xD / ABS / PSC / C				10 876 ... Pentron CS – 3xD			
	Ø 1.461"–1.654"	Ø 1.657"–1.811"	Ø 1.815"–2.047"	Ø 2.051"–2.559"	Ø 64–69 mm (Ø 2.520"–2.717")	Ø 69,1–75 mm (Ø 2.720"–2.953")	Ø 75,1–84 mm (Ø 2.957"–3.307")	Ø 84,1–96 mm (Ø 3.311"–3.780")
	f (inch/rev) min. – Recommended – max.				f (inch/rev) min. – Recommended – max.			
P.1.1	.003-.004-.006	.003-.005-.006	.003-.004-.005	.003-.004-.006	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
P.1.2	.005-.008-.010	.005-.008-.010	.005-.007-.009	.005-.008-.010	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.1.3	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.1.4	.004-.005-.007	.004-.005-.007	.003-.005-.006	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.1.5	.005-.007-.009	.005-.007-.009	.004-.006-.008	.005-.007-.009	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.2.1	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.2.2	.004-.005-.007	.004-.005-.007	.003-.005-.006	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.2.3	.005-.008-.010	.005-.008-.010	.005-.007-.009	.005-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
P.2.4	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.3.1	.005-.008-.010	.005-.008-.010	.005-.007-.009	.005-.008-.010	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.009
P.3.2	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.3.3	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007
P.4.1	.006-.009-.011	.006-.009-.011	.006-.008-.010	.006-.009-.011	.006-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
P.4.2	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
M.1.1	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.2.1	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.3.1	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
K.1.1	.007-.011-.014	.007-.011-.014	.006-.009-.011	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.010-.013	.007-.010-.013
K.1.2	.006-.008-.010	.006-.008-.010	.005-.007-.009	.005-.007-.009	.005-.008-.010	.005-.008-.010	.005-.008-.010	.005-.008-.010
K.2.1	.007-.011-.014	.007-.011-.014	.006-.009-.011	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.010-.013	.007-.010-.013
K.2.2	.006-.009-.011	.006-.009-.011	.005-.007-.009	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
K.3.1	.007-.011-.014	.007-.011-.014	.006-.009-.011	.006-.009-.011	.007-.010-.013	.007-.010-.013	.007-.010-.013	.007-.010-.013
K.3.2	.006-.009-.011	.006-.009-.011	.005-.007-.009	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
N.1.1	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.1.2	.004-.006-.007	.004-.006-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.2.1	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.2.2	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.2.3	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.1	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.2	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.010	.005-.007-.009	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.3.3	.004-.006-.008	.004-.006-.008	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.4.1	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
S.1.1	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.1.2	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.2.1	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.2.2	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.2.3	.001-.002-.003	.001-.002-.003	.001-.0015-.002	.002-.0025-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
S.3.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.005-.006	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.3.2	.003-.005-.006	.003-.005-.006	.002-.003-.004	.003-.004-.005	.003-.005-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
S.3.3	.002-.004-.005	.002-.004-.005	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005
H.1.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003
H.1.2	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.1.3								
H.1.4								
H.2.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.3.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
O.1.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.1.2	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.2.1								
O.2.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.3.1	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 2xD, 3xD / -34 indexable inserts topography

Index	10 820 ...	10 872 ..., 10 873 ..., 10 886 ..., 10 887 ...													
	SOGX	Pentron 2xD / 3xD / ABS / PSC / C													
	BK8425 -34	Ø 14 – 15,5 mm	Ø 16 – 17,5 mm	Ø 18 – 19,5 mm	Ø 20 – 21,5 mm	Ø 22 – 23,5 mm	Ø 24 – 25,5 mm	Ø 26 – 27,5 mm	Ø 28 – 30 mm	Ø 31 – 33 mm	Ø 34 – 37 mm	Ø 38 – 42 mm	Ø 43 – 46 mm	Ø 46 – 52 mm	Ø 53 – 65 mm
	v_c (m/min)	f (mm/rev)													
P.1.1															
P.1.2	255 - **260** - 320	0,17	0,20	0,20	0,23	0,23	0,23	0,27	0,27	0,27	0,27	0,27	0,27	0,23	0,27
P.1.3															
P.1.4															
P.1.5	200 - **270** - 330	0,17	0,20	0,20	0,23	0,23	0,23	0,27	0,27	0,27	0,27	0,27	0,27	0,23	0,27
P.2.1															
P.2.2															
P.2.3	140 - **180** - 220	0,18	0,21	0,24	0,24	0,24	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27
P.2.4	115 - **150** - 185	0,17	0,20	0,23	0,23	0,23	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26
P.3.1	125 - **160** - 195	0,12	0,18	0,18	0,24	0,24	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27
P.3.2	100 - **130** - 160	0,11	0,17	0,17	0,23	0,23	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26
P.3.3	115 - **120** - 150	0,11	0,17	0,17	0,23	0,23	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,26
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1	125 - **160** - 190	0,18	0,23	0,23	0,27	0,27	0,33	0,38	0,38	0,38	0,38	0,38	0,38	0,33	0,38
K.1.2	90 - **120** - 140	0,14	0,18	0,18	0,22	0,22	0,26	0,30	0,30	0,30	0,30	0,30	0,30	0,26	0,30
K.2.1	125 - **160** - 190	0,18	0,23	0,23	0,27	0,27	0,33	0,38	0,38	0,38	0,38	0,38	0,38	0,33	0,38
K.2.2	75 - **100** - 120	0,14	0,18	0,18	0,22	0,22	0,26	0,30	0,30	0,30	0,30	0,30	0,30	0,26	0,30
K.3.1	90 - **120** - 140	0,18	0,23	0,23	0,27	0,27	0,33	0,38	0,38	0,38	0,38	0,38	0,38	0,33	0,38
K.3.2	75 - **100** - 120	0,14	0,18	0,18	0,22	0,22	0,26	0,30	0,30	0,30	0,30	0,30	0,30	0,26	0,30
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
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H.1.1															
H.1.2															
H.1.3															
H.1.4															
H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **BK8425 -34** for KUB-P 2xD and 3xD (10 872 … / 10 873 …)

Cutting data standard values for Pentron – 2xD, 3xD / -34 indexable inserts topography

Index	10 820 ...	15 872 ..., 15 873 ...													
	SOGX	Pentron 2xD / 3xD / ABS / PSC / C													
	BK8425 -34	Ø 0.551"– 0.630"	Ø 0.634"– 0.709"	Ø 0.713"– 0.787"	Ø 0.791"– 0.906"	Ø 0.909"– 1.024"	Ø 1.028"– 1.181"	Ø 1.185"– 1.299"	Ø 1.303"– 1.457"	Ø 1.461"– 1.654"	Ø 1.657"– 1.811"	Ø 1.461"– 1.654"	Ø 1.657"– 1.811"	Ø 1.815"– 2.047"	Ø 2.051"– 2.559"
	v_c (ft/min)	f (inch/rev)													
P.1.1															
P.1.2	835 - **855** - 1050	.006	.007	.007	.009	.009	.009	.011	.011	.011	.011	.011	.011	.009	.011
P.1.3															
P.1.4															
P.1.5	655 - **885** - 1085	.006	.007	.007	.009	.009	.009	.011	.011	.011	.011	.011	.011	.009	.011
P.2.1															
P.2.2															
P.2.3	460 - **590** - 720	.007	.008	.009	.009	.009	.011	.011	.011	.011	.011	.011	.011	.011	.011
P.2.4	375 - **490** - 605	.006	.007	.009	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010
P.3.1	410 - **525** - 640	.005	.007	.007	.009	.009	.011	.011	.011	.011	.011	.011	.011	.011	.011
P.3.2	330 - **425** - 525	.004	.006	.006	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010
P.3.3	375 - **395** - 490	.004	.006	.006	.009	.009	.010	.010	.010	.010	.010	.010	.010	.010	.010
P.4.1															
P.4.2															
M.1.1															
M.2.1															
M.3.1															
K.1.1	410 - **525** - 625	.007	.009	.009	.011	.011	.013	.015	.015	.015	.015	.015	.015	.013	.015
K.1.2	295 - **395** - 460	.006	.007	.007	.008	.008	.010	.012	.012	.012	.012	.012	.012	.010	.012
K.2.1	410 - **525** - 625	.007	.009	.009	.011	.011	.013	.015	.015	.015	.015	.015	.015	.013	.015
K.2.2	245 - **330** - 395	.006	.007	.007	.008	.008	.010	.012	.012	.012	.012	.012	.012	.010	.012
K.3.1	295 - **395** - 460	.007	.009	.009	.011	.011	.013	.015	.015	.015	.015	.015	.015	.013	.015
K.3.2	245 - **330** - 395	.006	.007	.007	.008	.008	.010	.012	.012	.012	.012	.012	.012	.010	.012
N.1.1															
N.1.2															
N.2.1															
N.2.2															
N.2.3															
N.3.1															
N.3.2															
N.3.3															
N.4.1															
S.1.1															
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H.2.1															
H.3.1															
O.1.1															
O.1.2															
O.2.1															
O.2.2															
O.3.1															

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **BK8425 -34** for KUB-P 2xD and 3xD (10 872 … / 10 873 …)

Cutting data standard values for Pentron – 4xD

Index	10 874 ...									
	4xD / ABS / C									
	Ø 14–16 mm	Ø 16,1–18 mm	Ø 18,1–20 mm	Ø 20,1–23 mm	Ø 23,1–26 mm	Ø 26,1–30 mm	Ø 30,1–33 mm	Ø 33,1–37 mm	Ø 37,1–42 mm	Ø 42,1–46 mm
	f (mm/rev) min. – Recommended – max.									
P.1.1	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13
P.1.2	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.1.3	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.1.4	0,04-0,06-0,08	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.1.5	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.2.1	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.2.2	0,04-0,06-0,08	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.2.3	0,07-0,10-0,13	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.2.4	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
P.3.1	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.3.2	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
P.3.3	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.4.1	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
P.4.2	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
M.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17
M.2.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,09-0,12	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
M.3.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
K.1.1	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,15-0,22-0,29
K.1.2	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
K.2.1	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
K.2.2	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22
K.3.1	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
K.3.2	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22
N.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.2.1	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.2.2	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.2.3	0,05-0,07-0,09	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.3.1	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.3.2	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.3.3	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.4.1	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.1.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.1.2	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.2	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.3	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,05-0,07	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
S.3.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
S.3.2	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.3.3	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
H.1.1	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.1.2	0,02-0,025-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
H.1.3										
H.1.4										
H.2.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
H.3.1	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04
O.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.2.1										
O.2.2	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
O.3.1	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 4xD

Index	15 874 ...									
	4xD / ABS / C									
	Ø 0.551"–0.630"	Ø 0.634"–0.709"	Ø 0.713"–0.787"	Ø 0.791"–0.906"	Ø 0.909"–1.024"	Ø 1.028"–1.181"	Ø 1.185"–1.299"	Ø 1.303"–1.457"	Ø 1.461"–1.654"	Ø 1.657"–1.811"
	f (inch/rev) min. – Recommended – max.									
P.1.1	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.005
P.1.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.1.3	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.1.4	.002-.0025-.003	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
P.1.5	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.2.1	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.2.2	.002-.0025-.003	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
P.2.3	.003-.004-.005	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.2.4	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
P.3.1	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.3.2	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
P.3.3	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.4.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
P.4.2	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
M.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.005-.006	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007
M.2.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
M.3.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
K.1.1	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.009-.011	.006-.009-.011	.006-.009-.011
K.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.006	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
K.2.1	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.005-.007-.009	.005-.008-.010	.005-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
K.2.2	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.004-.006-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
K.3.1	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.005-.007-.009	.005-.008-.010	.005-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
K.3.2	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.2.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.2.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.2.3	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.3.1	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.3.2	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.4.1	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
S.1.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.1.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.3	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.3.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003
S.3.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.3.3	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
H.1.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.1.2	.0007-.0009-.001	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
H.1.3										
H.1.4										
H.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
H.3.1	.0007-.0009-.001	.0007-.0009-.001	.0007-.0009-.001	.0007-.0009-.001	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
O.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.2.1										
O.2.2	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.3.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 5xD

Index	10 875 ...									
	5xD / ABS / C									
	Ø 14–16 mm	Ø 16,1–18 mm	Ø 18,1–20 mm	Ø 20,1–23 mm	Ø 23,1–26 mm	Ø 26,1–30 mm	Ø 30,1–33 mm	Ø 33,1–37 mm	Ø 37,1–42 mm	Ø 42,1–46 mm
	f (mm/rev) min. – Recommended – max.									
P.1.1	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13
P.1.2	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.1.3	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.1.4	0,04-0,06-0,08	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.1.5	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.2.1	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.2.2	0,04-0,06-0,08	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.2.3	0,07-0,10-0,13	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.2.4	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
P.3.1	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
P.3.2	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
P.3.3	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
P.4.1	0,05-0,07-0,09	0,07-0,10-0,13	0,07-0,10-0,13	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,13-0,18-0,23
P.4.2	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
M.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17
M.2.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,09-0,12	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
M.3.1	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
K.1.1	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,15-0,22-0,29
K.1.2	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,11-0,15-0,20
K.2.1	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
K.2.2	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22
K.3.1	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,12-0,17-0,22	0,13-0,19-0,25	0,13-0,19-0,25	0,14-0,20-0,26	0,14-0,20-0,26	0,14-0,20-0,26
K.3.2	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,11-0,15-0,20	0,11-0,15-0,20	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22
N.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.2.1	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.2.2	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.2.3	0,05-0,07-0,09	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.3.1	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
N.3.2	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.3.3	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14
N.4.1	0,06-0,08-0,10	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.1.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.1.2	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.2	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.3	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,05-0,07	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
S.3.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
S.3.2	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.3.3	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
H.1.1	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.1.2	0,02-0,025-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,01-0,02-0,03	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
H.1.3										
H.1.4										
H.2.1	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
H.3.1	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,025-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04
O.1.1	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.2.1										
O.2.2	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
O.3.1	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Pentron – 5xD

Index	15 875 ...									
	5xD / ABS / C									
	Ø 0.551"–0.630"	Ø 0.634"–0.709"	Ø 0.713"–0.787"	Ø 0.791"–0.906"	Ø 0.909"–1.024"	Ø 1.028"–1.181"	Ø 1.185"–1.299"	Ø 1.303"–1.457"	Ø 1.461"–1.654"	Ø 1.657"–1.811"
	f (inch/rev) min. – Recommended – max.									
P.1.1	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.005
P.1.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.1.3	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.1.4	.002-.0025-.003	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
P.1.5	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
P.2.1	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.2.2	.002-.0025-.003	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
P.2.3	.003-.004-.005	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.2.4	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
P.3.1	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.3.2	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
P.3.3	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
P.4.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
P.4.2	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
M.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.005-.006	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007
M.2.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
M.3.1	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
K.1.1	.003-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.007	.005-.007-.009	.006-.008-.010	.006-.008-.010	.006-.009-.011	.006-.009-.011	.006-.009-.011
K.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.006	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
K.2.1	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.005-.007-.009	.005-.008-.010	.005-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
K.2.2	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.004-.006-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
K.3.1	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.005-.007-.009	.005-.008-.010	.005-.008-.010	.006-.008-.010	.006-.008-.010	.006-.008-.010
K.3.2	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.004-.006-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
N.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.2.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.2.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.2.3	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.3.1	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
N.3.2	.002-.003-.004	.003-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3	.002-.003-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
N.4.1	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.006
S.1.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.1.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.3	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.3.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.0025-.003	.003-.004-.005	.003-.004-.005	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003
S.3.2	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.3.3	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
H.1.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.1.2	.0007-.0009-.001	.0003-.0007-.001	.0003-.0007-.001	.0003-.0007-.001	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
H.1.3										
H.1.4										
H.2.1	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
H.3.1	.0007-.0009-.001	.0007-.0009-.001	.0007-.0009-.001	.0007-.0009-.001	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
O.1.1	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.1.2	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005
O.2.1										
O.2.2	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.3.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for WOEX indexable inserts

Index	10 821 ... WOEX -01				10 821 ... WOEX -03	10 821 ..., 10 823 ... WOEX -11			10 821 ..., 10 823 ... WOEX -13		
	BK6115	BK7615	BK7935	BK8425	BK8425	BK50	BK77	BK7710	BK7325	BK79	BK8425
	v_c (m/min) min. – Recommended – max.										
P.1.1	230-**300**-370		195-**250**-310	200-**260**-305	200-**260**-320				230-**300**-370	70-**90**-105	255-**260**-320
P.1.2	230-**300**-370		170-**220**-270	200-**260**-305	200-**260**-320				230-**300**-370	70-**90**-105	255-**260**-320
P.1.3	210-**270**-330		210-**270**-330	210-**270**-320	210-**270**-330				210-**270**-330	60-**80**-95	175-**270**-330
P.1.4	195-**250**-310		195-**250**-310	195-**250**-295	195-**250**-310				195-**250**-310	60-**80**-95	200-**250**-310
P.1.5	230-**300**-370		155-**200**-245	210-**270**-320	210-**270**-330				230-**300**-370	60-**80**-95	200-**270**-330
P.2.1	210-**270**-330		210-**270**-330	210-**270**-320	210-**270**-330				210-**270**-330	60-**75**-90	210-**270**-330
P.2.2	200-**260**-320		200-**260**-320	200-**260**-305	200-**260**-320				200-**260**-320	60-**75**-90	195-**260**-320
P.2.3	185-**240**-295		125-**160**-195	140-**180**-210	140-**180**-220				185-**240**-295	60-**75**-90	140-**180**-220
P.2.4	155-**200**-245		100-**130**-160	115-**150**-175	115-**150**-185				155-**200**-245	60-**75**-90	115-**150**-185
P.3.1	155-**200**-245		110-**140**-170	125-**160**-190	125-**160**-195				155-**200**-245	55-**70**-85	125-**160**-195
P.3.2	125-**160**-195		90-**120**-150	100-**130**-155	100-**130**-160				125-**160**-195	45-**60**-70	100-**130**-160
P.3.3	110-**140**-170		85-**110**-135	90-**120**-140	90-**120**-150				110-**140**-170	45-**60**-70	115-**120**-150
P.4.1	170-**220**-270		115-**150**-185	140-**180**-210	140-**180**-220				170-**220**-270	40-**50**-60	125-**180**-220
P.4.2	125-**160**-195		90-**120**-150	100-**130**-155	100-**130**-160				125-**160**-195	40-**50**-60	100-**130**-160
M.1.1	170-**220**-270		125-**160**-195	115-**150**-175	115-**150**-185				170-**220**-270	60-**75**-90	90-**150**-185
M.2.1	170-**220**-270		125-**160**-195	115-**150**-175	115-**150**-185				170-**220**-270	55-**70**-85	140-**150**-185
M.3.1	155-**200**-245		115-**150**-185	110-**140**-165	110-**140**-170				155-**200**-245	45-**60**-70	100-**140**-170
K.1.1	185-240-295	200-**260**-305	115-**150**-185	125-**160**-190							125-**160**-190
K.1.2	140-180-220	125-**160**-190	90-**120**-150	90-**120**-140							90-**120**-140
K.2.1	125-160-195	140-**180**-210	115-**150**-185	125-**160**-190							125-**160**-195
K.2.2	75-100-125	90-**120**-140	70-**90**-110	75-**100**-120							75-**100**-120
K.3.1	90-120-150	110-**140**-165	85-**110**-135	90-**120**-140							90-**120**-150
K.3.2	75-100-125	90-**120**-140	70-**90**-110	75-**100**-120							75-**100**-120
N.1.1						770-**1000**-1230	250-**325**-400	385-**500**-615			
N.1.2						770-**1000**-1230	250-**325**-400	385-**500**-615			
N.2.1						430-**560**-690	140-**180**-220	215-**280**-345			
N.2.2						430-**560**-690	140-**180**-220	215-**280**-345			
N.2.3						385-**500**-615	125-**165**-205	195-**250**-310			
N.3.1						385-**500**-615	125-**165**-205	195-**250**-310			
N.3.2						430-**560**-690	140-**180**-220	215-**280**-345			
N.3.3						600-**780**-960	195-**250**-310	300-**390**-480			
N.4.1						385-**500**-615	125-**165**-205	195-**250**-310			
S.1.1			45-**60**-75								
S.1.2			40-**50**-60								
S.2.1			45-**60**-75				60-**80**-100				
S.2.2			40-**50**-60				40-**50**-60				
S.2.3			25-**30**-35								
S.3.1								75-**100**-125			
S.3.2								60-**80**-100			
S.3.3								40-**50**-60			
H.1.1	40-**50**-60		40-**50**-60								
H.1.2	35-**45**-55		25-**35**-45								
H.1.3											
H.1.4											
H.2.1	75-**100**-125		60-**75**-90								
H.3.1	40-**50**-60		25-**35**-45								
O.1.1							60-**75**-90	75-**100**-125			
O.1.2							60-**75**-90	75-**100**-125			
O.2.1						155-**200**-245					
O.2.2						155-**200**-245	60-**75**-90	75-**100**-125			
O.3.1						155-**200**-245	60-**75**-90	75-**100**-125			



Information on solid drilling:
Only use WOEX -01 BK6115 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

Information on solid drilling:
Only use WOEX -03 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

Cutting data standard values for WOEX indexable inserts

Index	10 821 ... WOEX -01				10 821 ... WOEX -03	10 821 ..., 10 823 ... WOEX -11			10 821 ..., 10 823 ... WOEX -13		
	BK6115	BK7615	BK7935	BK8425	BK8425	BK50	BK77	BK7710	BK7325	BK79	BK8425
	v_c (ft/min) min. – Recommended – max.										
P.1.1	755-**985**-1215		640-**820**-1015	655-**855**-1000	655-**855**-1000				755-**985**-1215	230-**295**-345	835-**855**-1050
P.1.2	755-**985**-1215		560-**720**-885	655-**855**-1000	655-**855**-1000				755-**985**-1215	230-**295**-345	835-**855**-1050
P.1.3	690-**885**-1085		690-**885**-1085	690-**885**-1050	690-**885**-1050				690-**885**-1085	195-**260**-310	575-**885**-1085
P.1.4	640-**820**-1015		640-**820**-1015	640-**820**-970	640-**820**-970				640-**820**-1015	195-**260**-310	655-**820**-1015
P.1.5	755-**985**-1215		510-**655**-805	690-**885**-1050	690-**885**-1050				755-**985**-1215	195-**260**-310	655-**885**-1085
P.2.1	690-**885**-1085		690-**885**-1085	690-**885**-1050	690-**885**-1050				690-**885**-1085	195-**245**-295	690-**885**-1085
P.2.2	655-**855**-1050		655-**855**-1050	655-**855**-1000	655-**855**-1000				655-**855**-1050	195-**245**-295	640-**855**-1050
P.2.3	605-**785**-970		410-**525**-640	460-**590**-690	460-**590**-690				605-**785**-970	195-**245**-295	460-**590**-720
P.2.4	510-**655**-805		330-**425**-525	375-**490**-575	375-**490**-575				510-**655**-805	195-**245**-295	375-**490**-605
P.3.1	510-**655**-805		360-**460**-560	410-**525**-625	410-**525**-625				510-**655**-805	180-**230**-280	410-**525**-640
P.3.2	410-**525**-640		295-**395**-490	330-**425**-510	330-**425**-510				410-**525**-640	150-**195**-230	330-**425**-525
P.3.3	360-**460**-560		280-**360**-445	295-**395**-460	295-**395**-460				360-**460**-560	150-**195**-230	375-**395**-490
P.4.1	560-**720**-885		375-**490**-605	460-**590**-690	460-**590**-690				560-**720**-885	130-**165**-195	410-**590**-720
P.4.2	410-**525**-640		295-**395**-490	330-**425**-510	330-**425**-510				410-**525**-640	130-**165**-195	330-**425**-525
M.1.1	560-**720**-885		410-**525**-640	375-**490**-575	375-**490**-575				560-**720**-885	195-**245**-295	295-**490**-605
M.2.1	560-**720**-885		410-**525**-640	375-**490**-575	375-**490**-575				560-**720**-885	180-**230**-280	460-**490**-605
M.3.1	510-**655**-805		375-**490**-605	360-**460**-540	360-**460**-540				510-**655**-805	150-**195**-230	330-**460**-560
K.1.1	605-785-970	655-**855**-1000	375-**490**-605	410-**525**-625							410-**525**-625
K.1.2	460-590-720	410-**525**-625	295-**395**-490	295-**395**-460							295-**395**-460
K.2.1	410-525-640	460-**590**-690	375-**490**-605	410-**525**-625							410-**525**-625
K.2.2	245-330-410	295-**395**-460	230-**295**-360	245-**330**-395							245-**330**-395
K.3.1	295-395-490	360-**460**-540	280-**360**-445	295-**395**-460							295-**395**-460
K.3.2	245-330-410	295-**395**-460	230-**295**-360	245-**330**-395							245-**330**-395
N.1.1						2525-**3280**-4035	820-**1065**-1310	1265-**1640**-2020			
N.1.2						2525-**3280**-4035	820-**1065**-1310	1265-**1640**-2020			
N.2.1						1410-**1835**-2265	460-**590**-720	705-**920**-1130			
N.2.2						1410-**1835**-2265	460-**590**-720	705-**920**-1130			
N.2.3						1265-**1640**-2020	410-**540**-675	640-**820**-1015			
N.3.1						1265-**1640**-2020	410-**540**-675	640-**820**-1015			
N.3.2						1410-**1835**-2265	460-**590**-720	705-**920**-1130			
N.3.3						1970-**2560**-3150	640-**820**-1015	985-**1280**-1575			
N.4.1						1265-**1640**-2020	410-**540**-675	640-**820**-1015			
S.1.1			150-**195**-245								
S.1.2			130-**165**-195								
S.2.1			150-**195**-245				195-**260**-330				
S.2.2			130-**165**-195				130-**165**-195				
S.2.3			80-**100**-115								
S.3.1								245-**330**-410			
S.3.2								195-**260**-330			
S.3.3								130-**165**-195			
H.1.1	130-**165**-195		130-**165**-195								
H.1.2	115-**150**-180		80-**115**-150								
H.1.3											
H.1.4											
H.2.1	245-**330**-410		195-**245**-295								
H.3.1	130-**165**-195		80-**115**-150								
O.1.1							195-**245**-295	245-**330**-410			
O.1.2							195-**245**-295	245-**330**-410			
O.2.1						510-**655**-805					
O.2.2						510-**655**-805	195-**245**-295	245-**330**-410			
O.3.1						510-**655**-805	195-**245**-295	245-**330**-410			



Information on solid drilling:
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Information on solid drilling:
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Use WOEX -01 BK8425 as a central cutting edge!

Cutting data standard values for Trigon – 2xD, 3xD

Index	10 892 ..., 10 893 ..., 10 888 ..., 10 889 ..., 11 862 ..., 11 893 ...									
	2xD / 3xD / ABS / K									
	Ø 14–16,9 mm	Ø 17–19,9 mm	Ø 20–24,9 mm	Ø 25–29,9 mm	Ø 30–36,9 mm	Ø 37–40,9 mm	Ø 41–44,9 mm	Ø 45–54,9 mm	Ø 55–68,9 mm	Ø 69–82 mm
	f (mm/rev) min. – Recommended – max.									
P.1.1	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
P.1.2	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,12-0,16	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,14-0,20-0,26	0,18-0,25-0,33	0,18-0,25-0,33
P.1.3	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,13-0,18-0,23	0,14-0,20-0,26	0,18-0,25-0,33
P.1.4	0,04-0,05-0,07	0,05-0,07-0,09	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,11-0,16-0,21	0,13-0,18-0,23	0,15-0,22-0,29
P.1.5	0,05-0,07-0,09	0,06-0,09-0,12	0,08-0,11-0,14	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,13-0,18-0,23	0,15-0,22-0,29	0,15-0,22-0,29
P.2.1	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,13-0,18-0,23	0,14-0,20-0,26	0,18-0,25-0,33
P.2.2	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,16-0,21	0,13-0,18-0,23	0,15-0,22-0,29
P.2.3	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
P.2.4	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23
P.3.1	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
P.3.2	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
P.3.3	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17
P.4.1	0,05-0,07-0,09	0,06-0,09-0,12	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17	0,11-0,15-0,20	0,12-0,17-0,22	0,12-0,17-0,22	0,12-0,17-0,22
P.4.2	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14	0,11-0,15-0,20	0,10-0,14-0,18	0,10-0,14-0,18
M.1.1	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,11-0,16-0,21
M.2.1	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21
M.3.1	0,04-0,05-0,07	0,04-0,05-0,07	0,05-0,07-0,09	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,11-0,15-0,20	0,11-0,15-0,20
K.1.1	0,07-0,10-0,13	0,08-0,12-0,16	0,10-0,14-0,18	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,21-0,30-0,39	0,21-0,30-0,39
K.1.2	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,18-0,25-0,33
K.2.1	0,06-0,08-0,10	0,07-0,10-0,13	0,10-0,14-0,18	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,21-0,30-0,39	0,21-0,30-0,39
K.2.2	0,06-0,08-0,10	0,07-0,10-0,13	0,09-0,13-0,17	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33
K.3.1	0,07-0,10-0,13	0,08-0,12-0,16	0,11-0,16-0,21	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,21-0,30-0,39	0,21-0,30-0,39
K.3.2	0,06-0,08-0,10	0,07-0,10-0,13	0,09-0,13-0,17	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33	0,18-0,25-0,33
N.1.1	0,04-0,05-0,07	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18
N.1.2	0,04-0,05-0,07	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18
N.2.1	0,07-0,10-0,13	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26
N.2.2	0,07-0,10-0,13	0,08-0,12-0,16	0,10-0,14-0,18	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26
N.2.3	0,06-0,09-0,12	0,08-0,11-0,14	0,09-0,13-0,17	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23
N.3.1	0,04-0,05-0,07	0,06-0,08-0,10	0,08-0,12-0,16	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,18-0,25-0,33	0,18-0,25-0,33
N.3.2	0,04-0,06-0,08	0,06-0,09-0,12	0,09-0,13-0,17	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26	0,15-0,22-0,29	0,15-0,22-0,29	0,18-0,26-0,34	0,18-0,26-0,34
N.3.3	0,04-0,05-0,07	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,09-0,122-0,16	0,11-0,16-0,21	0,11-0,16-0,21
N.4.1	0,04-0,05-0,07	0,06-0,08-0,10	0,08-0,12-0,16	0,11-0,16-0,21	0,11-0,16-0,21	0,13-0,18-0,23	0,14-0,20-0,26	0,14-0,20-0,26	0,18-0,25-0,33	0,18-0,25-0,33
S.1.1	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,1-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.1.2	0,04-0,06-0,08	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.2.1	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.2.2	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
S.2.3	0,04-0,05-0,07	0,04-0,05-0,07	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.3.1	0,03-0,04-0,05	0,04-0,05-0,07	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.3.2	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16
S.3.3	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
H.1.1	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
H.1.2	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
H.1.3										
H.1.4										
H.2.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.3.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
O.1.1	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	
O.1.2	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	
O.2.1										
O.2.2	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	
O.3.1	0,08-0,10-0,12	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Trigon – 2xD, 2.5xD, 3xD

Index	10 892 ..., 10 893 ..., 10 888 ..., 10 889 ..., 11 862 ..., 11 893 ..., 15 892 ..., 15 893 ..., 15 896 ...									
	2xD / 3xD / ABS / K 2.5xD / C									
	Ø 0.551"–0.665"	Ø 0.669"–0.783"	Ø 0.787"–0.980"	Ø 0.984"–1.177"	Ø 1.181"–1.453"	Ø 1.457"–1.610"	Ø 1.614"–1.768"	Ø 1.772"–2.161"	Ø 2.165"–2.713"	Ø 2.717"–3.250"
	f (inch/rev) min. – Recommended – max.									
P.1.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007
P.1.2	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.008-.010	.007-.010-.013	.007-.010-.013
P.1.3	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.008-.010	.007-.010-.013
P.1.4	.001-.002-.003	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.012
P.1.5	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.012	.006-.009-.012
P.2.1	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.008-.010	.007-.010-.013
P.2.2	.001-.002-.003	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.009-.012
P.2.3	.001-.002-.003	.002-.003-.004	.003-.004-.005	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.006-.008-.010
P.2.4	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009
P.3.1	.001-.002-.003	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.3.2	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.006-.008	.004-.006-.008	.004-.006-.008
P.3.3	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007
P.4.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.005-.007-.009	.005-.007-.009	.005-.007-.009
P.4.2	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.1.1	.001-.002-.003	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.2.1	.001-.002-.003	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
M.3.1	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.008	.004-.006-.008
K.1.1	.003-.004-.005	.004-.005-.007	.004-.006-.008	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013	.008-.012-.016	.008-.012-.016
K.1.2	.002-.003-.004	.002-.003-.004	.003-.004-.005	.004-.006-.008	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.006-.008-.010	.007-.010-.013
K.2.1	.002-.003-.004	.003-.004-.005	.004-.006-.008	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013	.008-.012-.016	.008-.012-.016
K.2.2	.002-.003-.004	.003-.004-.005	.004-.005-.007	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013	.007-.010-.013	.007-.010-.013
K.3.1	.003-.004-.005	.004-.005-.007	.004-.006-.008	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013	.008-.012-.016	.008-.012-.016
K.3.2	.002-.003-.004	.003-.004-.005	.004-.005-.007	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013	.007-.010-.013	.007-.010-.013
N.1.1	.001-.002-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008
N.1.2	.001-.002-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008
N.2.1	.003-.004-.005	.004-.005-.007	.004-.006-.008	.005-.007-.009	.005-.007-.009	.006-.008-.010	.006-.008-.010	.005-.007-.009	.006-.008-.010	.006-.008-.010
N.2.2	.003-.004-.005	.004-.005-.007	.004-.006-.008	.005-.007-.009	.005-.007-.009	.006-.008-.010	.006-.008-.010	.005-.007-.009	.006-.008-.010	.006-.008-.010
N.2.3	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.004-.006-.008	.005-.007-.009	.005-.007-.009
N.3.1	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.008-.010	.006-.008-.010	.007-.010-.013	.007-.010-.013
N.3.2	.001-.002-.003	.003-.004-.005	.004-.005-.007	.005-.007-.009	.005-.007-.009	.006-.008-.010	.006-.009-.012	.006-.009-.012	.007-.010-.013	.007-.010-.013
N.3.3	.001-.002-.003	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.006-.008	.004-.006-.008
N.4.1	.001-.002-.003	.002-.003-.004	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.006-.008-.010	.006-.008-.010	.007-.010-.013	.007-.010-.013
S.1.1	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007
S.1.2	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.2.1	.001-.002-.003	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007
S.2.2	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005
S.2.3	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.3.1	.001-.002-.003	.001-.002-.003	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007
S.3.2	.001-.002-.003	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007	.004-.005-.007
S.3.3	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
H.1.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
H.1.2	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.1.3										
H.1.4										
H.2.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
H.3.1	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003
O.1.1	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	
O.1.2	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	
O.2.1										
O.2.2	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	
O.3.1	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Trigon – 3xD, adjustable

Index	10 857 ...			
	3xD / ABS			
	Ø 39,5–44 mm	Ø 44,5–54 mm	Ø 54,5–68 mm	Ø 68,5–82 mm
	f (mm/rev) min. – Recommended – max.			
P.1.1	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16
P.1.2	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33
P.1.3	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33
P.1.4	0,10 - 0,14 - 0,18	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,15 - 0,22 - 0,29
P.1.5	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,15 - 0,22 - 0,29	0,15 - 0,22 - 0,29
P.2.1	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33
P.2.2	0,11 - 0,15 - 0,20	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,15 - 0,22 - 0,29
P.2.3	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26
P.2.4	0,09 - 0,13 - 0,17	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23
P.3.1	0,10 - 0,14 - 0,18	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21
P.3.2	0,08 - 0,11 - 0,14	0,10 - 0,14 - 0,18	0,10 - 0,14 - 0,18	0,10 - 0,14 - 0,18
P.3.3	0,07 - 0,10 - 0,13	0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17
P.4.1	0,11 - 0,15 - 0,20	0,12 - 0,17 - 0,22	0,12 - 0,17 - 0,22	0,12 - 0,17 - 0,22
P.4.2	0,08 - 0,11 - 0,14	0,11 - 0,15 - 0,20	0,10 - 0,14 - 0,18	0,10 - 0,14 - 0,18
M.1.1	0,10 - 0,14 - 0,18	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21
M.2.1	0,08 - 0,12 - 0,16	0,10 - 0,14 - 0,18	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21
M.3.1	0,08 - 0,11 - 0,14	0,09 - 0,13 - 0,17	0,11 - 0,15 - 0,20	0,11 - 0,15 - 0,20
K.1.1	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,21 - 0,30 - 0,39	0,21 - 0,30 - 0,39
K.1.2	0,13 - 0,18 - 0,23	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33
K.2.1	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,21 - 0,30 - 0,39	0,21 - 0,30 - 0,39
K.2.2	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33
K.3.1	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,21 - 0,30 - 0,39	0,21 - 0,30 - 0,39
K.3.2	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33
N.1.1	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,10 - 0,14 - 0,18	0,10 - 0,14 - 0,18
N.1.2	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,10 - 0,14 - 0,18	0,10 - 0,14 - 0,18
N.2.1	0,14 - 0,20 - 0,26	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,14 - 0,20 - 0,26
N.2.2	0,14 - 0,20 - 0,26	0,13 - 0,18 - 0,23	0,14 - 0,20 - 0,26	0,14 - 0,20 - 0,26
N.2.3	0,13 - 0,18 - 0,23	0,11 - 0,16 - 0,21	0,13 - 0,18 - 0,23	0,13 - 0,18 - 0,23
N.3.1	0,14 - 0,20 - 0,26	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33
N.3.2	0,15 - 0,22 - 0,29	0,15 - 0,22 - 0,29	0,18 - 0,26 - 0,34	0,18 - 0,26 - 0,34
N.3.3	0,08 - 0,12 - 0,16	0,09 - 0,122 - 0,16	0,11 - 0,16 - 0,21	0,11 - 0,16 - 0,21
N.4.1	0,14 - 0,20 - 0,26	0,14 - 0,20 - 0,26	0,18 - 0,25 - 0,33	0,18 - 0,25 - 0,33
S.1.1	0,07 - 0,10 - 0,13	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16
S.1.2	0,06 - 0,08 - 0,10	0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13
S.2.1	0,07 - 0,10 - 0,13	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16
S.2.2	0,06 - 0,08 - 0,10	0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13
S.2.3	0,04 - 0,05 - 0,07	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10
S.3.1	0,09 - 0,13 - 0,17	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16
S.3.2	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16
S.3.3	0,05 - 0,07 - 0,09	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10
H.1.1	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10	0,06 - 0,08 - 0,10
H.1.2	0,04 - 0,06 - 0,08	0,04 - 0,06 - 0,08	0,04 - 0,06 - 0,08	0,04 - 0,06 - 0,08
H.1.3				
H.1.4				
H.2.1	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07
H.3.1	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07
O.1.1	0,08 - 0,10 - 0,12	0,08 - 0,10 - 0,12	0,08 - 0,10 - 0,12	
O.1.2	0,08 - 0,10 - 0,12	0,08 - 0,10 - 0,12	0,08 - 0,10 - 0,12	
O.2.1				
O.2.2	0,05 - 0,07 - 0,09	0,05 - 0,07 - 0,09	0,05 - 0,07 - 0,09	
O.3.1	0,09 - 0,11 - 0,13	0,09 - 0,11 - 0,13	0,09 - 0,11 - 0,13	

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Trigon – 3xD, adjustable

Index	10 857 ...			
	3xD / ABS			
	Ø 39,5–44 mm (Ø 1.555"–1.732")	Ø 44,5–54 mm (Ø 1.752"–2.126")	Ø 54,5–68 mm (Ø 2.146"–2.677")	Ø 68,5–82 mm (Ø 2.697"–3.228")
	f (inch/rev) min. – Recommended – max.			
P.1.1	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
P.1.2	.005 - .007 - .009	.006 - .008 - .010	.007 - .010 - .013	.007 - .010 - .013
P.1.3	.004 - .006 - .008	.005 - .007 - .009	.006 - .008 - .010	.007 - .010 - .013
P.1.4	.004 - .006 - .008	.004 - .006 - .008	.005 - .007 - .009	.006 - .009 - .012
P.1.5	.004 - .006 - .008	.005 - .007 - .009	.006 - .009 - .012	.006 - .009 - .012
P.2.1	.004 - .006 - .008	.005 - .007 - .009	.006 - .008 - .010	.007 - .010 - .013
P.2.2	.004 - .006 - .008	.004 - .006 - .008	.005 - .007 - .009	.006 - .009 - .012
P.2.3	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.2.4	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008	.005 - .007 - .009
P.3.1	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
P.3.2	.003 - .004 - .005	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
P.3.3	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
P.4.1	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.005 - .007 - .009
P.4.2	.003 - .004 - .005	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
M.1.1	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
M.2.1	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
M.3.1	.003 - .004 - .005	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
K.1.1	.007 - .010 - .013	.007 - .010 - .013	.008 - .012 - .016	.008 - .012 - .016
K.1.2	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010	.007 - .010 - .013
K.2.1	.007 - .010 - .013	.007 - .010 - .013	.008 - .012 - .016	.008 - .012 - .016
K.2.2	.007 - .010 - .013	.007 - .010 - .013	.007 - .010 - .013	.007 - .010 - .013
K.3.1	.007 - .010 - .013	.007 - .010 - .013	.008 - .012 - .016	.008 - .012 - .016
K.3.2	.007 - .010 - .013	.007 - .010 - .013	.007 - .010 - .013	.007 - .010 - .013
N.1.1	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
N.1.2	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
N.2.1	.006 - .008 - .010	.005 - .007 - .009	.006 - .008 - .010	.006 - .008 - .010
N.2.2	.006 - .008 - .010	.005 - .007 - .009	.006 - .008 - .010	.006 - .008 - .010
N.2.3	.005 - .007 - .009	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009
N.3.1	.006 - .008 - .010	.006 - .008 - .010	.007 - .010 - .013	.007 - .010 - .013
N.3.2	.006 - .009 - .012	.006 - .009 - .012	.007 - .010 - .013	.007 - .010 - .013
N.3.3	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
N.4.1	.006 - .008 - .010	.006 - .008 - .010	.007 - .010 - .013	.007 - .010 - .013
S.1.1	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
S.1.2	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
S.2.1	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
S.2.2	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
S.2.3	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
S.3.1	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
S.3.2	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
S.3.3	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
H.1.1	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
H.1.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
H.1.3				
H.1.4				
H.2.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
H.3.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
O.1.1	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	
O.1.2	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	
O.2.1				
O.2.2	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	
O.3.1	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Trigon – 4xD

Index	10 894 ...						
	4xD / ABS / K						
	Ø 14–16,9 mm	Ø 17–19,9 mm	Ø 20–24,9 mm	Ø 25–29,9 mm	Ø 30–36,9 mm	Ø 37–40,9 mm	Ø 41–44,9 mm
	f (mm/rev) min. – Recommended – max.						
P.1.1	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.1.2	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,09-0,12	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
P.1.3	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17
P.1.4	0,03-0,04-0,05	0,04-0,05-0,07	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14
P.1.5	0,04-0,05-0,07	0,05-0,07-0,09	0,06-0,08-0,10	0,07-0,10-0,13	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17
P.2.1	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,09-0,12	0,08-0,11-0,14	0,08-0,11-0,14	0,08-0,11-0,14	0,09-0,13-0,17
P.2.2	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,1-00,13	0,08-0,12-0,16
P.2.3	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,09-0,13-0,17
P.2.4	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
P.3.1	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14
P.3.2	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12
P.3.3	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10
P.4.1	0,04-0,05-0,07	0,05-0,07-0,09	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,12-0,16
P.4.2	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,09-0,12
M.1.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,08-0,11-0,14
M.2.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13	0,07-0,10-0,13
M.3.1	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,07	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12
K.1.1	0,06-0,08-0,10	0,06-0,09-0,12	0,08-0,11-0,14	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
K.1.2	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18
K.2.1	0,04-0,06-0,08	0,06-0,08-0,10	0,08-0,11-0,14	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
K.2.2	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
K.3.1	0,06-0,08-0,10	0,06-0,09-0,12	0,08-0,12-0,16	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
K.3.2	0,04-0,06-0,08	0,06-0,08-0,10	0,07-0,10-0,13	0,11-0,16-0,21	0,13-0,18-0,23	0,13-0,18-0,23	0,14-0,20-0,26
N.1.1	0,03-0,04-0,05	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13
N.1.2	0,03-0,04-0,05	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13
N.2.1	0,06-0,08-0,10	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21
N.2.2	0,06-0,08-0,10	0,06-0,09-0,12	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,11-0,16-0,21
N.2.3	0,05-0,07-0,09	0,06-0,08-0,10	0,07-0,10-0,13	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,10-0,14-0,18
N.3.1	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,09-0,12	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,11-0,16-0,21
N.3.2	0,04-0,05-0,07	0,05-0,07-0,09	0,07-0,10-0,13	0,10-0,14-0,18	0,10-0,14-0,18	0,11-0,16-0,21	0,13-0,18-0,23
N.3.3	0,03-0,04-0,05	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13
N.4.1	0,03-0,04-0,05	0,04-0,06-0,08	0,06-0,09-0,12	0,09-0,13-0,17	0,09-0,13-0,17	0,10-0,14-0,18	0,11-0,16-0,21
S.1.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.1.2	0,04-0,05-0,07	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
S.2.1	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
S.2.2	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
S.2.3	0,03-0,04-0,05	0,03-0,04-0,05	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05
S.3.1	0,02-0,03-0,04	0,03-0,04-0,05	0,06-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,10-0,13	0,07-0,10-0,13
S.3.2	0,04-0,05-0,07	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,07-0,10-0,13	0,07-0,10-0,13
S.3.3	0,03-0,04-0,05	0,03-0,04-0,05	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
H.1.1	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10	0,06-0,08-0,10
H.1.2	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08
H.1.3							
H.1.4							
H.2.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
H.3.1	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07
O.1.1	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.1.2	0,06-0,08-0,10	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12	0,08-0,10-0,12
O.2.1							
O.2.2	0,04-0,06-0,08	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09	0,05-0,07-0,09
O.3.1	0,08-0,10-0,12	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13	0,09-0,11-0,13

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Trigon – 4xD

Index	10 894 ..., 15 894 ... 4xD / ABS / K / C						
	Ø 0.551"–0.665"	Ø 0.669"–0.783"	Ø 0.787"–0.980"	Ø 0.984"–1.177"	Ø 1.181"–1.453"	Ø 1.457"–1.610"	Ø 1.614"–1.768"
	f (inch/rev) min. – Recommended – max.						
P.1.1	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
P.1.2	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008
P.1.3	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007
P.1.4	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
P.1.5	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007
P.2.1	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007
P.2.2	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007
P.2.3	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .005 - .007
P.2.4	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
P.3.1	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
P.3.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005
P.3.3	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004
P.4.1	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.004 - .005 - .007
P.4.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005
M.1.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
M.2.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
M.3.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
K.1.1	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
K.1.2	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008
K.2.1	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
K.2.2	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
K.3.1	.002 - .003 - .004	.003 - .004 - .005	.004 - .005 - .007	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
K.3.2	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .006 - .008	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
N.1.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005
N.1.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005
N.2.1	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
N.2.2	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
N.2.3	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
N.3.1	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
N.3.2	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008	.005 - .007 - .009
N.3.3	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005
N.4.1	.001 - .002 - .003	.001 - .002 - .003	.003 - .004 - .005	.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008	.004 - .006 - .008
S.1.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
S.1.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
S.2.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
S.2.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
S.2.3	.001 - .002 - .003	.001 - .002 - .003	.001 - .001 - .001	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
S.3.1	.001 - .001 - .001	.001 - .002 - .003	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
S.3.2	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005
S.3.3	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
H.1.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
H.1.2	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
H.1.3							
H.1.4							
H.2.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
H.3.1	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003	.001 - .002 - .003
O.1.1	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
O.1.2	.002 - .003 - .004	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005
O.2.1							
O.2.2	.001 - .002 - .003	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
O.3.1	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .005

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.

Cutting data standard values for Centron

Index	10 863 ...	10 862 ...		10 860 ...							
		Center drill		Drill bit							
	VHM (TiAlN/TiN)	HSS (TiN)	HSS (TiAlN)	Ø 20–25,9 mm	Ø 26–32,9 mm	Ø 33–39,9 mm	Ø 40–45,9 mm	Ø 46–54,9 mm	Ø 55–64,9 mm	Ø 65–71,9 mm	Ø 72–82 mm
	v_c (m/min) min. – Recommended – max.			f (mm/rev) min. – Recommended – max.							
P.1.1	150-**200**-250	95-**130**-160		0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,05-0,08-0,10	0,05-0,08-0,10
P.1.2	150-**200**-250	95-**130**-160		0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,07-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,07-0,11-0,14	0,07-0,11-0,14
P.1.3	120-**160**-200	95-**130**-160		0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
P.1.4	110-**145**-180	95-**130**-160		0,05-0,07-0,09	0,06-0,08-0,11	0,06-0,08-0,11	0,06-0,08-0,11	0,07-0,10-0,13	0,07-0,10-0,13	0,06-0,08-0,11	0,06-0,08-0,11
P.1.5	140-**185**-230	95-**130**-160		0,06-0,08-0,11	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
P.2.1	120-**160**-200	95-**130**-160		0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
P.2.2	115-**150**-190	90-**120**-150		0,05-0,08-0,10	0,06-0,08-0,11	0,06-0,08-0,11	0,06-0,08-0,11	0,07-0,1-0,13	0,07-0,1-0,13	0,06-0,08-0,11	0,06-0,08-0,11
P.2.3	110-**145**-180	85-**110**-140		0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,07-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,07-0,11-0,14	0,07-0,11-0,14
P.2.4	90-**120**-150	70-**95**-120		0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
P.3.1	95-**130**-160	70-**95**-120		0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,05-0,08-0,10	0,05-0,08-0,10
P.3.2	85-**110**-140	60-**80**-100		0,03-0,05-0,06	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,04-0,06-0,08	0,04-0,06-0,08
P.3.3	80-**105**-130	55-**70**-90		0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,05-0,07	0,04-0,05-0,07
P.4.1	110-**145**-180	80-**105**-130		0,05-0,07-0,09	0,06-0,08-0,11	0,06-0,08-0,11	0,06-0,08-0,11	0,07-0,10-0,13	0,07-0,10-0,13	0,06-0,08-0,11	0,06-0,08-0,11
P.4.2	85-**110**-140	60-**80**-100		0,03-0,05-0,06	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,04-0,06-0,08	0,04-0,06-0,08
M.1.1			40-**55**-70	0,04-0,06-0,08	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12
M.2.1			40-**55**-70	0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,06-0,08-0,11	0,06-0,08-0,11	0,05-0,08-0,10	0,05-0,08-0,10
M.3.1			35-**50**-60	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,04-0,06-0,08	0,04-0,06-0,08
K.1.1	120-**160**-200		60-**80**-100	0,07-0,11-0,14	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,19	0,10-0,14-0,19	0,08-0,12-0,16	0,08-0,12-0,16
K.1.2	95-**130**-160		60-**80**-100	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,07-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,07-0,11-0,14	0,07-0,11-0,14
K.2.1	95-**130**-160		60-**80**-100	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,07-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,07-0,11-0,14	0,07-0,11-0,14
K.2.2	60-**80**-100		50-**65**-80	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
K.3.1	70-**95**-120		60-**80**-100	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,07-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,07-0,11-0,14	0,07-0,11-0,14
K.3.2	60-**80**-100		50-**65**-80	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,14	0,07-0,11-0,14	0,06-0,09-0,12	0,06-0,09-0,12
N.1.1	210-**280**-350	210-**280**-350		0,04-0,05-0,07	0,04-0,05-0,07	0,05-0,08-0,10	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,05-0,08-0,10	0,05-0,08-0,10
N.1.2	210-**280**-350	210-**280**-350		0,04-0,05-0,07	0,04-0,05-0,07	0,05-0,08-0,10	0,05-0,08-0,10	0,06-0,09-0,12	0,06-0,09-0,12	0,05-0,08-0,10	0,05-0,08-0,10
N.2.1	150-**200**-250	150-**200**-250		0,05-0,08-0,10	0,06-0,09-0,12	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,19	0,10-0,14-0,19	0,08-0,12-0,16	0,08-0,12-0,16
N.2.2	150-**200**-250	150-**200**-250		0,05-0,08-0,10	0,06-0,09-0,12	0,08-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,19	0,10-0,14-0,19	0,08-0,12-0,16	0,08-0,12-0,16
N.2.3	140-**185**-230	140-**185**-230		0,05-0,07-0,09	0,06-0,08-0,11	0,08-0,11-0,15	0,08-0,11-0,15	0,09-0,14-0,18	0,09-0,14-0,18	0,08-0,11-0,15	0,08-0,11-0,15
N.3.1	120-**160**-200	120-**160**-200		0,07-0,11-0,14	0,08-0,12-0,16	0,09-0,14-0,18	0,09-0,14-0,18	0,11-0,17-0,22	0,11-0,17-0,22	0,09-0,14-0,18	0,09-0,14-0,18
N.3.2	130-**175**-220	130-**175**-220		0,08-0,11-0,15	0,09-0,14-0,18	0,10-0,15-0,20	0,10-0,15-0,20	0,12-0,18-0,24	0,12-0,18-0,24	0,10-0,15-0,20	0,10-0,15-0,20
N.3.3	150-**200**-250	150-**200**-250		0,05-0,07-0,09	0,05-0,08-0,1	0,07-0,11-0,14	0,07-0,11-0,14	0,09-0,13-0,17	0,09-0,13-0,17	0,07-0,11-0,14	0,07-0,11-0,14
N.4.1	120-**160**-200	120-**160**-200		0,07-0,11-0,14	0,08-0,12-0,16	0,09-0,14-0,18	0,09-0,14-0,18	0,11-0,17-0,22	0,11-0,17-0,22	0,09-0,14-0,18	0,09-0,14-0,18
S.1.1			15-**20**-25	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,05-0,06	0,03-0,05-0,06	0,03-0,04-0,05	0,03-0,04-0,05
S.1.2			10-**15**-20	0,02-0,02-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,02-0,03-0,04	0,02-0,03-0,04
S.2.1			15-**20**-25	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,04-0,05	0,03-0,05-0,06	0,03-0,05-0,06	0,03-0,04-0,05	0,03-0,04-0,05
S.2.2			10-**15**-20	0,02-0,02-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,02-0,03-0,04	0,02-0,03-0,04
S.2.3			10-**15**-20	0,02-0,02-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,02-0,03-0,04	0,02-0,03-0,04
S.3.1			30-**40**-50	0,03-0,05-0,06	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,05-0,07	0,04-0,05-0,07
S.3.2			25-**30**-40	0,03-0,04-0,05	0,03-0,05-0,06	0,03-0,05-0,06	0,03-0,05-0,06	0,04-0,05-0,07	0,04-0,05-0,07	0,03-0,05-0,06	0,03-0,05-0,06
S.3.3			20-**25**-30	0,02-0,02-0,03	0,02-0,03-0,04	0,02-0,03-0,04	0,02-0,03-0,04	0,03-0,04-0,05	0,03-0,04-0,05	0,02-0,03-0,04	0,02-0,03-0,04
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1	60-**80**-100	60-**80**-100		0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
O.1.2	60-**80**-100	60-**80**-100		0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
O.2.1											
O.2.2	30-**40**-50	20-**25**-30		0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
O.3.1	60-**80**-100	60-**80**-100		0,04-0,06-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.** 10 863 ... is only suitable up to a hole depth of 6xD.

Cutting data standard values for Centron

Index	10 863 ...	10 862 ...		15 860 ...							
		Center drill		Drill bit							
	VHM (TiAlN/TiN)	HSS (TiN)	HSS (TiAlN)	Ø 7.787"–1.020"	Ø 1.024"–1.295"	Ø 1.299"–1.571"	Ø 1.575"–1.807"	Ø 1.811"–2.161"	Ø 2.165"–2.555"	Ø 2.559"–2.831"	Ø 2.835"–3.228"
	v_c (ft/min) min. – Recommended – max.			f (inch/rev) min. – Recommended – max.							
P.1.1	490-**655**-820	315-**420**-525		.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.003-.004	.002-.003-.004
P.1.2	490-**655**-820	315-**420**-525		.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.006	.003-.005-.006	.003-.004-.005	.003-.004-.005
P.1.3	395-**525**-655	315-**420**-525		.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
P.1.4	355-**470**-590	315-**420**-525		.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.002-.003-.004	.002-.003-.004
P.1.5	455-**605**-755	315-**420**-525		.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
P.2.1	395-**525**-655	315-**420**-525		.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
P.2.2	375-**500**-625	295-**390**-490		.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.002-.003-.004	.002-.003-.004
P.2.3	355-**470**-590	275-**370**-460		.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.006	.003-.005-.006	.003-.004-.005	.003-.004-.005
P.2.4	295-**390**-490	235-**315**-395		.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
P.3.1	315-**420**-525	235-**315**-395		.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.003-.004	.002-.003-.004
P.3.2	275-**370**-460	200-**265**-330		.001-.0015-.002	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.0025-.003
P.3.3	255-**340**-425	175-**235**-295		.001-.002-.003	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.001-.002-.003	.001-.002-.003
P.4.1	355-**470**-590	255-**340**-425		.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.002-.003-.004	.002-.003-.004
P.4.2	275-**370**-460	200-**265**-330		.001-.0015-.002	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.0025-.003
M.1.1			140-**185**-230	.002-.0025-.003	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005
M.2.1			140-**185**-230	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
M.3.1			115-**155**-195	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.0025-.003
K.1.1	395-**525**-655		200-**265**-330	.003-.004-.005	.003-.005-.006	.003-.005-.006	.003-.005-.006	.004-.006-.008	.004-.006-.008	.003-.005-.006	.003-.005-.006
K.1.2	315-**420**-525		200-**265**-330	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.007	.003-.005-.007	.003-.004-.005	.003-.004-.005
K.2.1	315-**420**-525		200-**265**-330	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.007	.003-.005-.007	.003-.004-.005	.003-.004-.005
K.2.2	200-**265**-330		155-**210**-260	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
K.3.1	235-**315**-395		200-**265**-330	.002-.004-.005	.003-.004-.005	.003-.004-.005	.003-.004-.005	.003-.005-.007	.003-.005-.007	.003-.004-.005	.003-.004-.005
K.3.2	200-**265**-330		155-**210**-260	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.004-.005	.003-.004-.005	.002-.004-.005	.002-.004-.005
N.1.1	690-**920**-1150	690-**920**-1150		.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.003-.004	.002-.003-.004
N.1.2	690-**920**-1150	690-**920**-1150		.001-.002-.003	.001-.002-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.003-.004	.002-.003-.004
N.2.1	490-**655**-820	490-**655**-820		.002-.003-.004	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.008	.004-.006-.008	.003-.005-.006	.003-.005-.006
N.2.2	490-**655**-820	490-**655**-820		.002-.003-.004	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.006-.008	.004-.006-.008	.003-.005-.006	.003-.005-.006
N.2.3	455-**605**-755	455-**605**-755		.002-.003-.004	.002-.003-.004	.003-.004-.006	.003-.004-.006	.004-.005-.007	.004-.005-.007	.003-.004-.006	.003-.004-.006
N.3.1	395-**525**-655	395-**525**-655		.003-.004-.005	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.007-.009	.004-.007-.009	.004-.005-.007	.004-.005-.007
N.3.2	430-**575**-720	430-**575**-720		.003-.004-.006	.004-.005-.007	.004-.006-.008	.004-.006-.008	.005-.007-.009	.005-.007-.009	.004-.006-.008	.004-.006-.008
N.3.3	490-**655**-820	490-**655**-820		.002-.003-.004	.002-.003-.004	.003-.004-.005	.003-.004-.005	.003-.005-.007	.003-.005-.007	.003-.004-.005	.003-.004-.005
N.4.1	395-**525**-655	395-**525**-655		.003-.004-.005	.003-.005-.006	.004-.005-.007	.004-.005-.007	.004-.007-.009	.004-.007-.009	.004-.005-.007	.004-.005-.007
S.1.1			50-**65**-80	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.1.2			40-**50**-65	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.2.1			50-**65**-80	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.2.2			40-**50**-65	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.2.3			40-**50**-65	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
S.3.1			100-**130**-165	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.001-.002-.003	.001-.002-.003
S.3.2			80-**105**-130	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.002-.003	.001-.002-.003	.001-.0015-.002	.001-.0015-.002
S.3.3			60-**80**-100	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002	.001-.0015-.002
H.1.1											
H.1.2											
H.1.3											
H.1.4											
H.2.1											
H.3.1											
O.1.1	200-**265**-330	200-**265**-330		.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.1.2	200-**265**-330	200-**265**-330		.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.2.1											
O.2.2	100-**130**-165	60-**80**-100		.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
O.3.1	200-**265**-330	200-**265**-330		.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.** 10 863 … is only suitable up to a hole depth of 6xD.

Cutting data standard values for Centron V464

Index	10 863 ...	10 862 ...		10 858 ...		
	Center drill			Drill bit		
	VHM (TiAlN/TiN)	HSS (TiN)	HSS (TiAlN)	Ø 80–99,9 mm	Ø 100–125,9 mm	Ø 130–160 mm
	v_c (m/min) min. – Recommended – max.			f (mm/rev) min. – Recommended – max.		
P.1.1	150-**200**-250	95-**130**-160		0,06 - 0,09 - 0,12	0,06 - 0,09 - 0,12	0,07 - 0,11 - 0,14
P.1.2	150-**200**-250	95-**130**-160		0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,09 - 0,14 - 0,18
P.1.3	120-**160**-200	95-**130**-160		0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
P.1.4	110-**145**-180	95-**130**-160		0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13	0,08 - 0,11 - 0,15
P.1.5	140-**185**-230	95-**130**-160		0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
P.2.1	120-**160**-200	95-**130**-160		0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
P.2.2	115-**150**-190	90-**120**-150		0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13	0,08 - 0,11 - 0,15
P.2.3	110-**145**-180	85-**110**-140		0,08 - 0,12 - 0,16	0,08 - 0,12 - 0,16	0,09 - 0,14 - 0,18
P.2.4	90-**120**-150	70-**95**-120		0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
P.3.1	95-**130**-160	70-**95**-120		0,06 - 0,09 - 0,12	0,06 - 0,09 - 0,12	0,07 - 0,11 - 0,14
P.3.2	85-**110**-140	60-**80**-100		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,06 - 0,09 - 0,12
P.3.3	80-**105**-130	55-**70**-90		0,04 - 0,06 - 0,08	0,04 - 0,06 - 0,08	0,05 - 0,08 - 0,10
P.4.1	110-**145**-180	80-**105**-130		0,07 - 0,10 - 0,13	0,07 - 0,10 - 0,13	0,08 - 0,11 - 0,15
P.4.2	85-**110**-140	60-**80**-100		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,06 - 0,09 - 0,12
M.1.1			40-**55**-70	0,06 - 0,09 - 0,12	0,06 - 0,09 - 0,12	0,08 - 0,12 - 0,16
M.2.1			40-**55**-70	0,06 - 0,08 - 0,11	0,06 - 0,08 - 0,11	0,08 - 0,11 - 0,15
M.3.1			35-**50**-60	0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,07 - 0,11 - 0,14
K.1.1	120-**160**-200		60-**80**-100	0,10 - 0,14 - 0,19	0,10 - 0,14 - 0,19	0,11 - 0,16 - 0,21
K.1.2	95-**130**-160		60-**80**-100	0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17	0,10 - 0,14 - 0,19
K.2.1	95-**130**-160		60-**80**-100	0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17	0,10 - 0,14 - 0,19
K.2.2	60-**80**-100		50-**65**-80	0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
K.3.1	70-**95**-120		60-**80**-100	0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17	0,10 - 0,14 - 0,19
K.3.2	60-**80**-100		50-**65**-80	0,07 - 0,11 - 0,14	0,07 - 0,11 - 0,14	0,08 - 0,12 - 0,16
N.1.1	210-**280**-350	210-**280**-350		0,06 - 0,09 - 0,12	0,06 - 0,09 - 0,12	0,07 - 0,11 - 0,14
N.1.2	210-**280**-350	210-**280**-350		0,06 - 0,09 - 0,12	0,06 - 0,09 - 0,12	0,07 - 0,11 - 0,14
N.2.1	150-**200**-250	150-**200**-250		0,10 - 0,14 - 0,19	0,10 - 0,14 - 0,19	0,11 - 0,16 - 0,21
N.2.2	150-**200**-250	150-**200**-250		0,10 - 0,14 - 0,19	0,10 - 0,14 - 0,19	0,11 - 0,16 - 0,21
N.2.3	140-**185**-230	140-**185**-230		0,09 - 0,14 - 0,18	0,09 - 0,14 - 0,18	0,10 - 0,15 - 0,20
N.3.1	120-**160**-200	120-**160**-200		0,11 - 0,17 - 0,22	0,11 - 0,17 - 0,22	0,12 - 0,18 - 0,24
N.3.2	130-**175**-220	130-**175**-220		0,12 - 0,18 - 0,24	0,12 - 0,18 - 0,24	0,13 - 0,20 - 0,26
N.3.3	150-**200**-250	150-**200**-250		0,09 - 0,13 - 0,17	0,09 - 0,13 - 0,17	0,10 - 0,14 - 0,19
N.4.1	120-**160**-200	120-**160**-200		0,11 - 0,17 - 0,22	0,11 - 0,17 - 0,22	0,12 - 0,18 - 0,24
S.1.1			15-**20**-25	0,03 - 0,05 - 0,06	0,03 - 0,05 - 0,06	0,04 - 0,06 - 0,08
S.1.2			10-**15**-20	0,03 - 0,04 - 0,05	0,03 - 0,04 - 0,05	0,04 - 0,05 - 0,07
S.2.1			15-**20**-25	0,03 - 0,05 - 0,06	0,03 - 0,05 - 0,06	0,04 - 0,06 - 0,08
S.2.2			10-**15**-20	0,03 - 0,04 - 0,05	0,03 - 0,04 - 0,05	0,04 - 0,05 - 0,07
S.2.3			10-**15**-20	0,03 - 0,04 - 0,05	0,03 - 0,04 - 0,05	0,04 - 0,05 - 0,07
S.3.1			30-**40**-50	0,04 - 0,06 - 0,08	0,04 - 0,06 - 0,08	0,05 - 0,08 - 0,10
S.3.2			25-**30**-40	0,04 - 0,05 - 0,07	0,04 - 0,05 - 0,07	0,05 - 0,07 - 0,09
S.3.3			20-**25**-30	0,03 - 0,04 - 0,05	0,03 - 0,04 - 0,05	0,04 - 0,05 - 0,07
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1	60-**80**-100	60-**80**-100		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10
O.1.2	60-**80**-100	60-**80**-100		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10
O.2.1						
O.2.2	30-**40**-50	20-**25**-30		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10
O.3.1	60-**80**-100	60-**80**-100		0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10	0,05 - 0,08 - 0,10

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.** 10 863 ... is only suitable up to a hole depth of 6xD.

Cutting data standard values for Centron V464

Index	10 863 ...	10 862 ...		10 858 ...		
		Center drill		Drill bit		
	VHM (TiAlN/TiN)	HSS (TiN)	HSS (TiAlN)	Ø 80–99,9 mm (Ø 3.150"–3.933")	Ø 100–125,9 mm (Ø 3.937"–4.957")	Ø 130–160 mm (Ø 5.118"–6.299")
	v_c (ft/min) min. – Recommended – max.			f (inch/rev) min. – Recommended – max.		
P.1.1	490-**655**-820	315-**420**-525		.002 - .004 - .005	.002 - .004 - .005	.003 - .004 - .005
P.1.2	490-**655**-820	315-**420**-525		.003 - .005 - .006	.003 - .005 - .006	.004 - .005 - .007
P.1.3	395-**525**-655	315-**420**-525		.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
P.1.4	355-**470**-590	315-**420**-525		.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .006
P.1.5	455-**605**-755	315-**420**-525		.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
P.2.1	395-**525**-655	315-**420**-525		.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
P.2.2	375-**500**-625	295-**390**-490		.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .006
P.2.3	355-**470**-590	275-**370**-460		.003 - .005 - .006	.003 - .005 - .006	.004 - .005 - .007
P.2.4	295-**390**-490	235-**315**-395		.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
P.3.1	315-**420**-525	235-**315**-395		.002 - .004 - .005	.002 - .004 - .005	.003 - .004 - .005
P.3.2	275-**370**-460	200-**265**-330		.002 - .003 - .004	.002 - .003 - .004	.002 - .004 - .005
P.3.3	255-**340**-425	175-**235**-295		.002 - .0025 - .003	.002 - .0025 - .003	.002 - .003 - .004
P.4.1	355-**470**-590	255-**340**-425		.003 - .004 - .005	.003 - .004 - .005	.003 - .004 - .006
P.4.2	275-**370**-460	200-**265**-330		.002 - .003 - .004	.002 - .003 - .004	.002 - .004 - .005
M.1.1			140-**185**-230	.002 - .004 - .005	.002 - .004 - .005	.003 - .005 - .006
M.2.1			140-**185**-230	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .006
M.3.1			115-**155**-195	.002 - .003 - .004	.002 - .003 - .004	.003 - .004 - .005
K.1.1	395-**525**-655		200-**265**-330	.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
K.1.2	315-**420**-525		200-**265**-330	.003 - .005 - .007	.003 - .005 - .007	.004 - .006 - .008
K.2.1	315-**420**-525		200-**265**-330	.003 - .005 - .007	.003 - .005 - .007	.004 - .006 - .008
K.2.2	200-**265**-330		155-**210**-260	.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
K.3.1	235-**315**-395		200-**265**-330	.003 - .005 - .007	.003 - .005 - .007	.004 - .006 - .008
K.3.2	200-**265**-330		155-**210**-260	.003 - .004 - .005	.003 - .004 - .005	.003 - .005 - .006
N.1.1	690-**920**-1150	690-**920**-1150		.002 - .004 - .005	.002 - .004 - .005	.003 - .004 - .005
N.1.2	690-**920**-1150	690-**920**-1150		.002 - .004 - .005	.002 - .004 - .005	.003 - .004 - .005
N.2.1	490-**655**-820	490-**655**-820		.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
N.2.2	490-**655**-820	490-**655**-820		.004 - .006 - .008	.004 - .006 - .008	.004 - .006 - .008
N.2.3	455-**605**-755	455-**605**-755		.004 - .005 - .007	.004 - .005 - .007	.004 - .006 - .008
N.3.1	395-**525**-655	395-**525**-655		.004 - .007 - .009	.004 - .007 - .009	.005 - .007 - .009
N.3.2	430-**575**-720	430-**575**-720		.005 - .007 - .009	.005 - .007 - .009	.005 - .008 - .010
N.3.3	490-**655**-820	490-**655**-820		.003 - .005 - .007	.003 - .005 - .007	.004 - .006 - .008
N.4.1	395-**525**-655	395-**525**-655		.004 - .007 - .009	.004 - .007 - .009	.005 - .007 - .009
S.1.1			50-**65**-80	.001 - .002 - .003	.001 - .002 - .003	.002 - .0025 - .003
S.1.2			40-**50**-65	.001 - .0015 - .002	.001 - .0015 - .002	.001 - .002 - .003
S.2.1			50-**65**-80	.001 - .002 - .003	.001 - .002 - .003	.002 - .0025 - .003
S.2.2			40-**50**-65	.001 - .0015 - .002	.001 - .0015 - .002	.001 - .002 - .003
S.2.3			40-**50**-65	.001 - .0015 - .002	.001 - .0015 - .002	.001 - .002 - .003
S.3.1			100-**130**-165	.002 - .0025 - .003	.002 - .0025 - .003	.002 - .003 - .004
S.3.2			80-**105**-130	.001 - .002 - .003	.001 - .002 - .003	.002 - .003 - .004
S.3.3			60-**80**-100	.001 - .0015 - .002	.001 - .0015 - .002	.001 - .002 - .003
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1	200-**265**-330	200-**265**-330		.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
O.1.2	200-**265**-330	200-**265**-330		.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
O.2.1						
O.2.2	100-**130**-165	60-**80**-100		.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004
O.3.1	200-**265**-330	200-**265**-330		.002 - .003 - .004	.002 - .003 - .004	.002 - .003 - .004

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To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.** 10 863 ... is only suitable up to a hole depth of 6xD.

Cutting data standard values for Centron Powerline

Index	10 868 ...	10 861 ...				
	Centering tip	Drill bit				
	BK8450	Ø 20–24,9 mm	Ø 25–29,9 mm	Ø 30–32,9 mm	Ø 33–36,9 mm	Ø 37–39,9 mm
	v_c (m/min) min. – Recommended – max.	f (mm/rev) min. – Recommended – max.				
P.1.1	110 - **145** - 180	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.1.2	110 - **145** - 180	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.1.3	95 - **130** - 160	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.1.4	110 - **145** - 180	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.1.5	110 - **145** - 180	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.2.1	110 - **145** - 180	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.2.2	95 - **130** - 160	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.2.3	95 - **130** - 160	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
P.2.4	85 - **115** - 145	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
P.3.1	110 - **145** - 180	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
P.3.2	85 - **110** - 140	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
P.3.3	75 - **100** - 125	0,10 - 0,12 - 0,14	0,11 - 0,14 - 0,16	0,13 - 0,15 - 0,18	0,13 - 0,15 - 0,18	0,13 - 0,16 - 0,19
P.4.1	70 - **95** - 120	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
P.4.2	70 - **95** - 120	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
M.1.1						
M.2.1						
M.3.1						
K.1.1	100 - **135** - 170	0,20 - 0,25 - 0,29	0,23 - 0,28 - 0,33	0,25 - 0,30 - 0,35	0,25 - 0,30 - 0,35	0,27 - 0,32 - 0,38
K.1.2	100 - **135** - 170	0,20 - 0,25 - 0,29	0,23 - 0,28 - 0,33	0,25 - 0,30 - 0,35	0,25 - 0,30 - 0,35	0,27 - 0,32 - 0,38
K.2.1	95 - **130** - 160	0,18 - 0,21 - 0,25	0,20 - 0,24 - 0,28	0,21 - 0,26 - 0,30	0,21 - 0,26 - 0,30	0,23 - 0,28 - 0,33
K.2.2	85 - **110** - 140	0,18 - 0,21 - 0,25	0,20 - 0,24 - 0,28	0,21 - 0,26 - 0,30	0,21 - 0,26 - 0,30	0,23 - 0,28 - 0,33
K.3.1	70 - **95** - 120	0,20 - 0,25 - 0,29	0,23 - 0,28 - 0,33	0,25 - 0,30 - 0,35	0,25 - 0,30 - 0,35	0,27 - 0,32 - 0,38
K.3.2	60 - **80** - 100	0,18 - 0,21 - 0,25	0,20 - 0,24 - 0,28	0,21 - 0,26 - 0,30	0,21 - 0,26 - 0,30	0,23 - 0,28 - 0,33
N.1.1	150 - **200** - 250	0,11 - 0,14 - 0,16	0,13 - 0,16 - 0,19	0,14 - 0,17 - 0,20	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22
N.1.2	150 - **200** - 250	0,13 - 0,15 - 0,18	0,14 - 0,17 - 0,20	0,15 - 0,19 - 0,22	0,15 - 0,19 - 0,22	0,17 - 0,20 - 0,24
N.2.1	130 - **175** - 220	0,16 - 0,20 - 0,23	0,18 - 0,22 - 0,26	0,20 - 0,24 - 0,28	0,20 - 0,24 - 0,28	0,21 - 0,26 - 0,30
N.2.2	130 - **175** - 220	0,16 - 0,20 - 0,23	0,18 - 0,22 - 0,26	0,20 - 0,24 - 0,28	0,20 - 0,24 - 0,28	0,21 - 0,26 - 0,30
N.2.3	120 - **160** - 200	0,15 - 0,18 - 0,21	0,17 - 0,20 - 0,24	0,18 - 0,21 - 0,25	0,18 - 0,21 - 0,25	0,19 - 0,23 - 0,27
N.3.1	120 - **160** - 200	0,15 - 0,18 - 0,21	0,17 - 0,20 - 0,24	0,18 - 0,21 - 0,25	0,18 - 0,21 - 0,25	0,19 - 0,23 - 0,27
N.3.2	130 - **175** - 220	0,15 - 0,18 - 0,21	0,17 - 0,20 - 0,24	0,18 - 0,21 - 0,25	0,18 - 0,21 - 0,25	0,19 - 0,23 - 0,27
N.3.3	150 - **200** - 250	0,15 - 0,18 - 0,21	0,17 - 0,20 - 0,24	0,18 - 0,21 - 0,25	0,18 - 0,21 - 0,25	0,19 - 0,23 - 0,27
N.4.1	120 - **160** - 200	0,15 - 0,18 - 0,21	0,17 - 0,20 - 0,24	0,18 - 0,21 - 0,25	0,18 - 0,21 - 0,25	0,19 - 0,23 - 0,27
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
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The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

Cutting data standard values for Centron Powerline

Index	10 868 ...	10 861 ...				
	Centering tip	Drill bit				
	BK8450	Ø 20–24,9 mm (Ø 0.787"–0.980")	Ø 25–29,9 mm (Ø 0.984"–1.161")	Ø 30–32,9 mm (Ø 1.181"–1.295")	Ø 33–36,9 mm (Ø 1.299"–1.453")	Ø 37–39,9 mm (Ø 1.457"–1.571")
	v_c (m/min) min. – Recommended – max.	**f (mm/rev)** min. – Recommended – max.				
P.1.1	355 - **470** - 590	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.1.2	355 - **470** - 590	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.1.3	315 - **420** - 525	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.1.4	355 - **470** - 590	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.1.5	355 - **470** - 590	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.2.1	355 - **470** - 590	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.2.2	315 - **420** - 525	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.2.3	315 - **420** - 525	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
P.2.4	285 - **380** - 475	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
P.3.1	355 - **470** - 590	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
P.3.2	275 - **370** - 460	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
P.3.3	245 - **330** - 410	.003 - .004 - .005	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007
P.4.1	235 - **315** - 395	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
P.4.2	235 - **315** - 395	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
M.1.1						
M.2.1						
M.3.1						
K.1.1	335 - **450** - 560	.008 - .010 - .011	.009 - .011 - .013	.010 - .012 - .014	.010 - .012 - .014	.010 - .012 - .014
K.1.2	335 - **450** - 560	.008 - .010 - .011	.009 - .011 - .013	.010 - .012 - .014	.010 - .012 - .014	.010 - .012 - .014
K.2.1	315 - **420** - 525	.007 - .008 - .009	.008 - .009 - .011	.008 - .010 - .012	.008 - .010 - .012	.009 - .011 - .013
K.2.2	275 - **370** - 460	.007 - .008 - .009	.008 - .009 - .011	.008 - .010 - .012	.008 - .010 - .012	.009 - .011 - .013
K.3.1	235 - **315** - 395	.008 - .010 - .011	.009 - .011 - .013	.010 - .012 - .014	.010 - .012 - .014	.010 - .012 - .014
K.3.2	200 - **265** - 330	.007 - .008 - .009	.008 - .009 - .011	.008 - .010 - .012	.008 - .010 - .012	.009 - .011 - .013
N.1.1	490 - **655** - 820	.004 - .005 - .006	.005 - .006 - .007	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009
N.1.2	490 - **655** - 820	.005 - .006 - .007	.005 - .006 - .007	.005 - .007 - .009	.005 - .007 - .009	.006 - .008 - .010
N.2.1	430 - **575** - 720	.006 - .008 - .009	.007 - .009 - .010	.008 - .009 - .011	.008 - .009 - .011	.008 - .010 - .012
N.2.2	430 - **575** - 720	.006 - .008 - .009	.007 - .009 - .010	.008 - .009 - .011	.008 - .009 - .011	.008 - .010 - .012
N.2.3	395 - **525** - 655	.006 - .007 - .008	.006 - .008 - .010	.007 - .008 - .009	.007 - .008 - .009	.007 - .009 - .011
N.3.1	395 - **525** - 655	.006 - .007 - .008	.006 - .008 - .010	.007 - .008 - .009	.007 - .008 - .009	.007 - .009 - .011
N.3.2	430 - **575** - 720	.006 - .007 - .008	.006 - .008 - .010	.007 - .008 - .009	.007 - .008 - .009	.007 - .009 - .011
N.3.3	490 - **655** - 820	.006 - .007 - .008	.006 - .008 - .010	.007 - .008 - .009	.007 - .008 - .009	.007 - .009 - .011
N.4.1	395 - **525** - 655	.006 - .007 - .008	.006 - .008 - .010	.007 - .008 - .009	.007 - .008 - .009	.007 - .009 - .011
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
The cutting data depends on the centering tip and not on the indexable inserts. **Please select the cutting data of the centering tip.**

Cutting data standard values for MaxiDrill 900 – 2xD

Index	10 830 ...		10 852 ...								
	SONT		2xD – C								
	CTCP420	CTPP430	Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–63 mm
	v_c (m/min) min. – Recommended – max.		f (mm/rev) min. – Recommended – max.									
P.1.1	190-**300**-310	180-**230**-280	0,04-0,10-0,16	0,04-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.1.2	190-**300**-310	180-**230**-280	0,04-0,10-0,15	0,04-0,10-0,15	0,05-0,11-0,16	0,06-0,12-0,17	0,07-0,13-0,19	0,07-0,14-0,21	0,06-0,14-0,21	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,18-0,26
P.1.3	190-**300**-310	180-**230**-280	0,04-0,10-0,15	0,04-0,10-0,15	0,05-0,11-0,16	0,06-0,12-0,17	0,07-0,13-0,19	0,07-0,14-0,21	0,06-0,14-0,21	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,18-0,26
P.1.4	170-**230**-290	160-**205**-250	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.1.5	170-**230**-290	160-**205**-250	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.2.1	180-**230**-280	150-**180**-220	0,04-0,11-0,17	0,05-0,12-0,18	0,05-0,13-0,20	0,06-0,14-0,22	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,19-0,27	0,10-0,20-0,30	0,10-0,21-0,32
P.2.2	190-**300**-310	180-**230**-280	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,10-0,15	0,06-0,11-0,15	0,07-0,12-0,17	0,07-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,21	0,10-0,17-0,23	0,10-0,17-0,23
P.2.3	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.2.4	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.3.1	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,08-0,17-0,25	0,09-0,18-0,27	0,10-0,20-0,29
P.3.2	120-**160**-200	100-**130**-160	0,04-0,10-0,16	0,05-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,30
P.3.3	120-**160**-200	100-**130**-160	0,04-0,10-0,16	0,05-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,30
P.4.1	140-**185**-230	100-**140**-180	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
P.4.2	140-**185**-230	100-**140**-180	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
M.1.1	140-**185**-230	100-**130**-160	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,14	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,11-0,16	0,06-0,12-0,17	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
M.2.1		80-**110**-140	0,04-0,08-0,12	0,04-0,09-0,13	0,05-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,12-0,18	0,06-0,12-0,18	0,09-0,16-0,23	0,10-0,17-0,23	0,10-0,17-0,23
M.3.1		80-**110**-140	0,04-0,07-0,10	0,04-0,08-0,11	0,05-0,09-0,13	0,05-0,10-0,14	0,05-0,10-0,15	0,05-0,10-0,15	0,05-0,12-0,18	0,08-0,14-0,20	0,08-0,14-0,20	0,08-0,14-0,20
K.1.1	190-**300**-310	120-**160**-200	0,07-0,14-0,20	0,07-0,15-0,22	0,08-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
K.1.2	170-**230**-290	100-**140**-180	0,07-0,13-0,19	0,07-0,14-0,2	0,08-0,15-0,22	0,10-0,17-0,24	0,10-0,18-0,26	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,21-0,32
K.2.1	190-**300**-310	120-**160**-200	0,07-0,14-0,20	0,07-0,14-0,2	0,08-0,15-0,22	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,21-0,32
K.2.2	170-**230**-290	100-**140**-180	0,07-0,13-0,18	0,07-0,13-0,18	0,08-0,14-0,20	0,10-0,17-0,23	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,19-0,27	0,10-0,20-0,29
K.3.1	130-**170**-210	70-**110**-150	0,07-0,13-0,19	0,07-0,14-0,2	0,08-0,15-0,21	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
K.3.2	130-**170**-210	70-**110**-150	0,07-0,13-0,19	0,07-0,14-0,2	0,08-0,15-0,21	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
N.1.1		150-**330**-500	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,16	0,10-0,13-0,16	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.1.2		150-**300**-450	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,200	0,10-0,15-0,20
N.2.1		150-**250**-350	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,200	0,10-0,15-0,20
N.2.2		150-**225**-300	0,06-0,09-0,12	0,07-0,11-0,15	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.3		140-**180**-220	0,06-0,09-0,12	0,07-0,11-0,15	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.3.1		150-**225**-300	0,06-0,11-0,15	0,07-0,12-0,16	0,08-0,13-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25
N.3.2		150-**225**-300	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.3.3		150-**225**-300	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.4.1		170-**200**-230	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
S.1.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.1.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.3		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.3.1		40-**70**-100	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.3.2		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,07-0,09-0,10	0,05-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,13-0,18
S.3.3		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,07-0,09-0,10	0,05-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,13-0,18
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 2xD

Index	10 830 ...		10 852 ...									
	SONT		2xD – C									
	CTCP420	CTPP430	Ø 12–15,5 mm (0.472"–0.610")	Ø 16–17,5 mm (0.630"–0.689")	Ø 18–20,5 mm (0.709"–0.807")	Ø 21–23,5 mm (0.827"–0.925")	Ø 24–27,5 mm (0.945"–1.083")	Ø 28–32 mm (1.102"–1.260")	Ø 32,5–36,5 mm (1.278"–1.437")	Ø 37–41 mm (1.457"–1.614")	Ø 41,5–46 mm (1.634"–1.811")	Ø 46,5–63 mm (1.831"–2.480")
	v_c (ft/min) min. – Recommended – max.		f (inch/rev) min. – Recommended – max.									
P.1.1	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.1.2	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.005-.007	.003-.006-.008	.002-.006-.008	.004-.006-.009	.004-.006-.009	.004-.007-.010
P.1.3	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.005-.007	.003-.006-.008	.002-.006-.008	.004-.006-.009	.004-.006-.009	.004-.007-.010
P.1.4	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.1.5	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.2.1	590-**755**-920	490-**590**-720	.002-.004-.007	.002-.005-.007	.002-.005-.008	.002-.006-.009	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.011	.004-.008-.012	.004-.008-.013
P.2.2	625-**985**-1015	590-**755**-920	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.003-.005-.007	.003-.005-.007	.002-.005-.007	.004-.006-.008	.004-.007-.009	.004-.007-.009
P.2.3	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.2.4	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.3.1	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.003-.007-.010	.004-.007-.011	.004-.008-.011
P.3.2	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012
P.3.3	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012
P.4.1	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
P.4.2	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
M.1.1	460-**605**-755	330-**425**-525	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
M.2.1		260-**360**-460	.002-.003-.005	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.007-.009	.004-.007-.009
M.3.1		260-**360**-460	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.008	.003-.006-.008
K.1.1	625-**985**-1015	395-**525**-655	.003-.006-.008	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
K.1.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.006-.008	.003-.006-.009	.004-.007-.009	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.013
K.2.1	625-**985**-1015	395-**525**-655	.003-.006-.008	.003-.006-.008	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.013
K.2.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.006-.008	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.011
K.3.1	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.006-.008	.003-.006-.008	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
K.3.2	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.006-.008	.003-.006-.008	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
N.1.1		490-**1085**-1640	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.1.2		490-**985**-1475	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.1		490-**820**-1150	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.3		460-**590**-720	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.1		490-**740**-985	.002-.004-.006	.003-.005-.006	.003-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.007-.010	.004-.007-.010	.004-.007-.010
N.3.2		490-**740**-985	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3		490-**740**-985	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.4.1		560-**655**-755	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
S.1.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.1.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.3		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.3.1		130-**230**-330	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.3.2		130-**195**-260	.002-.003-.004	.002-.003-.004	.003-.004-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.007
S.3.3		130-**195**-260	.002-.003-.004	.002-.003-.004	.003-.004-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.007
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 3xD

Index	10 830 ...		10 853 ...								
	SONT		3xD – C								
	CTCP420	CTPP430	Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–63 mm
	v_c (m/min) min. – Recommended – max.		f (mm/rev) min. – Recommended – max.									
P.1.1	190-**300**-310	180-**230**-280	0,04-0,10-0,16	0,04-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.1.2	190-**300**-310	180-**230**-280	0,04-0,10-0,15	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,11-0,17	0,06-0,13-0,19	0,06-0,14-0,21	0,06-0,14-0,21	0,08-0,15-0,22	0,08-0,15-0,22	0,09-0,17-0,24
P.1.3	190-**300**-310	180-**230**-280	0,04-0,10-0,15	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,11-0,17	0,06-0,13-0,19	0,06-0,14-0,21	0,06-0,14-0,21	0,08-0,15-0,22	0,08-0,15-0,22	0,09-0,17-0,24
P.1.4	170-**230**-290	160-**205**-250	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.1.5	170-**230**-290	160-**205**-250	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,22	0,07-0,16-0,24	0,07-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.2.1	180-**230**-280	150-**180**-220	0,04-0,11-0,17	0,05-0,12-0,18	0,05-0,13-0,20	0,06-0,14-0,22	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,19-0,27	0,10-0,20-0,30	0,10-0,21-0,32
P.2.2	190-**300**-310	180-**230**-280	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,21	0,10-0,17-0,23	0,10-0,17-0,23
P.2.3	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.2.4	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29
P.3.1	170-**225**-280	130-**165**-200	0,04-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,08-0,17-0,25	0,09-0,18-0,27	0,10-0,20-0,29
P.3.2	120-**160**-200	100-**130**-160	0,04-0,10-0,16	0,05-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,30
P.3.3	120-**160**-200	100-**130**-160	0,04-0,10-0,16	0,05-0,11-0,17	0,05-0,12-0,18	0,06-0,13-0,20	0,07-0,15-0,23	0,07-0,16-0,25	0,07-0,16-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,30
P.4.1	140-**185**-230	100-**140**-180	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
P.4.2	140-**185**-230	100-**140**-180	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
M.1.1	140-**185**-230	100-**130**-160	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,10-0,14	0,05-0,10-0,15	0,06-0,11-0,15	0,06-0,11-0,16	0,06-0,12-0,17	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
M.2.1		80-**110**-140	0,04-0,08-0,12	0,04-0,09-0,13	0,05-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,12-0,18	0,06-0,12-0,18	0,09-0,16-0,23	0,10-0,17-0,23	0,10-0,17-0,23
M.3.1		80-**110**-140	0,04-0,07-0,10	0,04-0,08-0,11	0,05-0,09-0,13	0,05-0,10-0,14	0,05-0,10-0,15	0,05-0,10-0,15	0,05-0,11-0,16	0,08-0,14-0,20	0,08-0,14-0,20	0,08-0,14-0,20
K.1.1	190-**300**-310	120-**160**-200	0,07-0,14-0,20	0,07-0,15-0,22	0,08-0,16-0,24	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
K.1.2	170-**230**-290	100-**140**-180	0,07-0,13-0,19	0,07-0,14-0,20	0,08-0,15-0,22	0,10-0,17-0,24	0,10-0,18-0,26	0,10-0,18-0,26	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,21-0,32
K.2.1	190-**300**-310	120-**160**-200	0,07-0,14-0,20	0,07-0,14-0,20	0,08-0,15-0,22	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,21-0,32
K.2.2	170-**230**-290	100-**140**-180	0,07-0,13-0,18	0,07-0,13-0,18	0,08-0,14-0,20	0,10-0,17-0,23	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,19-0,27	0,10-0,20-0,29
K.3.1	130-**170**-210	70-**110**-150	0,07-0,13-0,19	0,07-0,14-0,20	0,08-0,15-0,21	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
K.3.2	130-**170**-210	70-**110**-150	0,07-0,13-0,19	0,07-0,14-0,20	0,08-0,15-0,21	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,21-0,32	0,10-0,21-0,32	0,10-0,22-0,34
N.1.1		150-**330**-500	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,16	0,10-0,13-0,16	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.1.2		150-**300**-450	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.1		150-**250**-350	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.2		150-**225**-300	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.3		140-**180**-220	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.3.1		150-**225**-300	0,06-0,11-0,15	0,07-0,12-0,16	0,08-0,13-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25
N.3.2		150-**225**-300	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.3.3		150-**225**-300	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.4.1		170-**200**-230	0,06-0,10-0,13	0,07-0,12-0,16	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
S.1.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.1.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.2.3		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.3.1		40-**70**-100	0,03-0,05-0,07	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15
S.3.2		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,07-0,09-0,10	0,05-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,13-0,18
S.3.3		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,07-0,09-0,10	0,05-0,09-0,12	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,12-0,16	0,08-0,12-0,16	0,08-0,13-0,18
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 3xD

Index	10 830 ...		10 853 ...									
	SONT		3xD – C									
	CTCP420	CTPP430	Ø 12–15,5 mm (0.472"–0.610")	Ø 16–17,5 mm (0.630"–0.689")	Ø 18–20,5 mm (0.709"–0.807")	Ø 21–23,5 mm (0.827"–0.925")	Ø 24–27,5 mm (0.945"–1.083")	Ø 28–32 mm (1.102"–1.260")	Ø 32,5–36,5 mm (1.278"–1.437")	Ø 37–41 mm (1.457"–1.614")	Ø 41,5–46 mm (1.634"–1.811")	Ø 46,5–63 mm (1.831"–2.480")
	v_c (ft/min) min. – Recommended – max.		f (inch/rev) min. – Recommended – max.									
P.1.1	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.1.2	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.006-.008	.002-.006-.008	.003-.006-.009	.003-.006-.009	.004-.007-.009
P.1.3	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.006-.008	.002-.006-.008	.003-.006-.009	.003-.006-.009	.004-.007-.009
P.1.4	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.1.5	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.2.1	590-**755**-920	490-**590**-720	.002-.004-.007	.002-.005-.007	.002-.005-.008	.002-.006-.009	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.011	.004-.008-.012	.004-.008-.013
P.2.2	625-**985**-1015	590-**755**-920	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.008	.004-.007-.009	.004-.007-.009
P.2.3	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.2.4	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.011
P.3.1	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.003-.007-.010	.004-.007-.011	.004-.008-.011
P.3.2	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012
P.3.3	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.009	.003-.006-.010	.003-.006-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012
P.4.1	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
P.4.2	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
M.1.1	460-**605**-755	330-**425**-525	.002-.003-.004	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009
M.2.1		260-**360**-460	.002-.003-.005	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.004-.006-.009	.004-.007-.009	.004-.007-.009
M.3.1		260-**360**-460	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.006	.003-.006-.008	.003-.006-.008	.003-.006-.008
K.1.1	625-**985**-1015	395-**525**-655	.003-.006-.008	.003-.006-.009	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
K.1.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.006-.008	.003-.006-.009	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.013
K.2.1	625-**985**-1015	395-**525**-655	.003-.006-.008	.003-.006-.008	.003-.006-.009	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.013
K.2.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.006-.008	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.011
K.3.1	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.006-.008	.003-.006-.008	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
K.3.2	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.006-.008	.003-.006-.008	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.008-.012	.004-.008-.013	.004-.008-.013	.004-.009-.013
N.1.1		490-**1085**-1640	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.1.2		490-**985**-1475	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.1		490-**820**-1150	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.3		460-**590**-720	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.1		490-**740**-985	.002-.004-.006	.003-.005-.006	.003-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.007-.010	.004-.007-.010	.004-.007-.010
N.3.2		490-**740**-985	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3		490-**740**-985	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.4.1		560-**655**-755	.002-.004-.005	.003-.005-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
S.1.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.1.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.2.3		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.3.1		130-**230**-330	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006
S.3.2		130-**195**-260	.002-.003-.004	.002-.003-.004	.003-.004-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.007
S.3.3		130-**195**-260	.002-.003-.004	.002-.003-.004	.003-.004-.004	.002-.004-.005	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.006	.003-.005-.006	.003-.005-.007
H.1.1												
H.1.2												
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H.1.4												
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O.1.1												
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O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 4xD

Index	10 830 ...		10 854 ...									
	SONT		4xD – C									
	CTCP420	CTPP430	Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–54 mm
	v_c (m/min) min. – Recommended – max.		f (mm/rev) min. – Recommended – max.									
P.1.1	190-**300**-310	180-**230**-280	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,11-0,16	0,06-0,12-0,18	0,07-0,14-0,20	0,07-0,15-0,22	0,07-0,15-0,22	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.1.2	190-**300**-310	180-**230**-280	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,10-0,14	0,05-0,10-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,06-0,13-0,20	0,06-0,13-0,20	0,07-0,15-0,22
P.1.3	190-**300**-310	180-**230**-280	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,10-0,14	0,05-0,10-0,15	0,06-0,12-0,17	0,06-0,13-0,19	0,06-0,13-0,19	0,06-0,13-0,20	0,06-0,13-0,20	0,07-0,15-0,22
P.1.4	170-**230**-290	160-**205**-250	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,11-0,16	0,06-0,12-0,18	0,07-0,14-0,20	0,07-0,15-0,22	0,07-0,15-0,22	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.1.5	170-**230**-290	160-**205**-250	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,11-0,16	0,06-0,12-0,18	0,07-0,14-0,20	0,07-0,15-0,22	0,07-0,15-0,22	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.2.1	180-**230**-280	150-**180**-220	0,04-0,11-0,17	0,04-0,11-0,18	0,05-0,12-0,18	0,06-0,13-0,200	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,16-0,24	0,07-0,16-0,24	0,08-0,17-0,26
P.2.2	190-**300**-310	180-**230**-280	0,04-0,08-0,11	0,04-0,08-0,12	0,05-0,09-0,12	0,05-0,09-0,13	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,12-0,17	0,06-0,12-0,17	0,06-0,12-0,17	0,07-0,12-0,17
P.2.3	170-**225**-280	130-**165**-200	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,17	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.2.4	170-**225**-280	130-**165**-200	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,17	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.3.1	170-**225**-280	130-**165**-200	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,17	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.3.2	120-**160**-200	100-**130**-160	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,18	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.3.3	120-**160**-200	100-**130**-160	0,04-0,09-0,14	0,04-0,10-0,15	0,05-0,10-0,15	0,06-0,12-0,18	0,07-0,14-0,20	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,07-0,15-0,23	0,08-0,17-0,25
P.4.1	140-**185**-230	100-**140**-180	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,09-0,12	0,06-0,09-0,12	0,06-0,11-0,15	0,06-0,12-0,17	0,06-0,12-0,17	0,08-0,14-0,20	0,08-0,14-0,20	0,08-0,14-0,20
P.4.2	140-**185**-230	100-**140**-180	0,04-0,08-0,12	0,04-0,08-0,12	0,05-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,11-0,16	0,06-0,11-0,16	0,08-0,15-0,22	0,08-0,15-0,22	0,08-0,15-0,22
M.1.1	140-**185**-230	100-**130**-160	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,09-0,12	0,05-0,09-0,13	0,06-0,10-0,13	0,06-0,10-0,14	0,06-0,10-0,14	0,08-0,14-0,20	0,08-0,14-0,20	0,08-0,14-0,20
M.2.1		80-**110**-140	0,04-0,08-0,12	0,04-0,08-0,12	0,05-0,10-0,15	0,05-0,11-0,16	0,05-0,12-0,18	0,06-0,11-0,16	0,06-0,11-0,16	0,08-0,15-0,22	0,08-0,15-0,22	0,08-0,15-0,22
M.3.1		80-**110**-140	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,13	0,05-0,09-0,13	0,05-0,09-0,13	0,07-0,12-0,16	0,07-0,12-0,16	0,07-0,12-0,16
K.1.1	190-**300**-310	120-**160**-200	0,07-0,13-0,18	0,07-0,14-0,20	0,08-0,15-0,22	0,10-0,17-0,24	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,20-0,30
K.1.2	170-**230**-290	100-**140**-180	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,14-0,20	0,10-0,16-0,22	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,27	0,10-0,20-0,29	0,10-0,20-0,29	0,10-0,20-0,29
K.2.1	190-**300**-310	120-**160**-200	0,07-0,13-0,18	0,07-0,13-0,18	0,08-0,14-0,20	0,10-0,17-0,24	0,10-0,18-0,26	0,10-0,18-0,26	0,10-0,18-0,26	0,10-0,19-0,28	0,10-0,19-0,28	0,10-0,19-0,28
K.2.2	170-**230**-290	100-**140**-180	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,13-0,18	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,17-0,23	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25
K.3.1	130-**170**-210	70-**110**-150	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,13-0,18	0,10-0,16-0,22	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,20-0,30
K.3.2	130-**170**-210	70-**110**-150	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,13-0,18	0,10-0,16-0,22	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,19-0,28	0,10-0,20-0,30	0,10-0,20-0,30	0,10-0,20-0,30
N.1.1		150-**330**-500	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,16	0,10-0,13-0,16	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17
N.1.2		150-**300**-450	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.1		150-**250**-350	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.2		150-**225**-300	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.2.3		140-**180**-220	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.3.1		150-**225**-300	0,06-0,11-0,15	0,07-0,12-0,16	0,08-0,13-0,18	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
N.3.2		150-**225**-300	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.3.3		150-**225**-300	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
N.4.1		170-**200**-230	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,14-0,18
S.1.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.1.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.2.1		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.2.2		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.2.3		20-**50**-80	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.3.1		40-**70**-100	0,03-0,05-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10	0,05-0,08-0,10
S.3.2		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15
S.3.3		40-**60**-80	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,08-0,10	0,05-0,09-0,12	0,05-0,09-0,12	0,06-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15	0,07-0,11-0,15
H.1.1												
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O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 4xD

Index	10 830 ...		10 854 ...									
	SONT		4xD – C									
	CTCP420	CTPP430	Ø 12–15,5 mm (0.472"–0.610")	Ø 16–17,5 mm (0.630"–0.689")	Ø 18–20,5 mm (0.709"–0.807")	Ø 21–23,5 mm (0.827"–0.925")	Ø 24–27,5 mm (0.945"–1.083")	Ø 28–32 mm (1.102"–1.260")	Ø 32,5–36,5 mm (1.278"–1.437")	Ø 37–41 mm (1.457"–1.614")	Ø 41,5–46 mm (1.634"–1.811")	Ø 46,5–54 mm (1.831"–2.126")
	v_c (ft/min) min. – Recommended – max.		f (inch/rev) min. – Recommended – max.									
P.1.1	625-**985**-1015	590-**755**-920	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.1.2	625-**985**-1015	590-**755**-920	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.002-.005-.008	.002-.005-.008	.003-.006-.009
P.1.3	625-**985**-1015	590-**755**-920	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.002-.005-.008	.002-.005-.008	.003-.006-.009
P.1.4	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.1.5	560-**755**-950	525-**675**-820	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.2.1	590-**755**-920	490-**590**-720	.002-.004-.007	.002-.004-.007	.002-.005-.007	.002-.005-.008	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.2.2	625-**985**-1015	590-**755**-920	.002-.003-.004	.002-.003-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006	.002-.005-.007	.002-.005-.007	.002-.005-.007	.002-.005-.007	.003-.005-.007
P.2.3	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.2.4	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.3.1	560-**740**-920	425-**540**-655	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.3.2	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.3.3	395-**525**-655	330-**425**-525	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.005-.007	.003-.006-.008	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.006-.009	.003-.007-.010
P.4.1	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.006	.002-.005-.007	.002-.005-.007	.003-.006-.008	.003-.006-.008	.003-.006-.008
P.4.2	460-**605**-755	330-**460**-590	.002-.003-.005	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.004-.006	.002-.004-.006	.003-.006-.009	.003-.006-.009	.003-.006-.009
M.1.1	460-**605**-755	330-**425**-525	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006	.002-.004-.006	.003-.006-.008	.003-.006-.008	.003-.006-.008
M.2.1		260-**360**-460	.002-.003-.005	.002-.003-.005	.002-.004-.006	.002-.004-.006	.002-.005-.007	.002-.004-.006	.002-.004-.006	.003-.006-.009	.003-.006-.009	.003-.006-.009
M.3.1		260-**360**-460	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.005-.006	.003-.005-.006	.003-.005-.006
K.1.1	625-**985**-1015	395-**525**-655	.003-.005-.007	.003-.006-.008	.003-.006-.009	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.012
K.1.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.006-.008	.004-.006-.009	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.008-.011	.004-.008-.011	.004-.008-.011
K.2.1	625-**985**-1015	395-**525**-655	.003-.005-.007	.003-.005-.007	.003-.006-.008	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.007-.011	.004-.007-.011
K.2.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.005-.007	.004-.006-.009	.004-.006-.009	.004-.006-.009	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010
K.3.1	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.005-.007	.003-.005-.007	.004-.006-.009	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.012
K.3.2	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.005-.007	.003-.005-.007	.004-.006-.009	.004-.007-.010	.004-.007-.010	.004-.007-.011	.004-.008-.012	.004-.008-.012	.004-.008-.012
N.1.1		490-**1085**-1640	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.1.2		490-**985**-1475	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.1		490-**820**-1150	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.2.3		460-**590**-720	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.1		490-**740**-985	.002-.004-.006	.003-.005-.006	.003-.005-.007	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.009	.004-.006-.009	.004-.006-.009
N.3.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.4.1		560-**655**-755	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
S.1.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.1.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.1		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.2		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.2.3		65-**165**-260	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.3.1		130-**230**-330	.001-.002-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004
S.3.2		130-**195**-260	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
S.3.3		130-**195**-260	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006	.003-.004-.006
H.1.1												
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O.1.2												
O.2.1												
O.2.2												
O.3.1												

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Cutting data standard values for MaxiDrill 900 – 5xD

Index	10 830 ...		10 855 ...							
	SONT		5xD – C							
	CTCP420	CTPP430	Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm
	v_c (m/min) min. – Recommended – max.		f (mm/rev) min. – Recommended – max.							
P.1.1	190-**300**-310	180-**230**-280	0,04-0,08-0,12	0,04-0,08-0,12	0,05-0,09-0,12	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,08-0,14-0,20
P.1.2	190-**300**-310	180-**230**-280	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,08-0,1	0,05-0,09-0,12	0,06-0,10-0,14	0,06-0,11-0,16	0,06-0,11-0,16	0,08-0,14-0,20
P.1.3	190-**300**-310	180-**230**-280	0,04-0,07-0,10	0,04-0,07-0,10	0,05-0,08-0,1	0,05-0,09-0,12	0,06-0,10-0,14	0,06-0,11-0,16	0,06-0,11-0,16	0,08-0,14-0,20
P.1.4	170-**230**-290	160-**205**-250	0,04-0,07-0,10	0,04-0,08-0,12	0,05-0,09-0,12	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,17-0,23
P.1.5	170-**230**-290	160-**205**-250	0,04-0,07-0,10	0,04-0,08-0,12	0,05-0,09-0,12	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,17-0,23
P.2.1	180-**230**-280	150-**180**-220	0,04-0,10-0,15	0,04-0,10-0,15	0,05-0,10-0,15	0,05-0,11-0,17	0,07-0,13-0,18	0,08-0,14-0,20	0,08-0,14-0,20	0,10-0,18-0,25
P.2.2	190-**300**-310	180-**230**-280	0,04-0,07-0,09	0,04-0,07-0,09	0,04-0,06-0,08	0,04-0,07-0,10	0,06-0,09-0,12	0,06-0,10-0,14	0,06-0,10-0,14	0,08-0,13-0,17
P.2.3	170-**225**-280	130-**165**-200	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,09-0,13	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,17-0,23
P.2.4	170-**225**-280	130-**165**-200	0,04-0,09-0,13	0,04-0,09-0,14	0,05-0,09-0,13	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,17-0,23
P.3.1	170-**225**-280	130-**165**-200	0,04-0,08-0,12	0,04-0,09-0,13	0,05-0,09-0,13	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,18-0,25
P.3.2	120-**160**-200	100-**130**-160	0,04-0,08-0,12	0,04-0,09-0,13	0,05-0,09-0,13	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,18-0,25
P.3.3	120-**160**-200	100-**130**-160	0,04-0,08-0,12	0,04-0,09-0,13	0,05-0,09-0,13	0,05-0,10-0,15	0,07-0,12-0,17	0,08-0,14-0,19	0,08-0,14-0,19	0,10-0,18-0,25
P.4.1	140-**185**-230	100-**140**-180	0,04-0,07-0,09	0,04-0,07-0,09	0,04-0,06-0,08	0,04-0,07-0,10	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,13-0,18
P.4.2	140-**185**-230	100-**140**-180	0,04-0,07-0,09	0,04-0,07-0,09	0,04-0,06-0,08	0,04-0,07-0,10	0,06-0,09-0,12	0,07-0,11-0,15	0,07-0,11-0,15	0,08-0,13-0,18
M.1.1	140-**185**-230	100-**130**-160	0,04-0,07-0,09	0,04-0,07-0,09	0,04-0,07-0,09	0,05-0,08-0,11	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,08-0,12-0,16
M.2.1		80-**110**-140	0,04-0,08-0,11	0,04-0,08-0,11	0,04-0,09-0,13	0,05-0,10-0,15	0,05-0,11-0,16	0,06-0,11-0,16	0,06-0,11-0,16	0,08-0,14-0,20
M.3.1		80-**110**-140	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,07-0,09	0,05-0,08-0,11	0,05-0,09-0,12	0,05-0,09-0,12	0,05-0,09-0,12	0,08-0,12-0,15
K.1.1	190-**300**-310	120-**160**-200	0,07-0,13-0,18	0,07-0,14-0,20	0,08-0,15-0,22	0,10-0,17-0,23	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25
K.1.2	170-**230**-290	100-**140**-180	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,13-0,18	0,10-0,15-0,20	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
K.2.1	190-**300**-310	120-**160**-200	0,07-0,13-0,18	0,07-0,13-0,18	0,08-0,13-0,18	0,10-0,17-0,23	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25	0,10-0,18-0,25
K.2.2	170-**230**-290	100-**140**-180	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,12-0,16	0,10-0,15-0,20	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
K.3.1	130-**170**-210	70-**110**-150	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,12-0,16	0,10-0,15-0,20	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
K.3.2	130-**170**-210	70-**110**-150	0,07-0,12-0,17	0,07-0,13-0,18	0,08-0,12-0,16	0,10-0,15-0,20	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22	0,10-0,16-0,22
N.1.1		150-**330**-500	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,12-0,15	0,10-0,13-0,16	0,10-0,13-0,16	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17
N.1.2		150-**300**-450	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.2.1		150-**250**-350	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.2.2		150-**225**-300	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.2.3		140-**180**-220	0,06-0,09-0,12	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,19	0,10-0,15-0,19	0,10-0,15-0,19
N.3.1		150-**225**-300	0,06-0,11-0,15	0,07-0,12-0,16	0,08-0,12-0,16	0,10-0,14-0,18	0,10-0,14-0,18	0,10-0,15-0,20	0,10-0,15-0,20	0,10-0,15-0,20
N.3.2		150-**225**-300	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17
N.3.3		150-**225**-300	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17
N.4.1		170-**200**-230	0,06-0,10-0,13	0,07-0,11-0,14	0,08-0,11-0,14	0,10-0,13-0,15	0,10-0,13-0,15	0,10-0,14-0,17	0,10-0,14-0,17	0,10-0,14-0,17
S.1.1		20-**50**-80	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.1.2		20-**50**-80	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.2.1		20-**50**-80	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.2.2		20-**50**-80	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.2.3		20-**50**-80	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.3.1		40-**70**-100	0,03-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,05-0,06	0,04-0,06-0,07	0,05-0,07-0,08	0,05-0,07-0,08	0,05-0,07-0,09
S.3.2		40-**60**-80	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,11	0,05-0,08-0,11	0,06-0,09-0,12	0,07-0,10-0,12	0,07-0,10-0,12
S.3.3		40-**60**-80	0,04-0,06-0,08	0,04-0,06-0,08	0,04-0,06-0,08	0,05-0,08-0,11	0,05-0,08-0,11	0,06-0,09-0,12	0,07-0,10-0,12	0,07-0,10-0,12
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

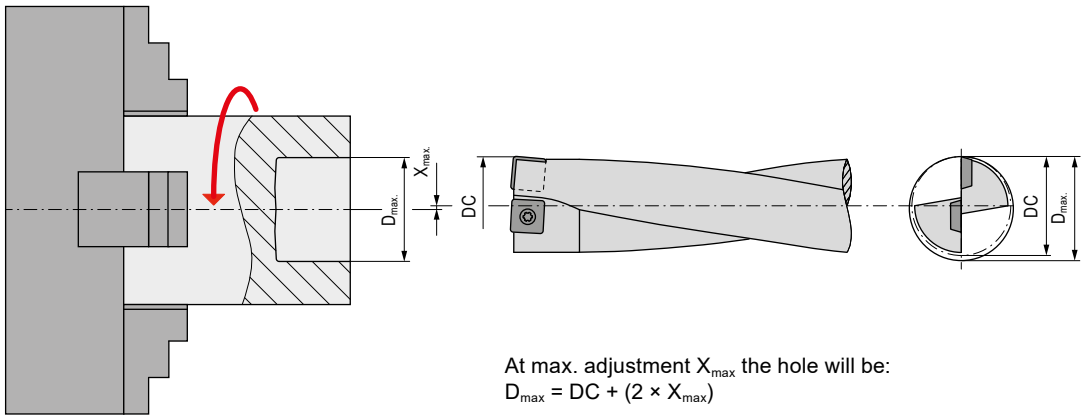
Cutting data standard values for MaxiDrill 900 – 5xD

Index	10 830 ...		10 855 ...							
	SONT		5xD – C							
	CTCP420	CTPP430	Ø 12–15,5 mm (0.472"–0.610")	Ø 16–17,5 mm (0.630"–0.689")	Ø 18–20,5 mm (0.709"–0.807")	Ø 21–23,5 mm (0.827"–0.925")	Ø 24–27,5 mm (0.945"–1.083")	Ø 28–32 mm (1.102"–1.260")	Ø 32,5–36,5 mm (1.278"–1.437")	Ø 37–41 mm (1.457"–1.614")
	v_c (ft/min) min. – Recommended – max.		f (inch/rev) min. – Recommended – max.							
P.1.1	625-**985**-1015	590-**755**-920	.002-.003-.005	.002-.003-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.003-.006-.008
P.1.2	625-**985**-1015	590-**755**-920	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.003-.006-.008
P.1.3	625-**985**-1015	590-**755**-920	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.003-.006-.008
P.1.4	560-**755**-950	525-**675**-820	.002-.003-.004	.002-.003-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.009
P.1.5	560-**755**-950	525-**675**-820	.002-.003-.004	.002-.003-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.009
P.2.1	590-**755**-920	490-**590**-720	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.007	.003-.005-.007	.003-.006-.008	.003-.006-.008	.004-.007-.010
P.2.2	625-**985**-1015	590-**755**-920	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.003-.005-.007
P.2.3	560-**740**-920	425-**540**-655	.002-.004-.005	.002-.004-.006	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.009
P.2.4	560-**740**-920	425-**540**-655	.002-.004-.005	.002-.004-.006	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.009
P.3.1	560-**740**-920	425-**540**-655	.002-.003-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.010
P.3.2	395-**525**-655	330-**425**-525	.002-.003-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.010
P.3.3	395-**525**-655	330-**425**-525	.002-.003-.005	.002-.004-.005	.002-.004-.005	.002-.004-.006	.003-.005-.007	.003-.006-.007	.003-.006-.007	.004-.007-.010
P.4.1	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.007
P.4.2	460-**605**-755	330-**460**-590	.002-.003-.004	.002-.003-.004	.002-.0025-.003	.002-.003-.004	.002-.004-.005	.003-.004-.006	.003-.004-.006	.003-.005-.007
M.1.1	460-**605**-755	330-**425**-525	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.005-.006
M.2.1		260-**360**-460	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.006	.002-.004-.006	.002-.004-.006	.002-.004-.006	.003-.006-.008
M.3.1		260-**360**-460	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.002-.004-.005	.002-.004-.005	.003-.005-.006
K.1.1	625-**985**-1015	395-**525**-655	.003-.005-.007	.003-.006-.008	.003-.006-.009	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010	.004-.007-.010
K.1.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.005-.007	.004-.006-.008	.004-.006-.009	.004-.006-.009	.004-.006-.009	.004-.006-.009
K.2.1	625-**985**-1015	395-**525**-655	.003-.005-.007	.003-.005-.007	.003-.005-.007	.004-.007-.009	.004-.007-.010	.004-.007-.010	.004-.007-.010	.004-.007-.010
K.2.2	560-**755**-950	330-**460**-590	.003-.005-.007	.003-.005-.007	.003-.005-.006	.004-.006-.008	.004-.006-.009	.004-.006-.009	.004-.006-.009	.004-.006-.009
K.3.1	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.005-.007	.003-.005-.006	.004-.006-.008	.004-.006-.009	.004-.006-.009	.004-.006-.009	.004-.006-.009
K.3.2	425-**560**-690	230-**360**-490	.003-.005-.007	.003-.005-.007	.003-.005-.006	.004-.006-.008	.004-.006-.009	.004-.006-.009	.004-.006-.009	.004-.006-.009
N.1.1		490-**1085**-1640	.002-.004-.005	.003-.004-.006	.003-.005-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.1.2		490-**985**-1475	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.2.1		490-**820**-1150	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.2.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.2.3		460-**590**-720	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.1		490-**740**-985	.002-.004-.006	.003-.005-.006	.003-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.008	.004-.006-.008	.004-.006-.008
N.3.2		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.3.3		490-**740**-985	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007
N.4.1		560-**655**-755	.002-.004-.005	.003-.004-.006	.003-.004-.006	.004-.005-.006	.004-.005-.006	.004-.006-.007	.004-.006-.007	.004-.006-.007
S.1.1		65-**165**-260	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.1.2		65-**165**-260	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.2.1		65-**165**-260	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.2.2		65-**165**-260	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.2.3		65-**165**-260	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.3.1		130-**230**-330	.001-.0015-.002	.0015-.002-.0025	.0015-.002-.0025	.0015-.002-.0025	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004
S.3.2		130-**195**-260	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005
S.3.3		130-**195**-260	.002-.0025-.003	.002-.0025-.003	.002-.0025-.003	.002-.003-.004	.002-.003-.004	.002-.004-.005	.003-.004-.005	.003-.004-.005
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

During drilling operations on through holes using a fixed drill and a rotating workpiece, a sharp-edged disc will be produced. Safety precautions must be observed. A safety guard has to be provided as protection against chips flying out.
To guarantee efficient chip evacuation from the hole, a minimum coolant pressure of 5 bar is required. The optimal coolant pressure is > 15 bar.
Only use **CTCP420 -M30** as an outer cutting edge; use **CTPP430 -M30** as an inner cutting edge!

Pentron / Pentron CS – Stationary usage

Maximum adjustment range (X) during solid drilling from the center for stationary applications



At max. adjustment X_{max} the hole will be:
$D_{max} = DC + (2 \times X_{max})$

Example:
DC = 20 mm, X_{max} = 0.25 mm
D_{max} = 20 mm + (2 × 0.25 mm) = 20.5 mm

Pentron

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
14,0	14,5	0,25	SOGX 04....
14,5	15,0		
15,0	15,5		
15,5	16,0		
16,0	16,5		
16,5	17,0	0,25	SOGX 05....
17,0	17,5		
17,5	18,0		
18,0	18,5		
18,5	19,0	0,25	SOGX 06....
19,0	19,5		
19,5	20,0		
20,0	20,5		
20,5	21,0	0,25	SOGX 07....
21,0	21,5		
21,5	22,0		
22,0	22,5		
22,5	23,0		
23,0	23,5		
23,5	24,0	0,25	SOGX 08....
24,0	24,5		
24,5	25,0		
25,0	25,5		
25,5	26,0		
26,0	26,5		
26,5	27,0	0,25	SOGX 09....
27,0	27,5		
27,5	28,0		
28,0	28,5		
28,5	29,0		
29,0	29,5		
29,5	30,0		
30,0	30,5		
31,0	31,5	0,25	SOGX 10....
32,0	32,5		
33,0	33,5		

Pentron

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
34,0	34,5	0,25	SOGX 11....
35,0	35,5		
36,0	36,5		
37,0	37,5		
38,0	38,5	0,25	SOGX 12....
39,0	39,5		
40,0	40,5		
41,0	41,5		
42,0	42,5		
43,0	43,5	0,25	SOGX 13....
44,0	44,5		
45,0	45,5		
46,0	46,5		
47,0	47,5	0,25	SOGX 08....
48,0	48,5		
49,0	49,5		
50,0	50,5		
51,0	51,5		
52,0	52,5		
53,0	53,5	0,25	SOGX 10....
54,0	54,5		
55,0	55,5		
56,0	56,5		
57,0	57,5		
58,0	58,5		
59,0	59,5		
60,0	60,5		
61,0	61,5		
62,0	62,5		
63,0	63,5		
64,0	64,5		
65,0	65,5		

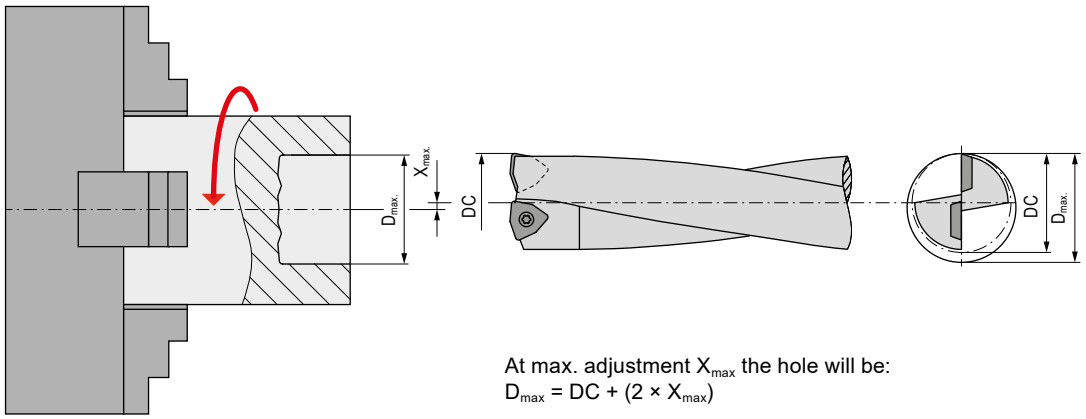
Pentron CS

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
64,0	64,5	0,25	SOGX 10....
65,0	65,5		
66,0	66,5		
67,0	67,5		
68,0	68,5		
69,0	69,5		
70,0	70,5	0,25	SOGX 11....
71,0	71,5		
72,0	72,5		
73,0	73,5		
74,0	74,5		
75,0	75,5		
76,0	76,5	0,25	SOGX 12....
77,0	77,5		
78,0	78,5		
79,0	79,5		
80,0	80,5		
81,0	81,5		
82,0	82,5		
83,0	83,5		
84,0	84,5		
85,0	85,5	0,25	SOGX 13....
86,0	86,5		
87,0	87,5		
88,0	88,5		
89,0	89,5		
90,0	90,5		
91,0	91,5		
92,0	92,5		
93,0	93,5		
94,0	94,5		
95,0	95,5		
96,0	96,5		

The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

Trigon – Stationary usage

Maximum adjustment range (X) during solid drilling from the center for stationary applications



At max. adjustment X_{max} the hole will be:
$D_{max} = DC + (2 \times X_{max})$

Example:
DC = 20 mm, X_{max} = 0.5 mm
D_{max} = 20 mm + (2 × 0.5 mm) = 21.0 mm

Trigon

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
14,0	15,0	0,5	WOEX 03....
15,0	16,0	0,5	
16,0	17,0	0,5	
17,0	18,0	0,5	
18,0	19,0	0,5	
19,0	20,0	0,5	
20,0	21,0	0,5	WOEX 04....
21,0	22,0	0,5	
22,0	23,0	0,5	
23,0	24,0	0,5	
24,0	25,0	0,5	
25,0	26,0	0,5	WOEX 05....
26,0	28,0	1,0	
27,0	30,0	1,5	
28,0	31,0	1,5	
29,0	32,0	1,5	
30,0	32,5	1,25	
31,0	33,5	1,25	
32,0	34,0	1,0	
33,0	34,0	0,5	
34,0	35,0	0,5	
35,0	36,0	0,5	
36,0	37,0	0,5	
37,0	40,0	1,5	WOEX 06....
38,0	41,0	1,5	
39,0	42,0	1,5	
40,0	43,0	1,5	
41,0	44,0	1,5	
42,0	45,0	1,5	
43,0	45,0	1,0	
44,0	45,0	0,5	

Trigon

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
45,0	48,0	1,5	WOEX 08....
46,0	49,0	1,5	
47,0	50,0	1,5	
48,0	51,0	1,5	
49,0	52,0	1,5	
50,0	53,0	1,5	
51,0	54,0	1,5	
52,0	55,0	1,5	
53,0	55,0	1,0	
54,0	55,0	0,5	
55,0	58,0	1,5	WOEX 10....
56,0	59,0	1,5	
57,0	60,0	1,5	
58,0	61,0	1,5	
59,0	62,0	1,5	
60,0	63,0	1,5	
61,0	64,0	1,5	
62,0	65,0	1,5	
63,0	66,0	1,5	
64,0	67,0	1,5	
65,0	68,0	1,5	
66,0	69,0	1,5	
67,0	69,5	1,25	
68,0	70,0	1,0	

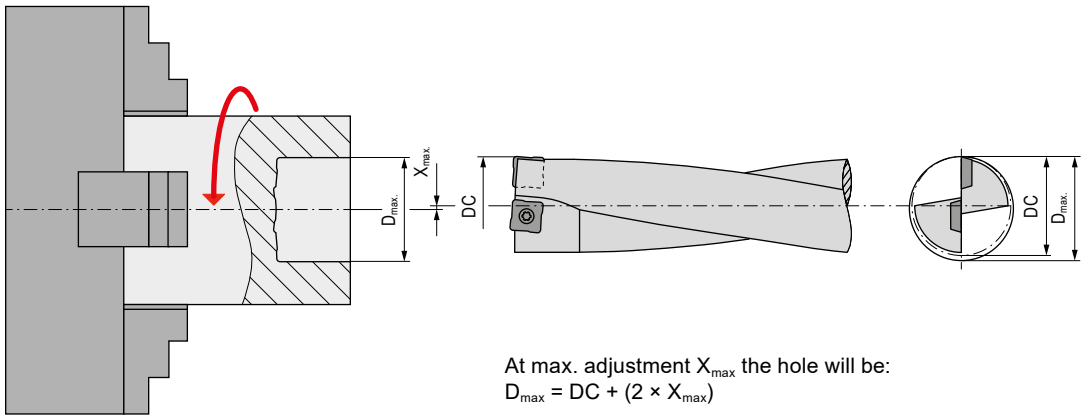
Trigon

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
69,0	72,0	1,5	WOEX 12....
70,0	73,0	1,5	
71,0	74,0	1,5	
72,0	75,0	1,5	
73,0	76,0	1,5	
74,0	77,0	1,5	
75,0	78,0	1,5	
76,0	79,0	1,5	
77,0	80,0	1,5	
78,0	81,0	1,5	
79,0	82,0	1,5	
80,0	82,0	1,0	
81,0	82,5	0,75	
82,0	83,0	0,5	

The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

MaxiDrill 900 – Stationary usage

Maximum adjustment range (X) during solid drilling from the center for stationary applications



At max. adjustment X_{max} the hole will be:
$D_{max} = DC + (2 \times X_{max})$

Example:
DC = 20 mm, X_{max} = 0.20 mm
D_{max} = 20 mm + (2 × 0.20 mm) = 20.4 mm

MaxiDrill 900

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
12,0	13,0	0,50	SONT 03....
12,5	13,3	0,40	
13,0	13,7	0,35	
13,5	14,1	0,30	
14,0	14,7	0,35	SONT 04....
14,5	15,0	0,25	
15,0	15,4	0,20	
15,5	15,8	0,15	
16,0	16,8	0,40	SONT 05....
16,5	17,2	0,35	
17,0	17,6	0,30	
17,5	18,0	0,25	
18,0	19,0	0,50	SONT 06....
18,5	19,3	0,40	
19,0	19,7	0,35	
19,5	20,0	0,25	
20,0	20,4	0,20	
20,5	20,8	0,15	
21,0	21,7	0,35	SONT 07....
21,5	22,1	0,30	
22,0	22,5	0,25	
22,5	22,8	0,15	
23,0	23,3	0,15	
23,5	23,7	0,10	

MaxiDrill 900

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
24,0	25,3	0,65	SONT 08....
24,5	25,6	0,55	
25,0	26,1	0,55	
25,5	26,3	0,40	
26,0	26,7	0,35	
26,5	27,1	0,30	
27,0	27,5	0,25	
27,5	27,8	0,15	
28,0	29,8	0,90	SONT 09....
28,5	30,1	0,80	
29,0	30,5	0,75	
29,5	30,9	0,70	
30,0	31,2	0,60	
30,5	31,6	0,55	
31,0	31,9	0,45	
31,5	32,3	0,40	
32,0	32,6	0,30	
32,5	34,1	0,80	SONT 10....
33,0	34,6	0,80	
33,5	34,8	0,65	
34,0	35,2	0,60	
34,5	35,5	0,50	
35,0	35,9	0,45	
35,5	36,2	0,35	
36,0	36,7	0,35	
36,5	36,9	0,20	

MaxiDrill 900

DC mm	$D_{max.}$ mm	$X_{max.}$ mm	Insert size
37,0	39,0	1,00	SONT 12....
38,0	39,7	0,85	
39,0	40,4	0,70	
40,0	41,0	0,50	
41,0	41,7	0,35	
42,0	43,9	0,95	SONT 13....
43,0	44,6	0,80	
44,0	45,2	0,60	
45,0	45,9	0,45	
46,0	46,6	0,30	
47,0	50,6	1,80	SONT 15....
48,0	51,3	1,65	
49,0	52,0	1,50	
50,0	52,7	1,35	
51,0	53,3	1,15	
52,0	53,9	0,95	
53,0	54,6	0,80	
54,0	55,2	0,60	
55,0	59,2	2,10	SONT 17....
56,0	59,8	1,90	
57,0	60,5	1,75	
58,0	61,1	1,55	
59,0	61,7	1,35	
60,0	62,3	1,15	
61,0	63,0	1,00	
62,0	63,7	0,85	
63,0	64,3	0,65	

The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

Coding example indexable insert drilling

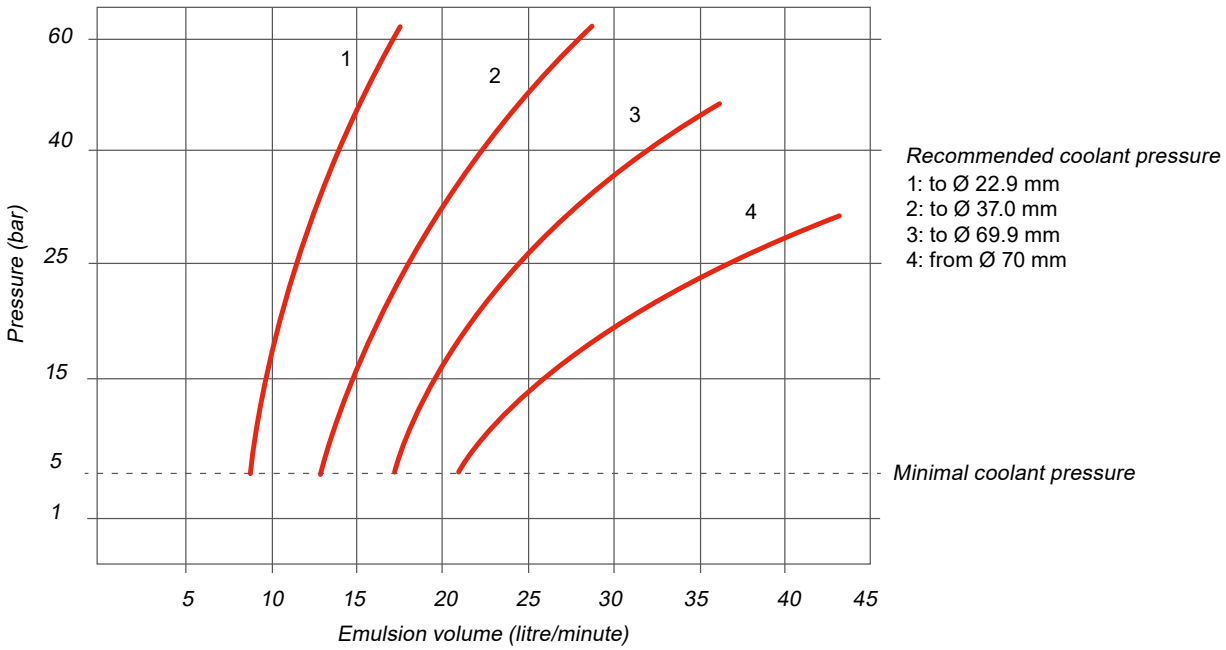
KUB-P	3D	215	R	07	ABS	50
KUB-P = Pentron KUB-T = Trigon MD-900 = MaxiDrill 900	Length	Bore diameter 215 = 21,5 mm	Direction of rotation R = right L= left	Insert size	Machine connection: ABS, PSC C = cylindrical shank K = combi shank	Size

KUB-P.GH-CS	3D	76-78	R	ABS	80
Pentron CS	Length	Bore diameter 76-78 mm	Direction of rotation R = right	Machine connection: ABS	Size

KUB-C.BK	370	R	04	-32
Centron Drill bit	Bore diameter 370 = 37,0 mm	Direction of rotation R = right	Insert size	Coupling size -32 = KLG 32

KUB-C.GH	4D	320	R	ABS	50
Centron Basic element	Length	Coupling size 320 = KLG 32	Direction of rotation R = right	Machine connection: ABS	Size

Recommended coolant pressure and coolant flow



Recommended coolant pressure
1: to Ø 22.9 mm
2: to Ø 37.0 mm
3: to Ø 69.9 mm
4: from Ø 70 mm

Coding example indexable insert drilling

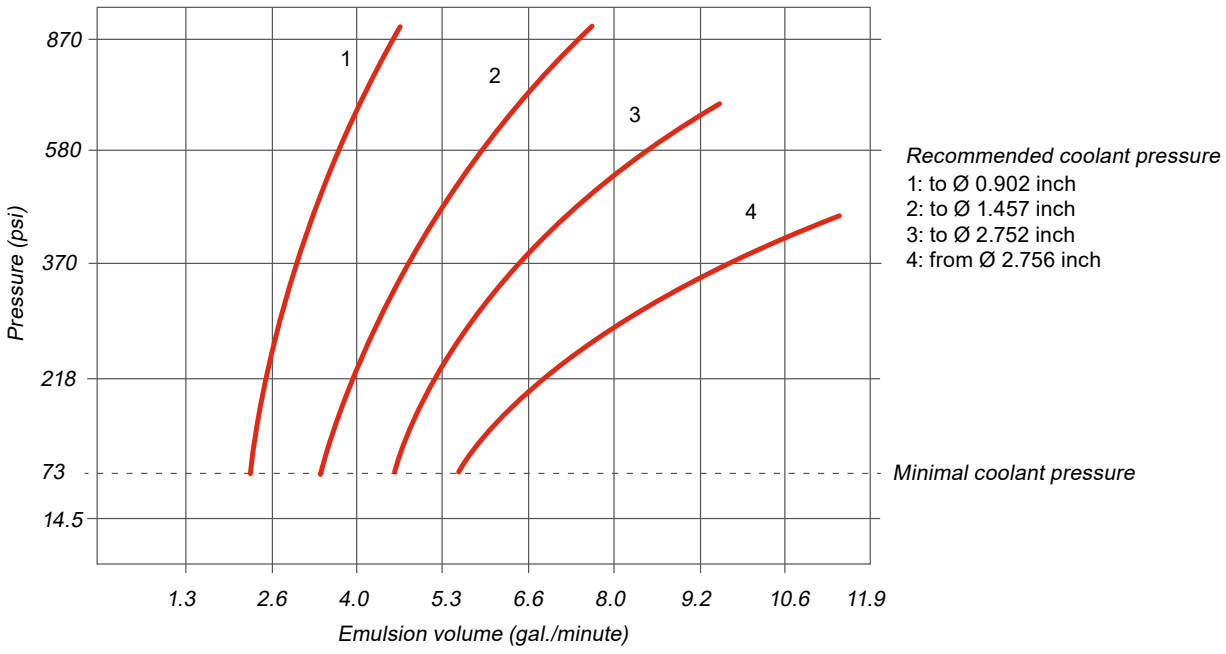
KUB-P	3D	0750	R	07	ABS	50	F
KUB-P = Pentron KUB-T = Trigon MD-900 = MaxiDrill 900	Length	Bore diameter 0750 = 0.750"	Direction of rotation R = right L= left	Insert size	Machine connection: ABS, PSC C = cylindrical shank K = combi shank	Size	F = inch front + metric shank EF = inch front + inch shank

KUB-P.GH-CS	3D	76-78	R	ABS	80
Pentron CS	Length	Bore diameter 76-78 mm	Direction of rotation R = right	Machine connection: ABS	Size

KUB-C.BK	1250	R	04	0984	F
Centron Drill bit	Bore diameter 1250 = 1.250"	Direction of rotation R = right	Insert size	Coupling size 0984 = DCONMS 0.984" (KLG 25)	F = inch front + metric shank EF = inch front + inch shank

KUB-C.GH	4D	250	R	ABS	50
Centron Basic element	Length	Coupling size 250 = KLG 25	Direction of rotation R = right	Machine connection: ABS	Size

Recommended coolant pressure and coolant flow

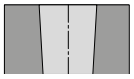


Indexable drilling – Problems / possible causes / solutions

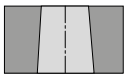
Rotating and stationary usage



Short tool life / types of wear of indexable inserts
- ▲ Cutting speed too high → select the correct cutting speed
- ▲ Cutting material has too little wear resistance → select a wear-resistant grade
- ▲ Tool overhang too large → if possible, use a shorter tool
- ▲ Damaged insert seat → check tool, replace if necessary
- ▲ Clamping device stability too low → increase stability



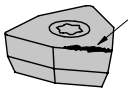
Hole tapers in
- ▲ Chip jam on the outer cutting edge → use a different chip breakage geometry, increase the feed if necessary
- ▲ Material very soft → increase the cutting speed, reduce the feed
  Use a positive cutting edge geometry



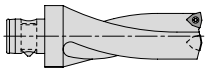
Hole tapers out
- ▲ Chip jam on the inner cutting edge → use a different chip breakage geometry, increase the feed if necessary



Poor surface quality
- ▲ Poor chip evacuation → optimize the cutting parameters: Increase the cutting speed, reduce the feed

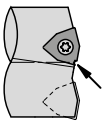


Built-up edge formation
- ▲ Cutting speed too low → increase cutting speed
- ▲ Indexable insert too negative → use positive geometry
- ▲ Unsuitable coating → select the correct coating

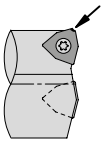


Friction marks on the tool body
- ▲ Bore diameter too small → check the setting
- ▲ Chip evacuation problems → optimize the cutting parameters, check the geometry of the indexable insert
- ▲ Cutting radius too high → use the correct cutting radius

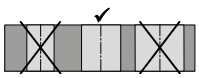
Stationary usage



Edge breakage on the inner cutting edge
- ▲ Center height of the tool too high/too low → adjust tool turret/adapter if necessary → recalibrate the machine
- ▲ Indexable insert grades interchanged → use correct indexable insert
- ▲ Feed too high → reduce feed
- ▲ Indexable insert grade too brittle → use a tougher indexable insert grade
- ▲ Incorrect indexable insert geometry → if necessary use a geometry with a chamfered cutting edge

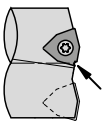


Edge breakage on the outer cutting edge
- ▲ Feed too high → reduce feed
- ▲ Interrupted cut → switch to a tougher grade of indexable insert
- ▲ Cutting radius too small → use an indexable insert with a larger cutting radius

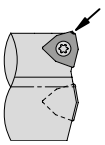


Hole too small / too large with adjustable tools
- ▲ Machine is not in the X-0 position → move axis to correct position
- ▲ Machine axis has been moved → recalibrate the machine

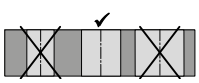
Rotating usage



Edge breakage on the inner cutting edge
- ▲ Indexable insert grades interchanged → use correct indexable insert
- ▲ Feed too high → reduce feed
- ▲ Indexable insert grade too brittle → use a tougher indexable insert grade
- ▲ Incorrect indexable insert geometry → if necessary use a geometry with a chamfered cutting edge

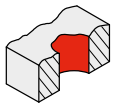


Edge breakage on the outer cutting edge
- ▲ Feed too high → reduce feed
- ▲ Interrupted cut → switch to a tougher grade of indexable insert
- ▲ Cutting radius too small → use an indexable insert with a larger cutting radius

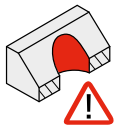


Hole too small / too large when using adjustable tools
- ▲ Incorrect cutting radius used → use the correct cutting radius
- ▲ Incorrect setting → use the correct tool setting
- ▲ Increase cutting fluid supply

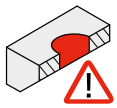
Centron – Notes on drilling technology

1. 

Center drill entering on uneven surfaces (casting surfaces)
- ▲ Generally possible
- ▲ Reduce feed when spot drilling

2. 

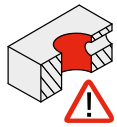
Center drill entering on angled surfaces
- ▲ The spot drilling location must be spot faced in advance
- ▲ Avoid chips jamming on the drill shank

3. 

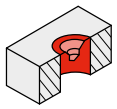
Angled drill exit
- ▲ Possible under certain conditions
- ▲ If necessary, reduce feed
- ▲ Drilling angle max. 3°

4. 

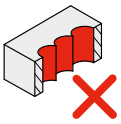
Center drill entering on convex surfaces
- ▲ Central spot drilling possible with reduced feed
- ▲ If the spot drilling location is outside the center of the radius, spot facing is required

5. 

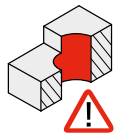
Drilling through a cross hole
- ▲ Halve the feed for interrupted cut
- ▲ Transverse hole max. 1/3 of the bore diameter
- ▲ Eccentric transverse hole not possible

6. 

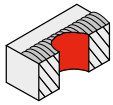
Center drill entering on pre-op or large center drilled hole
- ▲ Possible under certain conditions
- ▲ If necessary, reduce feed
- ▲ In the case of a large center, face turning is required in advance
- ▲ If necessary, optimize the basic setting of the centering tip

7. 

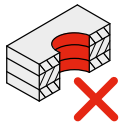
Drilling a cavity
- ▲ Not possible

8. 

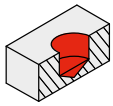
Center drill entering on an edge
- ▲ Not possible with 4xD tools
- ▲ Preparation required due to undefined spot drilling location (spot facing, face milling)
- ▲ Then continue as described under Point 1

9. 

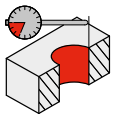
Center drill entering on a forging/welding/casting seam
- ▲ Reduce feed when spot drilling
- ▲ If necessary, carry out facing in advance

10. 

Drilling through stacks
- ▲ Not possible

11. 

Blind hole
- ▲ Possible
- ▲ Set guide rails 0.5 mm below actual Ø

12. 

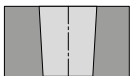
Adjustable
- ▲ Adjustable from a diameter of 65 mm

Centron – Problems / possible causes / solutions

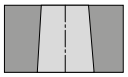
Rotating and stationary usage



Short tool life / types of wear of indexable inserts
- ▲ Cutting speed too high → select the correct cutting speed
- ▲ Cutting material has too little wear resistance → select a wear-resistant grade
- ▲ Tool overhang too large → if possible, use a shorter tool
- ▲ Damaged insert seat → check tool, replace if necessary
- ▲ Clamping device stability too low → increase stability



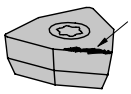
Hole tapers in
- ▲ Chip jam on the outer cutting edge → use a different chip breakage geometry, increase the feed if necessary
- ▲ Material very soft → increase the cutting speed, reduce the feed
- ▲ Use positive cutting edge geometry
- ▲ Axial adjustment of the centering tip not optimal → adjust according to the setting sheet in the operating instructions



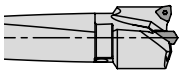
Hole tapers out
- ▲ Chip jam on the inner cutting edge → use a different chip breakage geometry, increase the feed if necessary



Poor surface quality
- ▲ Poor chip evacuation → optimize the cutting parameters: Increase the cutting speed, reduce the feed

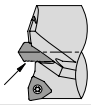


Built-up edge formation
- ▲ Cutting speed too low → increase cutting speed
- ▲ Indexable insert too negative → use positive geometry
- ▲ Unsuitable coating → select the correct coating

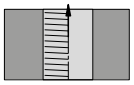


Friction marks on the tool body
- ▲ Bore diameter too small → check the setting
- ▲ Chip evacuation problems → optimize the cutting parameters, check the geometry of the indexable insert
- ▲ Cutting radius too high → use the correct cutting radius
- ▲ Chips stuck on the supporting element, broken supporting elements, the supporting element does not have to be used for base elements of < 6xD

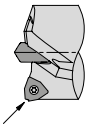
Stationary usage



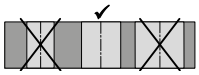
Significant wear on one side of the center drill
- ▲ Tool not centered → tool turret/adapter may have moved → recalibrate the machine



Single-sided retract marks
- ▲ Tool not centered → tool turret/adapter may have moved → recalibrate the machine

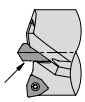


Edge breakage on the outer cutting edge
- ▲ Feed too high → reduce feed
- ▲ Interrupted cut → switch to a tougher grade of indexable insert
- ▲ Cutting radius too small → use an indexable insert with a larger cutting radius

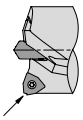


Hole too small / too large with adjustable tools
- ▲ Machine is not in the X-0 position → move axis to correct position
- ▲ Machine axis has been moved → recalibrate the machine

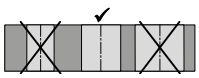
Rotating usage



Significant wear on one side of the center drill
- ▲ Guidance insufficient → check length adjustment of the centering tip

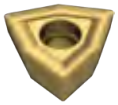


Edge breakage on the outer cutting edge
- ▲ Feed too high → reduce feed
- ▲ Interrupted cut → switch to a tougher grade of indexable insert
- ▲ Cutting radius too small → use an indexable insert with a larger cutting radius

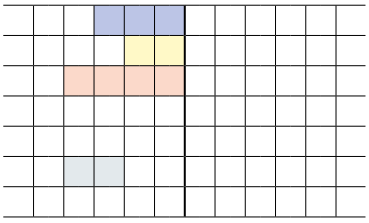
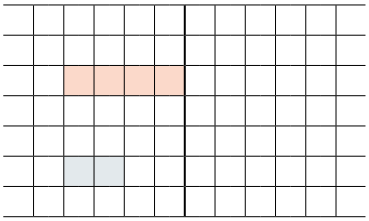
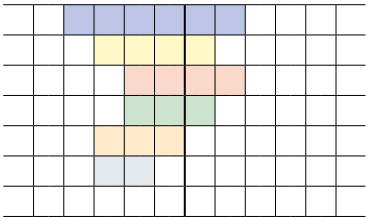
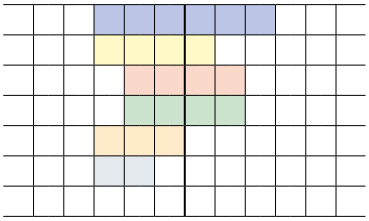
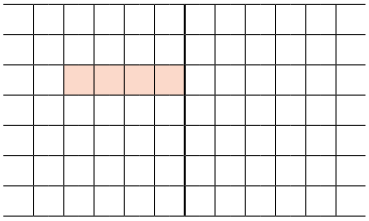
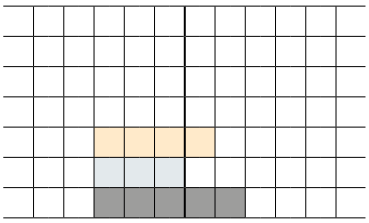
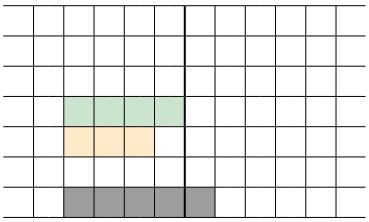


Hole too small / too large with adjustable tools
- ▲ Incorrect cutting radius used → use the correct cutting radius
- ▲ Incorrect setting → use the correct tool setting

Chip breakers

		WOEX	SOGX	SONT
-01	▲ Universal geometry with stable cutting edge, suitable for a wide range of materials ▲ Can be used for center and periphery (BK6115 -01: Recommended for periphery only)			
-03	▲ Geometry for chip breakage problems with excellent chip control even at low feeds ▲ WOEX BK8425 -03: Can be used for periphery only ▲ SOGX BK8430 -03: Suitable for center and periphery ▲ Main application in long-chipping materials as well as low alloy and stainless steels			
-11	▲ Highly positive, minimally rounded chip breaker ▲ For soft-cutting usage ▲ Main application in aluminum or heat-resistant materials			
-13	▲ Positive geometry, the dome-shaped chip breaker results in more controlled breaking of the chips ▲ Can be used for center and periphery ▲ Also suitable for unstable machining conditions due to low cutting forces and power consumption ▲ Can be used with a wide range of materials			
-21	▲ Highly positive, soft-cutting geometry ▲ Can be used for center and periphery ▲ BK7935: Can be used for periphery only ▲ Lower cutting forces and reduced power consumption ▲ Main application (depending on grade) in non-ferrous metals, steels, and stainless steels, extended application range also for titanium alloys			
-32	▲ Minimized burr formation on entry and exit of hole ▲ Reliable separation of disc-shaped residual material when the drill exits the hole ▲ Suitable for a wide range of materials			
-34	▲ High-feed geometry ▲ Extremely sturdy indexable insert ▲ Requires higher drive power and stable setup ▲ Designed specially for steel and cast iron materials			
-M30	▲ Universal geometry ▲ Stable indexable insert, also suitable for high feeds ▲ CTPP430: Can be used for center and periphery ▲ CTCP420: Only suitable for periphery			

Grade description

Grades			ISO application range v_c+ Wear-resistant — v_c− Tough 01 05 10 15 20 25 30 35 40 45 50	Grade description Specification / Application recommendation
	Main application ●			
	Secondary application ○			
BK6115	P	●		▲ Carbide, TiCN-TiN-Al_2O_3-coated ▲ ISO | **P20** | **M20** | **K20** | H20 ▲ High-quality, surface-treated coating for machining cast iron materials under normal to stable conditions and at high cutting speeds.
	M	●		
	K	●		
	N			
	S			
	H	○		
	O			
BK62	P			▲ Carbide, TiN-TiCN-Al_2O_3-coated ▲ ISO | **K15** | H15 ▲ Special carbide grade for machining cast iron materials at high cutting speeds. Not suitable for machining aluminum materials.
	M			
	K	●		
	N			
	S			
	H	○		
	O			
BK8425	P	●		▲ Carbide, TiAlN/TiN-coated ▲ ISO | **P25** | **M25** | **K25** | N25 | **S25** | H25 ▲ Universal grade with greater wear resistance thanks to innovative PVD multi-layer coating.
	M	●		
	K	●		
	N	○		
	S	●		
	H	○		
	O			
BK8430	P	●		▲ Carbide, TiAlN/TiN-coated ▲ ISO | **P25** | **M25** | **K25** | N25 | **S25** | H25 ▲ Fine-grain grade with high wear resistance. ▲ Extreme edge stability and maximum wear resistance in the middle and top speed range.
	M	●		
	K	●		
	N	○		
	S	●		
	H	○		
	O			
BK7615	P			▲ Carbide, TiCN-Al_2O_3-coated ▲ ISO | **K15** ▲ Highly productive cutting material grade with extreme edge stability for wet and dry machining of all cast iron materials.
	M			
	K	●		
	N			
	S			
	H			
	O			
BK77	P			▲ Carbide, TiN-coated ▲ ISO | **S10** | H10 | O10 ▲ The wear-resistant carbide grade for machining aluminum alloys, super alloys, and plastics at medium cutting speeds.
	M			
	K			
	N			
	S	●		
	H	○		
	O	○		
BK7710	P			▲ Carbide, TiB_2-coated ▲ ISO | **N10** | S10 | O10 ▲ The wear-resistant grade with optimum cutting characteristics to prevent built-up edge formation for machining aluminum and titanium alloys.
	M			
	K			
	N	●		
	S	○		
	H			
	O	○		
			01 05 10 15 20 25 30 35 40 45 50	

Grade description

Grades			ISO application range V_c+ Wear-resistant — V_c− Tough 01 05 10 15 20 25 30 35 40 45 50	Grade description Specification / Application recommendation
	Main application ●			
	Secondary application ○			
BK79	P	●		▲ Carbide, TiAlN-coated ▲ ISO | **P40** | **M35** | **K25** | N30 ▲ Universally applicable grade with high wear resistance. ▲ Low to medium cutting speed for roughing and finishing as well as interrupted cut.
	M	●		
	K	●		
	N	○		
	S			
	H			
	O			
BK7935	P	●		▲ Carbide, AlTiN-coated ▲ ISO | **P35** | **M30** | **K30** | N30 | **S30** | O30 ▲ The tough carbide grade for machining stainless steel and acid-resistant steels as well as special alloys.
	M	●		
	K	●		
	N	○		
	S	●		
	H			
	O	○		
CTCP420 DRAGONSKIN	P	●		▲ Carbide, TiCN-Al_2O_3-coated ▲ ISO | **P20** | **K20** ▲ The wear-resistant solution for steel and cast iron materials at high cutting speeds.
	M			
	K	●		
	N			
	S			
	H			
	O			
CTPP430 DRAGONSKIN	P	●		▲ Carbide, TiAlN-coated ▲ ISO | **P30** | **M25** | S25 | K30 | N25 ▲ The universal high-performance grade for steel, austenitic steel, and heat-resistant alloys.
	M	●		
	K	○		
	N	○		
	S	○		
	H			
	O			
			01 05 10 15 20 25 30 35 40 45 50	

Designation key

C T C P 4 2 0 -P (Example)

CT
CERATIZIT

-P (Performance)

Degree of hardness

05	ISO 05
10	ISO 10
15	ISO 15
20	ISO 20
25	ISO 25
30	ISO 30
35	ISO 35
40	ISO 40

Process

1	Turning
2	Milling
3	Grooving
4	Drilling
5	Thread turning
6	Other
7	Several processes

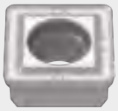
Main application - material

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat-resistant
H	Hardened steel
O	Non-metal materials
X	Universal application

Coating

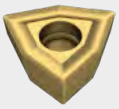
W	Carbide, uncoated
C	CVD-coated carbide
P	PVD-coated carbide
T	Cermet, uncoated
E	Cermet, coated
N	Silicon nitride, uncoated
M	Silicon nitride, coated
S	Mixed ceramic
K	Whisker ceramic
I	SiAlON
D	PCD
B	PcBN
H	HSS sintered

Overview – Indexable inserts

90°	SOGX		
	SOGX ... → -01	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Universal topography with stable cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	SOGX ... → -03	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	SOGX ... → -13	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	SOGX ... → -21 BK7710	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Four-edged alternative to PCD-equipped cutting inserts
	SOGX ... → -21 BK7935	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.
	SOGX ... → -21 BK8430	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded
	SOGX ... → -32	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for burr-minimizing drill exit for steel materials ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm
	SOGX ... → -34	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ High-feed geometry ▲ Extremely stable, chamfered, and rounded cutting edge ▲ Main application area: short-chipping steel materials and cast iron materials

Overview – Indexable inserts

84° WOEX, WOGX

	WOEX ... → -00	For drilling tools Trigon (outer cutting edge only), Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Soft-cutting rounded cutting edge ▲ Especially suitable for less powerful machines and unstable workpieces
	WOEX ... → -01	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Universal topography with stable, chamfered cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	WOEX ... → -02	For Twin cutter, special tools (boring step)	▲ Extremely stable, chamfered, and rounded cutting edge ▲ Thanks to 82° wedge angle, ideal for interrupted cuts ▲ Raised chip breaker ensures good chip formation even with problematic materials ▲ Depth of cut a_p < 1.5 mm
	WOEX ... → -03	For drilling tools Trigon (outer cutting edge only), Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	WOEX ... → -11	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Three-edged alternative to PCD-equipped cutting inserts
	WOEX ... → -13	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	WOGX ... → -15	For Twin cutter, special tools (boring step)	▲ Semi-finishing chip breakage topography ▲ Optimum chip control from depth of cut > 0.25 mm
	WOGX ... → -16	For Twin cutter, special tools (boring step)	▲ Semi-finishing chip breakage topography with wiper geometry ▲ Setting angle KAPR = 90° ▲ Optimum chip control from depth of cut > 0.25 mm
	WOEX ... → -20	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Rounded, partially chamfered cutting edge ▲ Indexable insert geometry for corrosion and acid-resistant steels with increased tensile strength

Overview – Indexable inserts

90°	SOEX, SOHX		
	SOEX ... → -01	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Universal topography with stable cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	SOEX ... → -03	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	SOEX ... → -13	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	SOEX ... → -21 BK7710	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Four-edged alternative to PCD-equipped cutting inserts
	SOEX ... → -21 BK7935	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.
	SOEX ... → -21 BK8430	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded
	SOEX ... → -32, -33	For drilling tools Quatron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for burr-minimizing drill exit for steel materials ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm
	SOHX ... → -21	For special tools (boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded, periphery ground ▲ Compatible with SOEX indexable inserts

Overview – Indexable inserts

XOHX



XOHX ...
→

For drilling tools Duon

▲ Tangential, stable geometry for cast iron materials

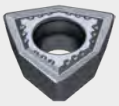
84° WCGT



WCGT ...
→

For drilling tools
MaxiDrill Classic

84° XOMT



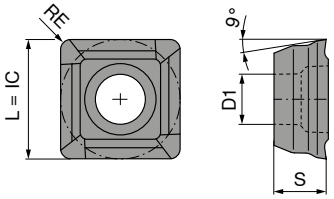
XOMT ...
→

For drilling tools
MaxiDrill Classic

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Universal topography with stable cutting edge
- ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials



-01 BK8425	-01 BK7935	-01 BK7710	-01 BK6115
			
SOGX	SOGX	SOGX	SOGX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...
SOGX 040204EN	W80 10010.046115	4.8	2.05	2.2	4.8	0.4				40401
SOGX 040204EN	W80 10010.047710	4.8	2.05	2.2	4.8	0.4			90401	
SOGX 040204EN	W80 10010.047935	4.8	2.05	2.2	4.8	0.4		50401		
SOGX 040204EN	W80 10010.048425	4.8	2.05	2.2	4.8	0.4	30401			
SOGX 050204EN	W80 12010.046115	5.5	2.30	2.4	5.5	0.4				40501
SOGX 050204EN	W80 12010.047710	5.5	2.30	2.4	5.5	0.4			90501	
SOGX 050204EN	W80 12010.047935	5.5	2.30	2.4	5.5	0.4		50501		
SOGX 050204EN	W80 12010.048425	5.5	2.30	2.4	5.5	0.4	30501			
SOGX 060206EN	W80 18010.066115	6.2	2.60	2.75	6.2	0.6				40601
SOGX 060206EN	W80 18010.067710	6.2	2.60	2.75	6.2	0.6			90601	
SOGX 060206EN	W80 18010.067935	6.2	2.60	2.75	6.2	0.6		50601		
SOGX 060206EN	W80 18010.068425	6.2	2.60	2.75	6.2	0.6	30601			
SOGX 07T208EN	W80 20010.086115	7.1	2.60	2.97	7.1	0.8				40701
SOGX 07T208EN	W80 20010.087710	7.1	2.60	2.97	7.1	0.8			90701	
SOGX 07T208EN	W80 20010.087935	7.1	2.60	2.97	7.1	0.8		50701		
SOGX 07T208EN	W80 20010.088425	7.1	2.60	2.97	7.1	0.8	30701			
SOGX 080308EN	W80 24010.086115	8.0	2.85	3.4	8.0	0.8				40801
SOGX 080308EN	W80 24010.087710	8.0	2.85	3.4	8.0	0.8			90801	
SOGX 080308EN	W80 24010.087935	8.0	2.85	3.4	8.0	0.8		50801		
SOGX 080308EN	W80 24010.088425	8.0	2.85	3.4	8.0	0.8	30801			
SOGX 09T308EN	W80 28010.086115	8.9	3.40	3.9	8.9	0.8				40901
SOGX 09T308EN	W80 28010.087710	8.9	3.40	3.9	8.9	0.8			90901	
SOGX 09T308EN	W80 28010.087935	8.9	3.40	3.9	8.9	0.8		50901		
SOGX 09T308EN	W80 28010.088425	8.9	3.40	3.9	8.9	0.8	30901			
SOGX 100408EN	W80 32010.086115	9.8	4.10	4.2	9.8	0.8				41001
SOGX 100408EN	W80 32010.087710	9.8	4.10	4.2	9.8	0.8			91001	
SOGX 100408EN	W80 32010.087935	9.8	4.10	4.2	9.8	0.8		51001		
SOGX 100408EN	W80 32010.088425	9.8	4.10	4.2	9.8	0.8	31001			
SOGX 110408EN	W80 38010.086115	10.9	4.10	4.5	10.9	0.8				41101
SOGX 110408EN	W80 38010.087710	10.9	4.10	4.5	10.9	0.8			91101	
SOGX 110408EN	W80 38010.087935	10.9	4.10	4.5	10.9	0.8		51101		
SOGX 110408EN	W80 38010.088425	10.9	4.10	4.5	10.9	0.8	31101			
SOGX 120408EN	W80 42010.086115	12.0	5.20	4.8	12.0	0.8				41201
SOGX 120408EN	W80 42010.087710	12.0	5.20	4.8	12.0	0.8			91201	
SOGX 120408EN	W80 42010.087935	12.0	5.20	4.8	12.0	0.8		51201		
SOGX 120408EN	W80 42010.088425	12.0	5.20	4.8	12.0	0.8	31201			
SOGX 130508EN	W80 46010.086115	13.2	5.20	5.2	13.2	0.8				41301
SOGX 130508EN	W80 46010.087710	13.2	5.20	5.2	13.2	0.8			91301	
SOGX 130508EN	W80 46010.087935	13.2	5.20	5.2	13.2	0.8		51301		
SOGX 130508EN	W80 46010.088425	13.2	5.20	5.2	13.2	0.8	31301			
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→ Find the recommended values for cutting speeds here.

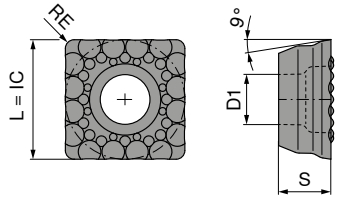


Information on solid drilling:
Only use SOGX -01 BK6115 as an outer cutting edge,
Use SOGX -01 BK8425 as a central cutting edge!

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Dome-shaped chip former with extremely good chip breakage characteristics
- ▲ Excellent chip control even at low feeds
- ▲ Main application area: Steel materials, corrosion and acid-resistant materials



-03
BK8430



SOGX

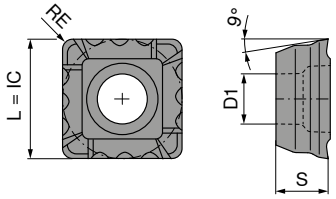
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10030.048430	4.8	2.05	2.2	4.8	0.4	**00403**
SOGX 050204EN	W80 12030.048430	5.5	2.30	2.4	5.5	0.4	**00503**
SOGX 060206EN	W80 18030.068430	6.2	2.60	2.75	6.2	0.6	**00603**
SOGX 07T208EN	W80 20030.088430	7.1	2.60	2.97	7.1	0.8	**00703**
SOGX 080308EN	W80 24030.088430	8.0	2.85	3.4	8.0	0.8	**00803**
SOGX 09T308EN	W80 28030.088430	8.9	3.40	3.9	8.9	0.8	**00903**
SOGX 100408EN	W80 32030.088430	9.8	4.10	4.2	9.8	0.8	**01003**
SOGX 110408EN	W80 38030.088430	10.9	4.10	4.5	10.9	0.8	**01103**
SOGX 120408EN	W80 42030.088430	12.0	5.20	4.8	12.0	0.8	**01203**
SOGX 130508EN	W80 46030.088430	13.2	5.20	5.2	13.2	0.8	**01303**
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle



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BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10130.048425	4.8	2.05	2.2	4.8	0.4	**30413**
SOGX 050204EN	W80 12130.048425	5.5	2.30	2.4	5.5	0.4	**30513**
SOGX 060206EN	W80 18130.068425	6.2	2.60	2.75	6.2	0.6	**30613**
SOGX 07T208EN	W80 20130.088425	7.1	2.60	2.97	7.1	0.8	**30713**
SOGX 080308EN	W80 24130.088425	8.0	2.85	3.4	8.0	0.8	**30813**
SOGX 09T308EN	W80 28130.088425	8.9	3.40	3.9	8.9	0.8	**30913**
SOGX 100408EN	W80 32130.088425	9.8	4.10	4.2	9.8	0.8	**31013**
SOGX 110408EN	W80 38130.088425	10.9	4.10	4.5	10.9	0.8	**31113**
SOGX 120408EN	W80 42130.088425	12.0	5.20	4.8	12.0	0.8	**31213**
SOGX 130508EN	W80 46130.088425	13.2	5.20	5.2	13.2	0.8	**31313**

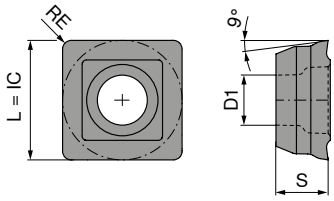
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- ▲ Extremely sharp cutting edge
- ▲ Extremely good chip formation in aluminum with low silicon content
- ▲ Four-edged alternative to PCD-equipped cutting inserts



-21
BK7710



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 825 ...
SOGX 040204EN	W80 10210.047710	4.8	2.05	2.2	4.8	0.4	**90421**
SOGX 050204EN	W80 12210.047710	5.5	2.30	2.4	5.5	0.4	**90521**
SOGX 060206EN	W80 18210.067710	6.2	2.60	2.75	6.2	0.6	**90621**
SOGX 07T208EN	W80 20210.087710	7.1	2.60	2.97	7.1	0.8	**90721**
SOGX 080308EN	W80 24210.087710	8.0	2.85	3.4	8.0	0.8	**90821**
SOGX 09T308EN	W80 28210.087710	8.9	3.40	3.9	8.9	0.8	**90921**
SOGX 100408EN	W80 32210.087710	9.8	4.10	4.2	9.8	0.8	**91021**
SOGX 110408EN	W80 38210.087710	10.9	4.10	4.5	10.9	0.8	**91121**
SOGX 120408EN	W80 42210.087710	12.0	5.20	4.8	12.0	0.8	**91221**
SOGX 130508EN	W80 46210.087710	13.2	5.20	5.2	13.2	0.8	**91321**

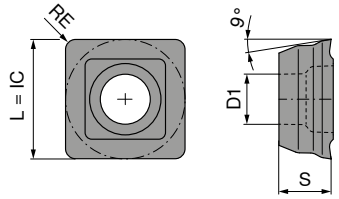
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.



-21
BK7935



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10210.047935	4.8	2.05	2.2	4.8	0.4	**50421**
SOGX 050204EN	W80 12210.047935	5.5	2.30	2.4	5.5	0.4	**50521**
SOGX 060206EN	W80 18210.067935	6.2	2.60	2.75	6.2	0.6	**50621**
SOGX 07T208EN	W80 20210.087935	7.1	2.60	2.97	7.1	0.8	**50721**
SOGX 080308EN	W80 24210.087935	8.0	2.85	3.4	8.0	0.8	**50821**
SOGX 09T308EN	W80 28210.087935	8.9	3.40	3.9	8.9	0.8	**50921**
SOGX 100408EN	W80 32210.087935	9.8	4.10	4.2	9.8	0.8	**51021**
SOGX 110408EN	W80 38210.087935	10.9	4.10	4.5	10.9	0.8	**51121**
SOGX 120408EN	W80 42210.087935	12.0	5.20	4.8	12.0	0.8	**51221**
SOGX 130508EN	W80 46210.087935	13.2	5.20	5.2	13.2	0.8	**51321**

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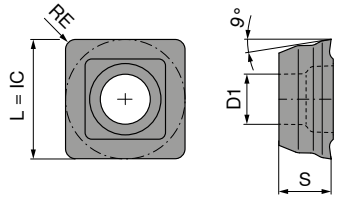
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOGX -21 BK7935 as an outer cutting edge,
Use SOGX -21 BK8430 as a central cutting edge!

Pentron – Carbide drilling indexable insert

SOGX

▲ Positive geometry for steel materials
▲ Cutting edge rounded



-21
BK8430



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10210.048430	4.8	2.05	2.2	4.8	0.4	**00421**
SOGX 050204EN	W80 12210.048430	5.5	2.30	2.4	5.5	0.4	**00521**
SOGX 060206EN	W80 18210.068430	6.2	2.60	2.75	6.2	0.6	**00621**
SOGX 07T208EN	W80 20210.088430	7.1	2.60	2.97	7.1	0.8	**00721**
SOGX 080308EN	W80 24210.088430	8.0	2.85	3.4	8.0	0.8	**00821**
SOGX 09T308EN	W80 28210.088430	8.9	3.40	3.9	8.9	0.8	**00921**
SOGX 100408EN	W80 32210.088430	9.8	4.10	4.2	9.8	0.8	**01021**
SOGX 110408EN	W80 38210.088430	10.9	4.10	4.5	10.9	0.8	**01121**
SOGX 120408EN	W80 42210.088430	12.0	5.20	4.8	12.0	0.8	**01221**
SOGX 130508EN	W80 46210.088430	13.2	5.20	5.2	13.2	0.8	**01321**

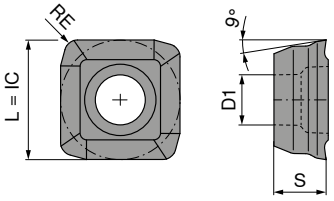
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Cutting edge geometry for burr-minimizing drill exit for steel materials
- ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced
- ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm



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BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10320.048425	4.8	2.05	2.2	4.8	0.4	**30432**
SOGX 050204EN	W80 12320.048425	5.5	2.30	2.4	5.5	0.4	**30532**
SOGX 060206EN	W80 18320.068425	6.2	2.60	2.75	6.2	0.6	**30632**
SOGX 07T208EN	W80 20320.088425	7.1	2.60	2.97	7.1	0.8	**30732**
SOGX 080308EN	W80 24320.088425	8.0	2.85	3.4	8.0	0.8	**30832**
SOGX 09T308EN	W80 28320.088425	8.9	3.40	3.9	8.9	0.8	**30932**
SOGX 100408EN	W80 32320.088425	9.8	4.10	4.2	9.8	0.8	**31032**
SOGX 110408EN	W80 38320.088425	10.9	4.10	4.5	10.9	0.8	**31132**
SOGX 120408EN	W80 42320.088425	12.0	5.20	4.8	12.0	0.8	**31232**
SOGX 130508EN	W80 46320.088425	13.2	5.20	5.2	13.2	0.8	**31332**

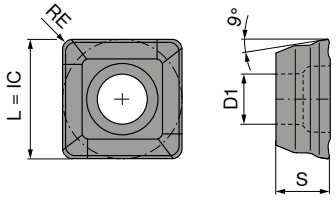
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ High-feed geometry
- ▲ Extremely stable, chamfered, and rounded cutting edge
- ▲ Main application area: short-chipping steel materials and cast iron materials



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BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204SN	W80 10340.048425	4.8	2.05	2.2	4.8	0.4	**30434**
SOGX 050204SN	W80 12340.048425	5.5	2.30	2.4	5.5	0.4	**30534**
SOGX 060206SN	W80 18340.068425	6.2	2.60	2.75	6.2	0.6	**30634**
SOGX 07T208SN	W80 20340.088425	7.1	2.60	2.97	7.1	0.8	**30734**
SOGX 080308SN	W80 24340.088425	8.0	2.85	3.4	8.0	0.8	**30834**
SOGX 09T308SN	W80 28340.088425	8.9	3.40	3.9	8.9	0.8	**30934**
SOGX 100408SN	W80 32340.088425	9.8	4.10	4.2	9.8	0.8	**31034**
SOGX 110408SN	W80 38340.088425	10.9	4.10	4.5	10.9	0.8	**31134**
SOGX 120408SN	W80 42340.088425	12.0	5.20	4.8	12.0	0.8	**31234**
SOGX 130508SN	W80 46340.088425	13.2	5.20	5.2	13.2	0.8	**31334**

P	●
M	
K	●
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ... SOGX -01			
	BK6115	BK7710	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.			
P.1.1	230 - **300** - 370		195 - **250** - 310	200 - **260** - 320
P.1.2	230 - **300** - 370		170 - **220** - 270	200 - **260** - 320
P.1.3	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.1.4	195 - **250** - 310		195 - **250** - 310	195 - **250** - 310
P.1.5	230 - **300** - 370		155 - **200** - 245	210 - **270** - 330
P.2.1	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320		200 - **260** - 320	200 - **260** - 320
P.2.3	185 - **240** - 295		125 - **160** - 195	140 - **180** - 220
P.2.4	155 - **200** - 245		100 - **130** - 160	115 - **150** - 185
P.3.1	155 - **200** - 245		110 - **140** - 170	125 - **160** - 195
P.3.2	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
P.3.3	110 - **140** - 170		85 - **110** - 135	90 - **120** - 150
P.4.1	170 - **220** - 270		115 - **150** - 185	140 - **180** - 220
P.4.2	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
M.1.1	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.2.1	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.3.1	155 - **200** - 245		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 295		115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 220		90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 195		115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 125		70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 150		85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 125		70 - **90** - 110	75 - **100** - 120
N.1.1		**500**		
N.1.2		**500**		
N.2.1		**280**		
N.2.2		**280**		
N.2.3		**250**		
N.3.1		**250**		
N.3.2		**280**		
N.3.3		**390**		
N.4.1		**250**		
S.1.1			45 - **60** - 75	
S.1.2			40 - **50** - 60	
S.2.1			45 - **60** - 75	
S.2.2			40 - **50** - 60	
S.2.3			25 - **30** - 35	
S.3.1		100		
S.3.2		80		
S.3.3		50		
H.1.1	40 - **50** - 60		40 - **50** - 60	
H.1.2	35 - **45** - 55		25 - **35** - 45	
H.1.3				
H.1.4				
H.2.1	75 - **100** - 125		60 - **75** - 90	
H.3.1	40 - **50** - 60		25 - **35** - 45	
O.1.1		100		
O.1.2		100		
O.2.1				
O.2.2		100		
O.3.1		100		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -03
	BK8430
	v_c (m/min) min. – Recommended – max.
P.1.1	200 - **260** - 320
P.1.2	200 - **260** - 320
P.1.3	210 - **270** - 330
P.1.4	195 - **250** - 310
P.1.5	210 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	200 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	90 - **120** - 150
P.4.1	140 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	115 - **150** - 185
M.2.1	115 - **150** - 185
M.3.1	110 - **140** - 170
K.1.1	
K.1.2	
K.2.1	
K.2.2	
K.3.1	
K.3.2	
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -13 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	255 - **260** - 320
P.1.2	255 - **260** - 320
P.1.3	175 - **270** - 330
P.1.4	200 - **250** - 310
P.1.5	200 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	195 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	125 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	90 - **150** - 185
M.2.1	140 - **150** - 185
M.3.1	100 - **140** - 170
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ..., 10 825 ... SOGX -21		
	BK7710	BK7935	BK8430
	v_c (m/min) min. – Recommended – max.		
P.1.1		195 - **250** - 310	200 - **260** - 320
P.1.2		170 - **220** - 270	200 - **260** - 320
P.1.3		210 - **270** - 330	210 - **270** - 330
P.1.4		195 - **250** - 310	195 - **250** - 310
P.1.5		155 - **200** - 245	210 - **270** - 330
P.2.1		210 - **270** - 330	210 - **270** - 330
P.2.2		200 - **260** - 320	200 - **260** - 320
P.2.3		125 - **160** - 195	140 - **180** - 220
P.2.4		100 - **130** - 160	115 - **150** - 185
P.3.1		110 - **140** - 170	125 - **160** - 195
P.3.2		90 - **120** - 150	100 - **130** - 160
P.3.3		85 - **110** - 135	90 - **120** - 150
P.4.1		115 - **150** - 185	140 - **180** - 220
P.4.2		90 - **120** - 150	100 - **130** - 160
M.1.1		125 - **160** - 195	115 - **150** - 185
M.2.1		125 - **160** - 195	115 - **150** - 185
M.3.1		115 - **150** - 185	110 - **140** - 170
K.1.1		115 - **150** - 185	125 - **160** - 190
K.1.2		90 - **120** - 150	90 - **120** - 140
K.2.1		115 - **150** - 185	125 - **160** - 190
K.2.2		70 - **90** - 110	75 - **100** - 120
K.3.1		85 - **110** - 135	90 - **120** - 140
K.3.2		70 - **90** - 110	75 - **100** - 120
N.1.1	385 - **500** - 615		310 - **400** - 490
N.1.2	385 - **500** - 615		310 - **400** - 490
N.2.1	215 - **280** - 345		195 - **250** - 310
N.2.2	215 - **280** - 345		195 - **250** - 310
N.2.3	195 - **250** - 310		175 - **230** - 285
N.3.1	195 - **250** - 310		155 - **200** - 245
N.3.2	215 - **280** - 345		170 - **220** - 270
N.3.3	300 - **390** - 480		255 - **330** - 405
N.4.1	195 - **250** - 310		155 - **200** - 245
S.1.1		45 - **60** - 75	
S.1.2		40 - **50** - 60	
S.2.1		45 - **60** - 75	
S.2.2		40 - **50** - 60	
S.2.3		25 - **30** - 35	
S.3.1	75 - **100** - 125		
S.3.2	60 - **80** - 100		
S.3.3	40 - **50** - 60		
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1	75 - **100** - 125		
O.1.2	75 - **100** - 125		
O.2.1			155 - **200** - 245
O.2.2	75 - **100** - 125		155 - **200** - 245
O.3.1	75 - **100** - 125		155 - **200** - 245

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -32 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	255 - **260** - 320
P.1.2	255 - **260** - 320
P.1.3	175 - **270** - 330
P.1.4	200 - **250** - 310
P.1.5	200 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	195 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	125 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	90 - **150** - 185
M.2.1	140 - **150** - 185
M.3.1	100 - **140** - 170
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -34 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	
P.1.2	255 - **260** - 320
P.1.3	
P.1.4	
P.1.5	200 - **270** - 330
P.2.1	
P.2.2	
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	
P.4.2	
M.1.1	
M.2.1	
M.3.1	
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ... SOGX -01			
	BK6115	BK7710	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.			
P.1.1	755 - **985** - 1215		640 - **820** - 1015	655 - **855** - 1050
P.1.2	755 - **985** - 1215		560 - **720** - 885	655 - **855** - 1050
P.1.3	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.1.4	640 - **820** - 1015		640 - **820** - 1015	640 - **820** - 1015
P.1.5	755 - **985** - 1215		510 - **655** - 805	690 - **885** - 1085
P.2.1	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050		655 - **855** - 1050	655 - **855** - 1050
P.2.3	605 - **785** - 970		410 - **525** - 640	460 - **590** - 720
P.2.4	510 - **655** - 805		330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 805		360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
P.3.3	360 - **460** - 560		280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 885		375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
M.1.1	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.2.1	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.3.1	510 - **655** - 805		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 970		375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 720		295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 640		375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 410		230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 490		280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 410		230 - **295** - 360	245 - **330** - 395
N.1.1		**1640**		
N.1.2		**1640**		
N.2.1		**920**		
N.2.2		**920**		
N.2.3		**820**		
N.3.1		**820**		
N.3.2		**920**		
N.3.3		**1280**		
N.4.1		**820**		
S.1.1			150 - **195** - 245	
S.1.2			130 - **165** - 195	
S.2.1			150 - **195** - 245	
S.2.2			130 - **165** - 195	
S.2.3			80 - **100** - 115	
S.3.1		330		
S.3.2		260		
S.3.3		165		
H.1.1	130 - **165** - 195		130 - **165** - 195	
H.1.2	115 - **150** - 180		80 - **115** - 150	
H.1.3				
H.1.4				
H.2.1	245 - **330** - 410		195 - **245** - 295	
H.3.1	130 - **165** - 195		80 - **115** - 150	
O.1.1		330		
O.1.2		330		
O.2.1				
O.2.2		330		
O.3.1		330		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -03 BK8430 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	
K.1.2	
K.2.1	
K.2.2	
K.3.1	
K.3.2	
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -13 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ..., 10 825 ... SOGX -21		
	BK7710	BK7935	BK8430
	v_c (ft/min) min. – Recommended – max.		
P.1.1		640 - **820** - 1015	655 - **855** - 1050
P.1.2		560 - **720** - 885	655 - **855** - 1050
P.1.3		690 - **885** - 1085	690 - **885** - 1085
P.1.4		640 - **820** - 1015	640 - **820** - 1015
P.1.5		510 - **655** - 805	690 - **885** - 1085
P.2.1		690 - **885** - 1085	690 - **885** - 1085
P.2.2		655 - **855** - 1050	655 - **855** - 1050
P.2.3		410 - **525** - 640	460 - **590** - 720
P.2.4		330 - **425** - 525	375 - **490** - 605
P.3.1		360 - **460** - 560	410 - **525** - 640
P.3.2		295 - **395** - 490	330 - **425** - 525
P.3.3		280 - **360** - 445	295 - **395** - 490
P.4.1		375 - **490** - 605	460 - **590** - 720
P.4.2		295 - **395** - 490	330 - **425** - 525
M.1.1		410 - **525** - 640	375 - **490** - 605
M.2.1		410 - **525** - 640	375 - **490** - 605
M.3.1		375 - **490** - 605	360 - **460** - 560
K.1.1		375 - **490** - 605	410 - **525** - 625
K.1.2		295 - **395** - 490	295 - **395** - 460
K.2.1		375 - **490** - 605	410 - **525** - 625
K.2.2		230 - **295** - 360	245 - **330** - 395
K.3.1		280 - **360** - 445	295 - **395** - 460
K.3.2		230 - **295** - 360	245 - **330** - 395
N.1.1	1265 - **1640** - 2020		1015 - **1310** - 1610
N.1.2	1265 - **1640** - 2020		1015 - **1310** - 1610
N.2.1	705 - **920** - 1130		640 - **820** - 1015
N.2.2	705 - **920** - 1130		640 - **820** - 1015
N.2.3	640 - **820** - 1015		575 - **755** - 935
N.3.1	640 - **820** - 1015		510 - **655** - 805
N.3.2	705 - **920** - 1130		560 - **720** - 885
N.3.3	985 - **1280** - 1575		835 - **1085** - 1330
N.4.1	640 - **820** - 1015		510 - **655** - 805
S.1.1		150 - **195** - 245	
S.1.2		130 - **165** - 195	
S.2.1		150 - **195** - 245	
S.2.2		130 - **165** - 195	
S.2.3		80 - **100** - 115	
S.3.1	245 - **330** - 410		
S.3.2	195 - **260** - 330		
S.3.3	130 - **165** - 195		
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1	245 - **330** - 410		
O.1.2	245 - **330** - 410		
O.2.1			510 - **655** - 805
O.2.2	245 - **330** - 410		510 - **655** - 805
O.3.1	245 - **330** - 410		510 - **655** - 805

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -32 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

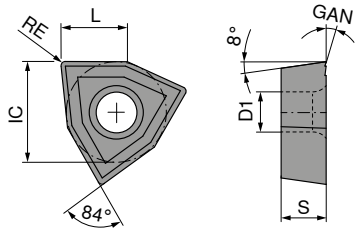
Index	**10 820 ...** SOGX -34 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	
P.1.2	835 - **855** - 1050
P.1.3	
P.1.4	
P.1.5	655 - **885** - 1085
P.2.1	
P.2.2	
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	375 - **395** - 490
P.4.1	
P.4.2	
M.1.1	
M.2.1	
M.3.1	
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – Carbide drilling indexable insert

WOEX

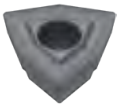
▲ Soft-cutting rounded cutting edge
▲ Especially suitable for less powerful machines and unstable workpieces





WOEX

-00
P25M



WOEX

-00
K10

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 821 ...
WOEX 05T304EN	W29 24000.0403	5.3	2.85	3.8	8.0	12°	0.4	**30500**	
WOEX 05T304EN	W29 24000.0421	5.3	2.85	3.8	8.0	12°	0.4		**35500**
WOEX 06T304EN	W29 34000.0403	6.6	4.05	3.8	10.0	12°	0.4	**30600**	
WOEX 06T304EN	W29 34000.0421	6.6	4.05	3.8	10.0	12°	0.4		**35600**
WOEX 080404EN	W29 42000.0403	7.9	4.90	4.8	12.0	12°	0.4	**30800**	
WOEX 080404EN	W29 42000.0421	7.9	4.90	4.8	12.0	12°	0.4		**35800**
WOEX 100504EN	W29 50000.0403	9.9	4.90	5.3	15.0	12°	0.4	**31000**	
WOEX 100504EN	W29 50000.0421	9.9	4.90	5.3	15.0	12°	0.4		**36000**
WOEX 120608EN	W29 58000.0821	11.6	5.95	6.0	17.6	12°	0.8		**38200**

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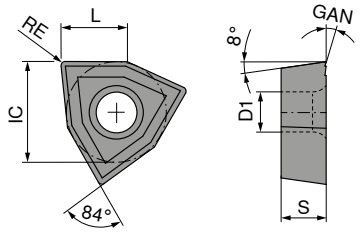
→ Find the recommended values for cutting speeds here.

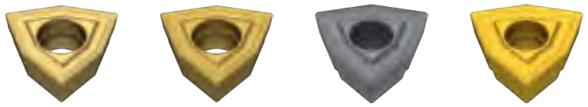
Information on solid drilling:
Only use WOEX -00 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

▲ Soft-cutting rounded cutting edge
▲ Especially suitable for less powerful machines and unstable workpieces





WOEX WOEX WOEX WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 05T304EN	W29 24000.046425	5.3	2.85	3.8	8.0	0.4	**60500**			
WOEX 05T304EN	W29 24000.046440	5.3	2.85	3.8	8.0	0.4		**25500**		
WOEX 05T304EN	W29 24000.047615	5.3	2.85	3.8	8.0	0.4			**05500**	
WOEX 05T304EN	W29 24000.048425	5.3	2.85	3.8	8.0	0.4				**30500**
WOEX 06T304EN	W29 34000.046425	6.6	4.05	3.8	10.0	0.4	**60600**			
WOEX 06T304EN	W29 34000.046440	6.6	4.05	3.8	10.0	0.4		**25600**		
WOEX 06T304EN	W29 34000.047615	6.6	4.05	3.8	10.0	0.4			**05600**	
WOEX 06T304EN	W29 34000.048425	6.6	4.05	3.8	10.0	0.4				**30600**
WOEX 080404EN	W29 42000.046425	7.9	4.90	4.8	12.0	0.4	**60800**			
WOEX 080404EN	W29 42000.046440	7.9	4.90	4.8	12.0	0.4		**25800**		
WOEX 080404EN	W29 42000.047615	7.9	4.90	4.8	12.0	0.4			**05800**	
WOEX 080404EN	W29 42000.048425	7.9	4.90	4.8	12.0	0.4				**30800**
WOEX 100504EN	W29 50000.046425	9.9	4.90	5.3	15.0	0.4	**61000**			
WOEX 100504EN	W29 50000.046440	9.9	4.90	5.3	15.0	0.4		**26000**		
WOEX 100504EN	W29 50000.048425	9.9	4.90	5.3	15.0	0.4				**31000**
WOEX 100508EN	W29 50000.086440	9.9	4.90	5.3	15.0	0.8		**28000**		
WOEX 120608EN	W29 58000.086425	11.6	5.95	6.0	17.6	0.8	**61200**			
WOEX 120608EN	W29 58000.086440	11.6	5.95	6.0	17.6	0.8		**28200**		
WOEX 120608EN	W29 58000.088425	11.6	5.95	6.0	17.6	0.8				**39200**
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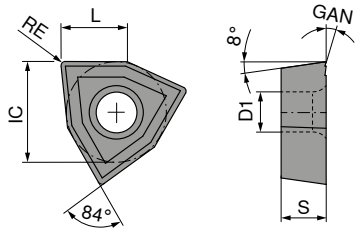
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -00 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

▲ Universal topography with stable, chamfered cutting edge
▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





WOEX WOEX WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 05T304SN	W29 24010.046420	5.3	2.85	3.8	8.0	12°	0.4			**45501**
WOEX 05T304SN	W29 24010.046425	5.3	2.85	3.8	8.0	12°	0.4		**60501**	
WOEX 05T304SN	W29 24010.046440	5.3	2.85	3.8	8.0	12°	0.4	**25501**		
WOEX 05T308SN	W29 24010.086420	5.3	2.85	3.8	8.0	12°	0.8			**48501**
WOEX 05T308SN	W29 24010.086425	5.3	2.85	3.8	8.0	12°	0.8		**62501** [1]	
WOEX 05T308SN	W29 24010.086440	5.3	2.85	3.8	8.0	12°	0.8	**28501**		
WOEX 06T304SN	W29 34010.046420	6.6	4.05	3.8	10.0	12°	0.4			**45601**
WOEX 06T304SN	W29 34010.046425	6.6	4.05	3.8	10.0	12°	0.4		**60601**	
WOEX 06T304SN	W29 34010.046440	6.6	4.05	3.8	10.0	12°	0.4	**25601**		
WOEX 06T308SN	W29 34010.086425	6.6	4.05	3.8	10.0	12°	0.8		**62601**	
WOEX 06T308SN	W29 34010.086440	6.6	4.05	3.8	10.0	12°	0.8	**28601**		
WOEX 080404SN	W29 42010.046420	7.9	4.90	4.8	12.0	12°	0.4			**45801**
WOEX 080404SN	W29 42010.046425	7.9	4.90	4.8	12.0	12°	0.4		**60801**	
WOEX 080404SN	W29 42010.046440	7.9	4.90	4.8	12.0	12°	0.4	**25801**		
WOEX 080408SN	W29 42010.086420	7.9	4.90	4.8	12.0	12°	0.8			**48801**
WOEX 080408SN	W29 42010.086425	7.9	4.90	4.8	12.0	12°	0.8		**62801**	
WOEX 080408SN	W29 42010.086440	7.9	4.90	4.8	12.0	12°	0.8	**28801**		
WOEX 100504SN	W29 50010.046420	9.9	4.90	5.3	15.0	12°	0.4			**46001**
WOEX 100504SN	W29 50010.046425	9.9	4.90	5.3	15.0	12°	0.4		**61001**	
WOEX 100504SN	W29 50010.046440	9.9	4.90	5.3	15.0	12°	0.4	**26001**		
WOEX 100508SN	W29 50010.086420	9.9	4.90	5.3	15.0	12°	0.8			**49001**
WOEX 100508SN	W29 50010.086425	9.9	4.90	5.3	15.0	12°	0.8		**63001**	
WOEX 100508SN	W29 50010.086440	9.9	4.90	5.3	15.0	12°	0.8	**28001**		
WOEX 120608SN	W29 58010.086420	11.6	5.95	6.0	17.6	12°	0.8			**48201**
WOEX 120608SN	W29 58010.086425	11.6	5.95	6.0	17.6	12°	0.8		**61201**	
WOEX 120608SN	W29 58010.086440	11.6	5.90	6.0	17.6	12°	0.8	**29201**		

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1) Not in stock

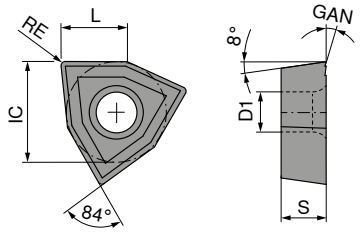
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -01 BK6420 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – HM indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





-01 BK2710	-01 BK72	-01 BK8425
WOEX	WOEX	WOEX

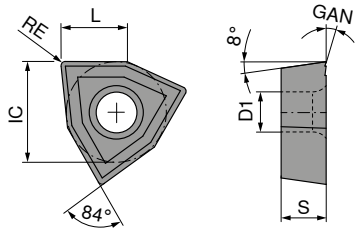
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 823 ...	IH 10 821 ...
WOEX 020102EN	W29 04010.028425	2.7	2.30	1.58	3.97	12°	0.2			**30201**
WOEX 030204EN	W29 10010.0472	3.2	2.30	2.3	5.00	12°	0.4		**20301**	
WOEX 030204EN	W29 10010.048425	3.2	2.30	2.3	5.00	12°	0.4			**30301**
WOEX 040304EN	W29 18010.0472	4.1	2.55	3.18	6.35	12°	0.4		**20401**	
WOEX 040304EN	W29 18010.048425	4.1	2.55	3.18	6.35	12°	0.4			**30401**
WOEX 05T304SN	W29 24010.042710	5.3	2.85	3.8	8.00	12°	0.4	**00501**		
WOEX 05T304SN	W29 24010.0472	5.3	2.85	3.8	8.00	12°	0.4		**20501**	
WOEX 05T304SN	W29 24010.048425	5.3	2.85	3.8	8.00	12°	0.4			**30501**
WOEX 05T308SN	W29 24010.088425	5.3	2.85	3.8	8.00	12°	0.8			**38501**
WOEX 06T304SN	W29 34010.0472	6.6	4.05	3.8	10.00	12°	0.4		**20601**	
WOEX 06T304SN	W29 34010.048425	6.6	4.05	3.8	10.00	12°	0.4			**30601**
WOEX 06T308SN	W29 34010.0872	6.6	4.05	3.8	10.00	12°	0.8		**22601**	
WOEX 06T308SN	W29 34010.088425	6.6	4.05	3.8	10.00	12°	0.8			**38601**
WOEX 080404SN	W29 42010.0472	7.9	4.90	4.8	12.00	12°	0.4		**20801**	
WOEX 080404SN	W29 42010.048425	7.9	4.90	4.8	12.00	12°	0.4			**30801**
WOEX 080408SN	W29 42010.0872	7.9	4.90	4.8	12.00	12°	0.8		**22801**	
WOEX 080408SN	W29 42010.088425	7.9	4.90	4.8	12.00	12°	0.8			**38801**
WOEX 100504SN	W29 50010.0472	9.9	4.90	5.3	15.00	12°	0.4		**21001**	
WOEX 100504SN	W29 50010.048425	9.9	4.90	5.3	15.00	12°	0.4			**31001**
WOEX 100508SN	W29 50010.088425	9.9	4.90	5.3	15.00	12°	0.8			**39001**
WOEX 120608SN	W29 58010.0872	11.6	5.95	6.0	17.60	12°	0.8		**23201**	
WOEX 120608SN	W29 58010.088425	11.6	5.95	6.0	17.60	12°	0.8			**31201**
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





WOEX WOEX WOEX

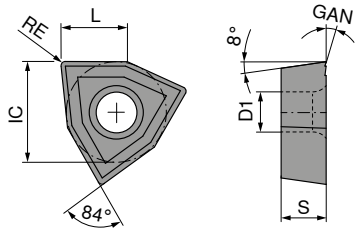
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 823 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.0404	3.2	2.30	2.3	5.00	12°	0.4		**40301**	
WOEX 030204EN	W29 10010.0421	3.2	2.30	2.3	5.00	12°	0.4			**35301**
WOEX 040304EN	W29 18010.0404	4.1	2.55	3.18	6.35	12°	0.4		**40401**	
WOEX 040304EN	W29 18010.0421	4.1	2.55	3.18	6.35	12°	0.4			**35401**
WOEX 05T304SN	W29 24010.0403	5.3	2.85	3.8	8.00	12°	0.4	**30501**		
WOEX 05T304SN	W29 24010.0404	5.3	2.85	3.8	8.00	12°	0.4		**40501**	
WOEX 05T304SN	W29 24010.0421	5.3	2.85	3.8	8.00	12°	0.4			**35501**
WOEX 05T308SN	W29 24010.0821	5.3	2.85	3.8	8.00	12°	0.8			**37501**
WOEX 06T304SN	W29 34010.0403	6.6	4.05	3.8	10.00	12°	0.4	**30601**		
WOEX 06T304SN	W29 34010.0404	6.6	4.05	3.8	10.00	12°	0.4		**40601**	
WOEX 06T304SN	W29 34010.0421	6.6	4.05	3.8	10.00	12°	0.4			**35601**
WOEX 06T308SN	W29 34010.0821	6.6	4.05	3.8	10.00	12°	0.8			**37601**
WOEX 080404SN	W29 42010.0403	7.9	4.90	4.8	12.00	12°	0.4	**30801**		
WOEX 080404SN	W29 42010.0404	7.9	4.90	4.8	12.00	12°	0.4		**40801**	
WOEX 080404SN	W29 42010.0421	7.9	4.90	4.8	12.00	12°	0.4			**35801**
WOEX 080408SN	W29 42010.0804	7.9	4.90	4.8	12.00	12°	0.8		**42801**	
WOEX 080408SN	W29 42010.0821	7.9	4.90	4.8	12.00	12°	0.8			**37801**
WOEX 100504SN	W29 50010.0403	9.9	4.90	5.3	15.00	12°	0.4	**31001**		
WOEX 100504SN	W29 50010.0404	9.9	4.90	5.3	15.00	12°	0.4		**41001**	
WOEX 100504SN	W29 50010.0421	9.9	4.90	5.3	15.00	12°	0.4			**36001**
WOEX 100508SN	W29 50010.0804	9.9	4.90	5.3	15.00	12°	0.8		**43001**	
WOEX 100508SN	W29 50010.0821	9.9	4.90	5.3	15.00	12°	0.8			**38001**
WOEX 120608SN	W29 58010.0803	11.6	5.95	6.0	17.60	12°	0.8	**33201**		
WOEX 120608SN	W29 58010.0804	11.6	5.95	6.0	17.60	12°	0.8		**43201**	
WOEX 120608SN	W29 58010.0821	11.6	5.95	6.0	17.60	12°	0.8			**38201**
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials



-01 BK62	-01 BK6115
	
WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.046115	3.2	2.30	2.3	5.00	12°	0.4		**40301**
WOEX 030204EN	W29 10010.0462	3.2	2.30	2.3	5.00	12°	0.4	**20301**	
WOEX 040304EN	W29 18010.046115	4.1	2.55	3.18	6.35	12°	0.4		**40401**
WOEX 040304EN	W29 18010.0462	4.1	2.55	3.18	6.35	12°	0.4	**20401**	
WOEX 05T304SN	W29 24010.046115	5.3	2.85	3.8	8.00	12°	0.4		**40501**
WOEX 05T304SN	W29 24010.0462	5.3	2.85	3.8	8.00	12°	0.4	**20501**	
WOEX 05T308SN	W29 24010.086115	5.3	2.85	3.8	8.00	12°	0.8		**47501**
WOEX 05T308SN	W29 24010.0862	5.3	2.85	3.8	8.00	12°	0.8	**27501**	
WOEX 06T304SN	W29 34010.046115	6.6	4.05	3.8	10.00	12°	0.4		**40601**
WOEX 06T304SN	W29 34010.0462	6.6	4.05	3.8	10.00	12°	0.4	**20601**	
WOEX 06T308SN	W29 34010.086115	6.6	4.05	3.8	10.00	12°	0.8		**47601**
WOEX 06T308SN	W29 34010.0862	6.6	4.05	3.8	10.00	12°	0.8	**27601**	
WOEX 080404SN	W29 42010.046115	7.9	4.90	4.8	12.00	12°	0.4		**40801**
WOEX 080404SN	W29 42010.0462	7.9	4.90	4.8	12.00	12°	0.4	**20801**	
WOEX 080408SN	W29 42010.086115	7.9	4.90	4.8	12.00	12°	0.8		**47801**
WOEX 080408SN	W29 42010.0862	7.9	4.90	4.8	12.00	12°	0.8	**27801**	
WOEX 100504SN	W29 50010.046115	9.9	4.90	5.3	15.00	12°	0.4		**41001**
WOEX 100504SN	W29 50010.0462	9.9	4.90	5.3	15.00	12°	0.4	**21001**	
WOEX 100508SN	W29 50010.086115	9.9	4.90	5.3	15.00	12°	0.8		**48001**
WOEX 100508SN	W29 50010.0862	9.9	4.90	5.3	15.00	12°	0.8	**27001**	
WOEX 120608SN	W29 58010.086115	11.6	5.95	6.0	17.60	12°	0.8		**41201**
WOEX 120608SN	W29 58010.0862	11.6	5.95	6.0	17.60	12°	0.8	**28201**	

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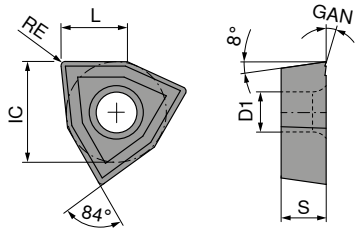
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -01 BK6115 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





WOEX



WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 020102EN	W29 04010.027935	2.6	1.90	1.6	4.00	12°	0.2	**50201**	
WOEX 030204EN	W29 10010.047615	3.2	2.30	2.3	5.00	12°	0.4		**05301**
WOEX 030204EN	W29 10010.047935	3.2	2.30	2.3	5.00	12°	0.4	**50301**	
WOEX 040304EN	W29 18010.047615	4.1	2.55	3.18	6.35	12°	0.4		**05401**
WOEX 040304EN	W29 18010.047935	4.1	2.55	3.18	6.35	12°	0.4	**50401**	
WOEX 05T304SN	W29 24010.047615	5.3	2.85	3.8	8.00	12°	0.4		**05501**
WOEX 05T304SN	W29 24010.047935	5.3	2.85	3.8	8.00	12°	0.4	**50501**	
WOEX 05T308SN	W29 24010.087615	5.3	2.85	3.8	8.00	12°	0.8		**07501**
WOEX 05T308SN	W29 24010.087935	5.3	2.85	3.8	8.00	12°	0.8	**52501**	
WOEX 06T304SN	W29 34010.047615	6.6	4.05	3.8	10.00	12°	0.4		**05601**
WOEX 06T304SN	W29 34010.047935	6.6	4.05	3.8	10.00	12°	0.4	**50601**	
WOEX 06T308SN	W29 34010.087615	6.6	4.05	3.8	10.00	12°	0.8		**07601**
WOEX 06T308SN	W29 34010.087935	6.6	4.05	3.8	10.00	12°	0.8	**52601**	
WOEX 080404SN	W29 42010.047615	7.9	4.90	4.8	12.00	12°	0.4		**05801**
WOEX 080404SN	W29 42010.047935	7.9	4.90	4.8	12.00	12°	0.4	**50801**	
WOEX 080408SN	W29 42010.087615	7.9	4.90	4.8	12.00	12°	0.8		**07801**
WOEX 080408SN	W29 42010.087935	7.9	4.90	4.8	12.00	12°	0.8	**52801**	
WOEX 100504SN	W29 50010.047615	9.9	4.90	5.3	15.00	12°	0.4		**06001**
WOEX 100504SN	W29 50010.047935	9.9	4.90	5.3	15.00	12°	0.4	**51001**	
WOEX 100508SN	W29 50010.087615	9.9	4.90	5.3	15.00	12°	0.8		**08001**
WOEX 100508SN	W29 50010.087935	9.9	4.90	5.3	15.00	12°	0.8	**53001**	
WOEX 120608SN	W29 58010.087615	11.6	5.95	6.0	17.60	12°	0.8		**08201**
WOEX 120608SN	W29 58010.087935	11.6	5.95	6.0	17.60	12°	0.8	**53201**	

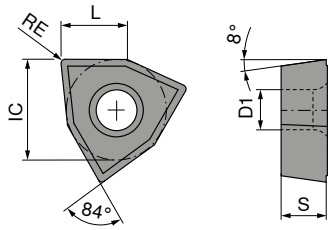
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- Extremely stable, chamfered, and rounded cutting edge
- Thanks to 82° wedge angle, ideal for interrupted cuts
- Raised chip breaker ensures good chip formation even with problematic materials
- Depth of cut a_p < 1.5 mm



	-02 BK6440	-02 BK6425
		
	WOEX	WOEX
	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 05T304SN	W29 24020.046425	5.3	2.85	3.8	8.0	0.4		**60502**
WOEX 05T304SN	W29 24020.046440	5.3	2.85	3.8	8.0	0.4	**25502**	
WOEX 05T308SN	W29 24020.086440	5.3	2.85	3.8	8.0	0.8	**27502**	
WOEX 06T304SN	W29 34020.046425	6.6	4.05	3.8	10.0	0.4		**60602**
WOEX 06T304SN	W29 34020.046440	6.6	4.05	3.8	10.0	0.4	**25602**	
WOEX 06T308SN	W29 34020.086440	6.6	4.05	3.8	10.0	0.8	**27602**	
WOEX 080404SN	W29 42020.046440	7.9	4.90	4.8	12.0	0.4	**25802**	
WOEX 080408SN	W29 42020.086440	7.9	4.90	4.8	12.0	0.8	**27802**	
WOEX 100504SN	W29 50020.046440	9.9	4.90	5.3	15.0	0.4	**26002**	
WOEX 100508SN	W29 50020.086440	9.9	4.90	5.3	15.0	0.8	**28002**	
WOEX 120608SN	W29 58020.086440	11.6	5.95	6.0	17.6	0.8	**21202**	

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→ Find the recommended values for cutting speeds here.

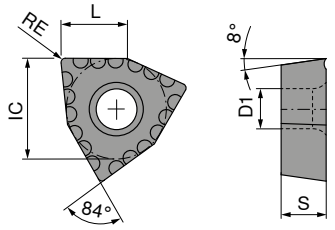


Information on solid drilling:
Only use WOEX -02 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – HM indexable insert

WOEX

- Dome-shaped chip former with extremely good chip breakage characteristics
- Excellent chip control even at low feeds
- Main application area: Steel materials, corrosion and acid-resistant materials





WOEX WOEX WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 823 ...	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10030.046425	3.2	2.30	2.3	5.00	0.4			**60303**
WOEX 030204EN	W29 10030.048425	3.2	2.30	2.3	5.00	0.4		**30303**	
WOEX 040304EN	W29 18030.046425	4.1	2.55	3.18	6.35	0.4			**60403**
WOEX 040304EN	W29 18030.048425	4.1	2.55	3.18	6.35	0.4		**30403**	
WOEX 05T304EN	W29 24030.046425	5.3	2.85	3.8	8.00	0.4			**60503**
WOEX 05T304EN	W29 24030.048425	5.3	2.85	3.8	8.00	0.4		**30503**	
WOEX 05T308EN	W29 24030.086425	5.3	2.85	3.8	8.00	0.8			**62503**
WOEX 06T304EN	W29 34030.0403	6.6	4.05	3.8	10.00	0.4	**30603**		
WOEX 06T304EN	W29 34030.046425	6.6	4.05	3.8	10.00	0.4			**60603**
WOEX 06T304EN	W29 34030.048425	6.6	4.05	3.8	10.00	0.4		**30603**	
WOEX 06T308EN	W29 34030.086425	6.6	4.05	3.8	10.00	0.8			**68603**
WOEX 06T308EN	W29 34030.088425	6.6	4.05	3.8	10.00	0.8		**37603**	
WOEX 080404EN	W29 42030.046425	7.9	4.90	4.8	12.00	0.4			**60803**
WOEX 080404EN	W29 42030.048425	7.9	4.90	4.8	12.00	0.4		**30803**	
WOEX 080408EN	W29 42030.086425	7.9	4.90	4.8	12.00	0.8			**62803**
WOEX 080408EN	W29 42030.088425	7.9	4.90	4.8	12.00	0.8		**37803**	
WOEX 100504EN	W29 50030.0403	9.9	4.90	5.3	15.00	0.4	**31003**		
WOEX 100504EN	W29 50030.046425	9.9	4.90	5.3	15.00	0.4			**61003**
WOEX 100504EN	W29 50030.048425	9.9	4.90	5.3	15.00	0.4		**31003**	
WOEX 100508EN	W29 50030.086425	9.9	4.90	5.3	15.00	0.8			**68003**
WOEX 100508EN	W29 50030.088425	9.9	4.90	5.3	15.00	0.8		**38003**	
WOEX 120608EN	W29 58030.086425	11.6	5.95	6.0	17.60	0.8			**68203**
WOEX 120608EN	W29 58030.088425	11.6	5.95	6.0	17.60	0.8		**33203**	
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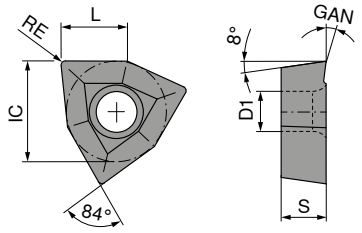
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -03 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

- Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- Extremely sharp cutting edge
- Extremely good chip formation in aluminum with low silicon content
- Three-edged alternative to PCD-equipped cutting inserts



-11 K10	-11 BK77	-11 BK7710	-11 BK50
			
WOEX	WOEX	WOEX	WOEX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	10 821 ...	10 821 ...	10 821 ...	10 823 ...
WOEX 030204EN	W29 10110.0421	3.2	2.30	2.3	5.00	20°	0.4	**30311**			
WOEX 030204EN	W29 10110.0450	3.2	2.30	2.3	5.00	20°	0.4				**10311**
WOEX 030204EN	W29 10110.0477	3.2	2.30	2.3	5.00	20°	0.4		**80311**		
WOEX 030204EN	W29 10110.047710	3.2	2.30	2.3	5.00	20°	0.4			**90311**	
WOEX 040304EN	W29 18110.0450	4.1	2.55	3.18	6.35	20°	0.4				**10411**
WOEX 040304EN	W29 18110.0477	4.1	2.55	3.18	6.35	20°	0.4		**80411**		
WOEX 040304EN	W29 18110.047710	4.1	2.55	3.18	6.35	20°	0.4			**90411**	
WOEX 05T304EN	W29 24110.0421	5.3	2.85	3.8	8.00	20°	0.4	**30511**			
WOEX 05T304EN	W29 24110.0450	5.3	2.85	3.8	8.00	20°	0.4				**10511**
WOEX 05T304EN	W29 24110.0477	5.3	2.85	3.8	8.00	20°	0.4		**80511**		
WOEX 05T304EN	W29 24110.047710	5.3	2.85	3.8	8.00	20°	0.4			**90511**	
WOEX 06T304EN	W29 34110.0450	6.6	4.05	3.8	10.00	20°	0.4				**10611**
WOEX 06T304EN	W29 34110.0477	6.6	4.05	3.8	10.00	20°	0.4		**80611**		
WOEX 06T304EN	W29 34110.047710	6.6	4.05	3.8	10.00	20°	0.4			**90611**	
WOEX 080404EN	W29 42110.0450	7.9	4.90	4.8	12.00	20°	0.4				**10811**
WOEX 080404EN	W29 42110.0477	7.9	4.90	4.8	12.00	20°	0.4		**80811**		
WOEX 080404EN	W29 42110.047710	7.9	4.90	4.8	12.00	20°	0.4			**90811**	
WOEX 100504EN	W29 50110.0477	9.9	4.90	5.3	15.00	20°	0.4		**81011**		
WOEX 100504EN	W29 50110.047710	9.9	4.90	5.3	15.00	20°	0.4			**91011**	

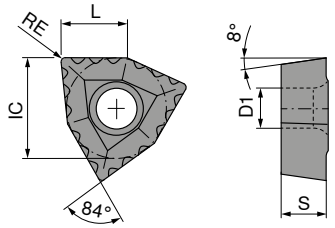
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CoreLine – Carbide drilling indexable insert

WOEX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle









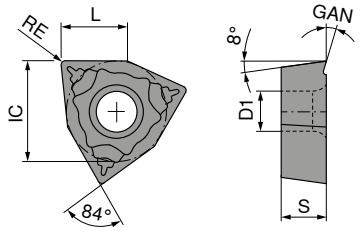
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	WOEX IH 10 821 ...	WOEX IH 10 821 ...	WOEX IH 10 821 ...
WOEX 030204EN	W29 10130.047325	3.2	2.30	2.3	5.00	0.4	**95313**		
WOEX 030204EN	W29 10130.0479	3.2	2.30	2.3	5.00	0.4		**15313**	
WOEX 030204EN	W29 10130.048425	3.2	2.30	2.3	5.00	0.4			**30313**
WOEX 040304EN	W29 18130.047325	4.1	2.55	3.18	6.35	0.4	**95413**		
WOEX 040304EN	W29 18130.0479	4.1	2.55	3.18	6.35	0.4		**15413**	
WOEX 040304EN	W29 18130.048425	4.1	2.55	3.18	6.35	0.4			**30413**
WOEX 05T304EN	W29 24130.047325	5.3	2.85	3.8	8.00	0.4	**95513**		
WOEX 05T304EN	W29 24130.0479	5.3	2.85	3.8	8.00	0.4		**15513**	
WOEX 05T304EN	W29 24130.048425	5.3	2.85	3.8	8.00	0.4			**30513**
WOEX 06T304EN	W29 34130.047325	6.6	4.05	3.8	10.00	0.4	**95613**		
WOEX 06T304EN	W29 34130.0479	6.6	4.05	3.8	10.00	0.4		**15613**	
WOEX 06T304EN	W29 34130.048425	6.6	4.05	3.8	10.00	0.4			**30613**
WOEX 080404EN	W29 42130.047325	7.9	4.90	4.8	12.00	0.4	**95813**		
WOEX 080404EN	W29 42130.0479	7.9	4.90	4.8	12.00	0.4		**15813**	
WOEX 080404EN	W29 42130.048425	7.9	4.90	4.8	12.00	0.4			**30813**
WOEX 100504EN	W29 50130.047325	9.9	4.90	5.3	15.00	0.4	**96013**		
WOEX 100504EN	W29 50130.0479	9.9	4.90	5.3	15.00	0.4		**16013**	
WOEX 100504EN	W29 50130.048425	9.9	4.90	5.3	15.00	0.4			**31013**
WOEX 120608EN	W29 58130.0879	11.6	5.95	6.0	17.60	0.8		**16213**	
WOEX 120608EN	W29 58130.088425	11.6	5.95	6.0	17.60	0.8			**38213**
P							●	●	●
M							●	●	●
K									●
N									
S									
H									
O									

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOGX

▲ Semi-finishing chip breakage topography
▲ Optimum chip control from depth of cut > 0.25 mm





-15 BK60	-15 BK73	-15 BK8430
WOGX	WOGX	WOGX

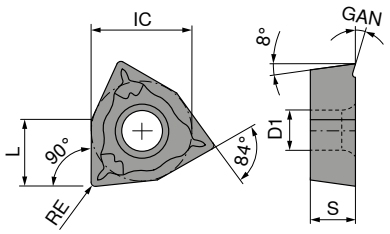
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOGX 030204EN	W29 10150.048430	3.2	2.30	2.3	5.00	15°	0.4			**00315**
WOGX 040304EN	W29 18150.0460	4.1	2.50	3.18	6.35	15°	0.4	**65415**		
WOGX 040304EN	W29 18150.048430	4.1	2.55	3.18	6.35	15°	0.4			**00415**
WOGX 05T304EN	W29 24150.0460	5.3	2.80	3.8	8.00	15°	0.4	**65515**		
WOGX 05T304EN	W29 24150.0473	5.3	2.80	3.8	8.00	15°	0.4		**75515**	
WOGX 05T304EN	W29 24150.048430	5.3	2.85	3.8	8.00	15°	0.4			**00515**
WOGX 06T304EN	W29 34150.048430	6.6	4.05	3.8	10.00	15°	0.4			**00615**
WOGX 080404EN	W29 42150.048430	7.9	4.90	4.8	12.00	15°	0.4			**00815**
P								●	●	●
M								●	●	●
K										
N										
S										
H										
O										

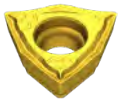
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

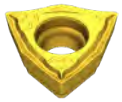
WOGX

- Semi-finishing chip breakage topography with wiper geometry
- Setting angle KAPR = 90°
- Optimum chip control from depth of cut > 0.25 mm





WOGX



WOGX

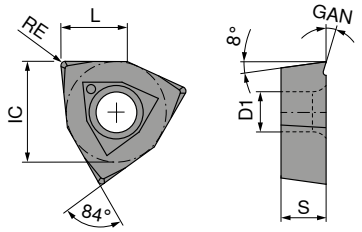
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOGX 030204EN	W29 10160.048430	3.2	2.3	2.3	5.00	15°	0.4		**00316**
WOGX 040304EN	W29 18160.048430	4.1	2.5	3.18	6.35	15°	0.4		**00416**
WOGX 05T304EN	W29 24160.048430	5.3	2.8	3.8	8.00	15°	0.4		**00516**
WOGX 06T304EN	W29 34160.0460	6.6	4.0	3.8	10.00	15°	0.4	**65616**	
WOGX 06T304EN	W29 34160.048430	6.6	4.0	3.8	10.00	15°	0.4		**00616**
WOGX 080404EN	W29 42160.0460	7.9	4.9	4.8	12.00	15°	0.4	**65816**	
WOGX 080404EN	W29 42160.048430	7.9	4.9	4.8	12.00	15°	0.4		**00816**
P								●	●
M								●	●
K									
N									
S									
H									
O									

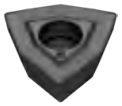
→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- ▲ Rounded, partially chamfered cutting edge
- ▲ Indexable insert geometry for corrosion and acid-resistant steels with increased tensile strength



-20 BK2730	-20 BK8430
	
WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10200.042730	3.2	2.30	2.3	5.00	8°	0.4	**85320**	
WOEX 030204EN	W29 10200.048430	3.2	2.30	2.3	5.00	8°	0.4		**00320**
WOEX 040304EN	W29 18200.042730	4.1	2.55	3.18	6.35	8°	0.4	**85420**	
WOEX 040304EN	W29 18200.048430	4.1	2.55	3.18	6.35	8°	0.4		**00420**
WOEX 05T304EN	W29 24200.042730	5.3	2.85	3.8	8.00	8°	0.4	**85520**	
WOEX 05T304EN	W29 24200.048430	5.3	2.85	3.8	8.00	8°	0.4		**00520**
WOEX 06T304EN	W29 34200.042730	6.6	4.05	3.8	10.00	8°	0.4	**85620**	
WOEX 06T304EN	W29 34200.048430	6.6	4.05	3.8	10.00	8°	0.4		**00620**
WOEX 080404EN	W29 42200.042730	7.9	4.90	4.8	12.00	8°	0.4	**85820**	
WOEX 080404EN	W29 42200.048430	7.9	4.90	4.8	12.00	8°	0.4		**00820**
WOEX 100504EN	W29 50200.042730	9.9	4.90	5.3	15.00	8°	0.4	**86020**	
WOEX 100504EN	W29 50200.048430	9.9	4.90	5.3	15.00	8°	0.4		**01020**
P								●	●
M								●	●
K								●	●
N									
S									
H									
O									

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -00					
	K10	P25M	BK6425	BK6440	BK7615	BK8425
	v_c (m/min) min. – Recommended – max.					
P.1.1		75-**100**-120	245-**320**-380	175-**225**-265		200-**260**-305
P.1.2		75-**100**-120	245-**320**-380	175-**225**-265		200-**260**-305
P.1.3		70-**90**-105	170-**220**-260	120-**155**-185		210-**270**-320
P.1.4		70-**90**-105	225-**290**-340	155-**200**-235		195-**250**-295
P.1.5		70-**90**-105	215-**280**-330	150-**195**-230		210-**270**-320
P.2.1		60-**80**-95	255-**330**-390	175-**230**-270		210-**270**-320
P.2.2		60-**80**-95	245-**320**-380	170-**220**-260		200-**260**-305
P.2.3		60-**80**-95	170-**220**-260	195-**250**-295		140-**180**-210
P.2.4		60-**80**-95	140-**180**-210	95-**125**-150		115-**150**-175
P.3.1		60-**75**-90	155-**200**-235	110-**140**-165		125-**160**-190
P.3.2		55-**70**-85	125-**160**-190	85-**110**-130		100-**130**-155
P.3.3		55-**70**-85	115-**150**-175	80-**105**-125		90-**120**-140
P.4.1		45-**60**-70	170-**220**-260	115-**150**-175		140-**180**-210
P.4.2		45-**60**-70	125-**160**-190	85-**110**-130		100-**130**-155
M.1.1		70-**90**-105	140-**185**-220	100-**130**-155		115-**150**-175
M.2.1		55-**70**-85	140-**185**-220	100-**130**-155		115-**150**-175
M.3.1		55-**70**-85	125-**160**-190	85-**110**-130		110-**140**-165
K.1.1	110-**140**-165		155-**200**-235	110-**140**-165	200-**260**-305	125-**160**-190
K.1.2	85-**110**-130		115-**150**-175	80-**105**-125	125-**160**-190	90-**120**-140
K.2.1	70-**90**-105		155-**200**-235	110-**140**-165	140-**180**-210	125-**160**-190
K.2.2	70-**90**-105		90-**120**-140	65-**85**-100	90-**120**-140	75-**100**-120
K.3.1	55-**70**-85		115-**150**-175	80-**105**-125	110-**140**-165	90-**120**-140
K.3.2	45-**60**-70		90-**120**-140	65-**85**-100	90-**120**-140	75-**100**-120
N.1.1						310-**400**-470
N.1.2						310-**400**-470
N.2.1						195-**250**-295
N.2.2						195-**250**-295
N.2.3						175-**230**-270
N.3.1						155-**200**-235
N.3.2						170-**220**-260
N.3.3						255-**330**-390
N.4.1						155-**200**-235
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -01												
	K10	P25M	P40	BK2710	BK6115	BK62	BK6420	BK6425	BK6440	BK72	BK7615	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.												
P.1.1		75-**100**-120	70-**90**-105	155-**200**-235	230-**300**-370		245-**320**-380	245-**320**-380	175-**225**-265	245-**320**-380		195-**250**-310	200-**260**-305
P.1.2		75-**100**-120	70-**90**-105	155-**200**-235	230-**300**-370		245-**320**-380	245-**320**-380	175-**225**-265	245-**320**-380		170-**220**-270	200-**260**-305
P.1.3		70-**90**-105	60-**80**-95	155-**200**-235	210-**270**-330		170-**220**-260	170-**220**-260	120-**155**-185	170-**220**-260		210-**270**-330	210-**270**-320
P.1.4		70-**90**-105	60-**80**-95	140-**180**-210	195-**250**-310		225-**290**-340	225-**290**-340	155-**200**-235	225-**290**-340		195-**250**-310	195-**250**-295
P.1.5		70-**90**-105	60-**80**-95	140-**180**-210	230-**300**-370		215-**280**-330	215-**280**-330	150-**195**-230	215-**280**-330		155-**200**-245	210-**270**-320
P.2.1		60-**80**-95	60-**75**-90	125-**160**-190	210-**270**-330		255-**330**-390	255-**330**-390	175-**230**-270	255-**330**-390		210-**270**-330	210-**270**-320
P.2.2		60-**80**-95	60-**75**-90	125-**160**-190	200-**260**-320		245-**320**-380	245-**320**-380	170-**220**-260	245-**320**-380		200-**260**-320	200-**260**-305
P.2.3		60-**80**-95	60-**75**-90	125-**160**-190	185-**240**-295		170-**220**-260	170-**220**-260	195-**250**-295	170-**220**-260		125-**160**-195	140-**180**-210
P.2.4		60-**80**-95	60-**75**-90	125-**160**-190	155-**200**-245		140-**180**-210	140-**180**-210	95-**125**-150	140-**180**-210		100-**130**-160	115-**150**-175
P.3.1		60-**75**-90	55-**70**-85	110-**140**-165	155-**200**-245		155-**200**-235	155-**200**-235	110-**140**-165	155-**200**-235		110-**140**-170	125-**160**-190
P.3.2		55-**70**-85	45-**60**-70	110-**140**-165	125-**160**-195		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		90-**120**-150	100-**130**-155
P.3.3		55-**70**-85	45-**60**-70	110-**140**-165	110-**140**-170		115-**150**-175	115-**150**-175	80-**105**-125	115-**150**-175		85-**110**-135	90-**120**-140
P.4.1		45-**60**-70	40-**50**-60	90-**120**-140	170-**220**-270		170-**220**-260	170-**220**-260	115-**150**-175	170-**220**-260		115-**150**-185	140-**180**-210
P.4.2		45-**60**-70	40-**50**-60	90-**120**-140	125-**160**-195		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		90-**120**-150	100-**130**-155
M.1.1		70-**90**-105	60-**75**-90	125-**160**-190	170-**220**-270		140-**185**-220	140-**185**-220	100-**130**-155	140-**185**-220		125-**160**-195	115-**150**-175
M.2.1		55-**70**-85	55-**70**-85	110-**140**-165	170-**220**-270		140-**185**-220	140-**185**-220	100-**130**-155	140-**185**-220		125-**160**-195	115-**150**-175
M.3.1		55-**70**-85	45-**60**-70	75-**100**-120	155-**200**-245		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		115-**150**-185	110-**140**-165
K.1.1	110-**140**-165			140-180-210	185-240-295	185-240-295	155-**200**-235	155-**200**-235	110-140-165		200-**260**-305	115-**150**-185	125-**160**-190
K.1.2	85-**110**-130			125-160-190	140-180-220	140-180-220	115-**150**-175	115-**150**-175	80-105-125		125-**160**-190	90-**120**-150	90-**120**-140
K.2.1	70-**90**-105			110-140-165	125-160-195	125-160-195	155-**200**-235	155-**200**-235	110-140-165		140-**180**-210	115-**150**-185	125-**160**-190
K.2.2	70-**90**-105			110-140-165	75-100-125	75-100-125	90-**120**-140	90-**120**-140	65-85-100		90-**120**-140	70-**90**-110	75-**100**-120
K.3.1	55-**70**-85			90-120-140	90-120-150	90-120-150	115-**150**-175	115-**150**-175	80-105-125		110-**140**-165	85-**110**-135	90-**120**-140
K.3.2	45-**60**-70			90-120-140	75-100-125	75-100-125	90-**120**-140	90-**120**-140	65-85-100		90-**120**-140	70-**90**-110	75-**100**-120
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1												45-**60**-75	
S.1.2												40-**50**-60	
S.2.1												45-**60**-75	
S.2.2												40-**50**-60	
S.2.3												25-**30**-35	
S.3.1													
S.3.2													
S.3.3													
H.1.1					40-**50**-60							40-**50**-60	
H.1.2					35-**45**-55							25-**35**-45	
H.1.3													
H.1.4													
H.2.1					75-**100**-125							60-**75**-90	
H.3.1					40-**50**-60							25-**35**-45	
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -02	
	BK6425	BK6440
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	175 - **225** - 265
P.1.2	245 - **320** - 380	175 - **225** - 265
P.1.3	170 - **220** - 260	120 - **155** - 185
P.1.4	225 - **290** - 340	155 - **200** - 235
P.1.5	215 - **280** - 330	150 - **195** - 230
P.2.1	255 - **330** - 390	175 - **230** - 270
P.2.2	245 - **320** - 380	170 - **220** - 260
P.2.3	170 - **220** - 260	195 - **250** - 295
P.2.4	140 - **180** - 210	95 - **125** - 150
P.3.1	155 - **200** - 235	110 - **140** - 165
P.3.2	125 - **160** - 190	85 - **110** - 130
P.3.3	115 - **150** - 175	80 - **105** - 125
P.4.1	170 - **220** - 260	115 - **150** - 175
P.4.2	125 - **160** - 190	85 - **110** - 130
M.1.1	140 - **185** - 220	100 - **130** - 155
M.2.1	140 - **185** - 220	100 - **130** - 155
M.3.1	125 - **160** - 190	85 - **110** - 130
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -03		
	P25M	BK6425	BK8425
	v_c (m/min) min. – Recommended – max.		
P.1.1	75 - **100** - 120	245 - **320** - 380	200 - **260** - 320
P.1.2	75 - **100** - 120	245 - **320** - 380	200 - **260** - 320
P.1.3	70 - **90** - 105	170 - **220** - 260	210 - **270** - 330
P.1.4	70 - **90** - 105	225 - **290** - 340	195 - **250** - 310
P.1.5	70 - **90** - 105	215 - **280** - 330	210 - **270** - 330
P.2.1	60 - **80** - 95	255 - **330** - 390	210 - **270** - 330
P.2.2	60 - **80** - 95	245 - **320** - 380	200 - **260** - 320
P.2.3	60 - **80** - 95	170 - **220** - 260	140 - **180** - 220
P.2.4	60 - **80** - 95	140 - **180** - 210	115 - **150** - 185
P.3.1	60 - **75** - 90	155 - **200** - 235	125 - **160** - 195
P.3.2	55 - **70** - 85	125 - **160** - 190	100 - **130** - 160
P.3.3	55 - **70** - 85	115 - **150** - 175	90 - **120** - 150
P.4.1	45 - **60** - 70	170 - **220** - 260	140 - **180** - 220
P.4.2	45 - **60** - 70	125 - **160** - 190	100 - **130** - 160
M.1.1	70 - **90** - 105	140 - **185** - 220	115 - **150** - 185
M.2.1	55 - **70** - 85	140 - **185** - 220	115 - **150** - 185
M.3.1	55 - **70** - 85	125 - **160** - 190	110 - **140** - 170
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -11			
	K10	BK50	BK77	BK7710
	v_c (m/min) min. – Recommended – max.			
P.1.1				
P.1.2				
P.1.3				
P.1.4				
P.1.5				
P.2.1				
P.2.2				
P.2.3				
P.2.4				
P.3.1				
P.3.2				
P.3.3				
P.4.1				
P.4.2				
M.1.1				
M.2.1				
M.3.1				
K.1.1				
K.1.2				
K.2.1				
K.2.2				
K.3.1				
K.3.2				
N.1.1	150 - **195** - 240	770 - **1000** - 1230	250 - **325** - 400	385 - **500** - 615
N.1.2	150 - **195** - 240	770 - **1000** - 1230	250 - **325** - 400	385 - **500** - 615
N.2.1	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.2.2	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.2.3	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
N.3.1	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
N.3.2	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.3.3	115 - **150** - 185	600 - **780** - 960	195 - **250** - 310	300 - **390** - 480
N.4.1	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
S.1.1				
S.1.2				
S.2.1			60 - **80** - 100	
S.2.2			40 - **50** - 60	
S.2.3				
S.3.1				75 - **100** - 125
S.3.2				60 - **80** - 100
S.3.3				40 - **50** - 60
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1			60 - **75** - 90	75 - **100** - 125
O.1.2			60 - **75** - 90	75 - **100** - 125
O.2.1		155 - **200** - 245		
O.2.2		155 - **200** - 245	60 - **75** - 90	75 - **100** - 125
O.3.1		155 - **200** - 245	60 - **75** - 90	75 - **100** - 125

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -13		
	BK7325	BK79	BK8425
	v_c (m/min) min. – Recommended – max.		
P.1.1	230 - **300** - 370	70 - **90** - 105	255 - **260** - 320
P.1.2	230 - **300** - 370	70 - **90** - 105	255 - **260** - 320
P.1.3	210 - **270** - 330	60 - **80** - 95	175 - **270** - 330
P.1.4	195 - **250** - 310	60 - **80** - 95	200 - **250** - 310
P.1.5	230 - **300** - 370	60 - **80** - 95	200 - **270** - 330
P.2.1	210 - **270** - 330	60 - **75** - 90	210 - **270** - 330
P.2.2	200 - **260** - 320	60 - **75** - 90	195 - **260** - 320
P.2.3	185 - **240** - 295	60 - **75** - 90	140 - **180** - 220
P.2.4	155 - **200** - 245	60 - **75** - 90	115 - **150** - 185
P.3.1	155 - **200** - 245	55 - **70** - 85	125 - **160** - 195
P.3.2	125 - **160** - 195	45 - **60** - 70	100 - **130** - 160
P.3.3	110 - **140** - 170	45 - **60** - 70	115 - **120** - 150
P.4.1	170 - **220** - 270	40 - **50** - 60	125 - **180** - 220
P.4.2	125 - **160** - 195	40 - **50** - 60	100 - **130** - 160
M.1.1	170 - **220** - 270	60 - **75** - 90	90 - **150** - 185
M.2.1	170 - **220** - 270	55 - **70** - 85	140 - **150** - 185
M.3.1	155 - **200** - 245	45 - **60** - 70	100 - **140** - 170
K.1.1			125 - **160** - 190
K.1.2			90 - **120** - 140
K.2.1			125 - **160** - 195
K.2.2			75 - **100** - 120
K.3.1			90 - **120** - 150
K.3.2			75 - **100** - 120
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -15		
	BK60	BK73	BK8430
	v_c (m/min) min. – Recommended – max.		
P.1.1	245 - **320** - 380	230 - **300** - 370	255 - **260** - 320
P.1.2	245 - **320** - 380	230 - **300** - 370	255 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330	175 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310	200 - **250** - 310
P.1.5	215 - **280** - 330	230 - **300** - 370	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320	195 - **260** - 320
P.2.3	170 - **220** - 260	185 - **240** - 295	140 - **180** - 220
P.2.4	140 - **180** - 210	155 - **200** - 245	115 - **150** - 185
P.3.1	155 - **200** - 235	155 - **200** - 245	125 - **160** - 195
P.3.2	125 - **160** - 190	125 - **160** - 195	100 - **130** - 160
P.3.3	115 - **150** - 175	110 - **140** - 170	115 - **120** - 150
P.4.1	170 - **220** - 260	170 - **220** - 270	125 - **180** - 220
P.4.2	125 - **160** - 190	125 - **160** - 195	100 - **130** - 160
M.1.1	140 - **185** - 220	170 - **220** - 270	90 - **150** - 185
M.2.1	140 - **185** - 220	170 - **220** - 270	140 - **150** - 185
M.3.1	125 - **160** - 190	155 - **200** - 245	100 - **140** - 170
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			



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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -16	
	BK60	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	255 - **260** - 320
P.1.2	245 - **320** - 380	255 - **260** - 320
P.1.3	170 - **220** - 260	175 - **270** - 330
P.1.4	225 - **290** - 340	200 - **250** - 310
P.1.5	215 - **280** - 330	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330
P.2.2	245 - **320** - 380	195 - **260** - 320
P.2.3	170 - **220** - 260	140 - **180** - 220
P.2.4	140 - **180** - 210	115 - **150** - 185
P.3.1	155 - **200** - 235	125 - **160** - 195
P.3.2	125 - **160** - 190	100 - **130** - 160
P.3.3	115 - **150** - 175	115 - **120** - 150
P.4.1	170 - **220** - 260	125 - **180** - 220
P.4.2	125 - **160** - 190	100 - **130** - 160
M.1.1	140 - **185** - 220	90 - **150** - 185
M.2.1	140 - **185** - 220	140 - **150** - 185
M.3.1	125 - **160** - 190	100 - **140** - 170
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -20	
	BK2730	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	195 - **250** - 310	255 - **260** - 320
P.1.2	170 - **220** - 270	255 - **260** - 320
P.1.3	210 - **270** - 330	175 - **270** - 330
P.1.4	195 - **250** - 310	200 - **250** - 310
P.1.5	155 - **200** - 245	200 - **270** - 330
P.2.1	210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320	195 - **260** - 320
P.2.3	125 - **160** - 195	140 - **180** - 220
P.2.4	100 - **130** - 160	115 - **150** - 185
P.3.1	110 - **140** - 170	125 - **160** - 195
P.3.2	90 - **120** - 150	100 - **130** - 160
P.3.3	85 - **110** - 135	115 - **120** - 150
P.4.1	115 - **150** - 185	125 - **180** - 220
P.4.2	90 - **120** - 150	100 - **130** - 160
M.1.1	125 - **160** - 195	90 - **150** - 185
M.2.1	125 - **160** - 195	140 - **150** - 185
M.3.1	115 - **150** - 185	100 - **140** - 170
K.1.1	115 - **150** - 185	125 - **160** - 190
K.1.2	90 - **120** - 150	90 - **120** - 140
K.2.1	115 - **150** - 185	125 - **160** - 195
K.2.2	70 - **90** - 110	75 - **100** - 120
K.3.1	85 - **110** - 135	90 - **120** - 150
K.3.2	70 - **90** - 110	75 - **100** - 120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -00					
	K10	P25M	BK6425	BK6440	BK7615	BK8425
	v_c (ft/min) min. – Recommended – max.					
P.1.1		245-**330**-395	805-**1050**-1245	575-**740**-870		655-**855**-1000
P.1.2		245-**330**-395	805-**1050**-1245	575-**740**-870		655-**855**-1000
P.1.3		230-**295**-345	560-**720**-855	395-**510**-605		690-**885**-1050
P.1.4		230-**295**-345	740-**950**-1115	510-**655**-770		640-**820**-970
P.1.5		230-**295**-345	705-**920**-1085	490-**640**-755		690-**885**-1050
P.2.1		195-**260**-310	835-**1085**-1280	575-**755**-885		690-**885**-1050
P.2.2		195-**260**-310	805-**1050**-1245	560-**720**-855		655-**855**-1000
P.2.3		195-**260**-310	560-**720**-855	640-**820**-970		460-**590**-690
P.2.4		195-**260**-310	460-**590**-690	310-**410**-490		375-**490**-575
P.3.1		195-**245**-295	510-**655**-770	360-**460**-540		410-**525**-625
P.3.2		180-**230**-280	410-**525**-625	280-**360**-425		330-**425**-510
P.3.3		180-**230**-280	375-**490**-575	260-**345**-410		295-**395**-460
P.4.1		150-**195**-230	560-**720**-855	375-**490**-575		460-**590**-690
P.4.2		150-**195**-230	410-**525**-625	280-**360**-425		330-**425**-510
M.1.1		230-**295**-345	460-**605**-720	330-**425**-510		375-**490**-575
M.2.1		180-**230**-280	460-**605**-720	330-**425**-510		375-**490**-575
M.3.1		180-**230**-280	410-**525**-625	280-**360**-425		360-**460**-540
K.1.1	360-**460**-540		510-**655**-770	360-460-540	655-**855**-1000	410-**525**-625
K.1.2	280-**360**-425		375-**490**-575	260-345-410	410-**525**-625	295-**395**-460
K.2.1	230-**295**-345		510-**655**-770	360-460-540	460-**590**-690	410-**525**-625
K.2.2	230-**295**-345		295-**395**-460	215-280-330	295-**395**-460	245-**330**-395
K.3.1	180-**230**-280		375-**490**-575	260-345-410	360-**460**-540	295-**395**-460
K.3.2	150-**195**-230		295-**395**-460	215-280-330	295-**395**-460	245-**330**-395
N.1.1						1015-**1310**-1540
N.1.2						1015-**1310**-1540
N.2.1						640-**820**-970
N.2.2						640-**820**-970
N.2.3						575-**755**-885
N.3.1						510-**655**-770
N.3.2						560-**720**-855
N.3.3						835-**1085**-1280
N.4.1						510-**655**-770
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -01												
	K10	P25M	P40	BK2710	BK6115	BK62	BK6420	BK6425	BK6440	BK72	BK7615	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.												
P.1.1		245-**330**-395	230-**295**-345	510-**655**-770	755-**985**-1215		805-**1050**-1245	805-**1050**-1245	575-**740**-870	805-**1050**-1245		640-**820**-1015	655-**855**-1000
P.1.2		245-**330**-395	230-**295**-345	510-**655**-770	755-**985**-1215		805-**1050**-1245	805-**1050**-1245	575-**740**-870	805-**1050**-1245		560-**720**-885	655-**855**-1000
P.1.3		230-**295**-345	195-**260**-310	510-**655**-770	690-**885**-1085		560-**720**-855	560-**720**-855	395-**510**-605	560-**720**-855		690-**885**-1085	690-**885**-1050
P.1.4		230-**295**-345	195-**260**-310	460-**590**-690	640-**820**-1015		740-**950**-1115	740-**950**-1115	510-**655**-770	740-**950**-1115		640-**820**-1015	640-**820**-970
P.1.5		230-**295**-345	195-**260**-310	460-**590**-690	755-**985**-1215		705-**920**-1085	705-**920**-1085	490-**640**-755	705-**920**-1085		510-**655**-805	690-**885**-1050
P.2.1		195-**260**-310	195-**245**-295	410-**525**-625	690-**885**-1085		835-**1085**-1280	835-**1085**-1280	575-**755**-885	835-**1085**-1280		690-**885**-1085	690-**885**-1050
P.2.2		195-**260**-310	195-**245**-295	410-**525**-625	655-**855**-1050		805-**1050**-1245	805-**1050**-1245	560-**720**-855	805-**1050**-1245		655-**855**-1050	655-**855**-1000
P.2.3		195-**260**-310	195-**245**-295	410-**525**-625	605-**785**-970		560-**720**-855	560-**720**-855	640-**820**-970	560-**720**-855		410-**525**-640	460-**590**-690
P.2.4		195-**260**-310	195-**245**-295	410-**525**-625	510-**655**-805		460-**590**-690	460-**590**-690	310-**410**-490	460-**590**-690		330-**425**-525	375-**490**-575
P.3.1		195-**245**-295	180-**230**-280	360-**460**-540	510-**655**-805		510-**655**-770	510-**655**-770	360-**460**-540	510-**655**-770		360-**460**-560	410-**525**-625
P.3.2		180-**230**-280	150-**195**-230	360-**460**-540	410-**525**-640		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		295-**395**-490	330-**425**-510
P.3.3		180-**230**-280	150-**195**-230	360-**460**-540	360-**460**-560		375-**490**-575	375-**490**-575	260-**345**-410	375-**490**-575		280-**360**-445	295-**395**-460
P.4.1		150-**195**-230	130-**165**-195	295-**395**-460	560-**720**-885		560-**720**-855	560-**720**-855	375-**490**-575	560-**720**-855		375-**490**-605	460-**590**-690
P.4.2		150-**195**-230	130-**165**-195	295-**395**-460	410-**525**-640		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		295-**395**-490	330-**425**-510
M.1.1		230-**295**-345	195-**245**-295	410-**525**-625	560-**720**-885		460-**605**-720	460-**605**-720	330-**425**-510	460-**605**-720		410-**525**-640	375-**490**-575
M.2.1		180-**230**-280	180-**230**-280	360-**460**-540	560-**720**-885		460-**605**-720	460-**605**-720	330-**425**-510	460-**605**-720		410-**525**-640	375-**490**-575
M.3.1		180-**230**-280	150-**195**-230	245-**330**-395	510-**655**-805		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		375-**490**-605	360-**460**-540
K.1.1	360-**460**-540			460-590-690	605-785-970	605-785-970	510-**655**-770	510-**655**-770	360-460-540		655-**855**-1000	375-**490**-605	410-**525**-625
K.1.2	280-**360**-425			410-525-625	460-590-720	460-590-720	375-**490**-575	375-**490**-575	260-345-410		410-**525**-625	295-**395**-490	295-**395**-460
K.2.1	230-**295**-345			360-460-540	410-525-640	410-525-640	510-**655**-770	510-**655**-770	360-460-540		460-**590**-690	375-**490**-605	410-**525**-625
K.2.2	230-**295**-345			360-460-540	245-330-410	245-330-410	295-**395**-460	295-**395**-460	215-280-330		295-**395**-460	230-**295**-360	245-**330**-395
K.3.1	180-**230**-280			295-395-460	295-395-490	295-395-490	375-**490**-575	375-**490**-575	260-345-410		360-**460**-540	280-**360**-445	295-**395**-460
K.3.2	150-**195**-230			295-395-460	245-330-410	245-330-410	295-**395**-460	295-**395**-460	215-280-330		295-**395**-460	230-**295**-360	245-**330**-395
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1												150-**195**-245	
S.1.2												130-**165**-195	
S.2.1												150-**195**-245	
S.2.2												130-**165**-195	
S.2.3												80-**100**-115	
S.3.1													
S.3.2													
S.3.3													
H.1.1					130-**165**-195							130-**165**-195	
H.1.2					115-**150**-180							80-**115**-150	
H.1.3													
H.1.4													
H.2.1					245-**330**-410							195-**245**-295	
H.3.1					130-**165**-195							80-**115**-150	
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -02	
	BK6425	BK6440
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	575 - **740** - 870
P.1.2	805 - **1050** - 1245	575 - **740** - 870
P.1.3	560 - **720** - 855	395 - **510** - 605
P.1.4	740 - **950** - 1115	510 - **655** - 770
P.1.5	705 - **920** - 1085	490 - **640** - 755
P.2.1	835 - **1085** - 1280	575 - **755** - 885
P.2.2	805 - **1050** - 1245	560 - **720** - 855
P.2.3	560 - **720** - 855	640 - **820** - 970
P.2.4	460 - **590** - 690	310 - **410** - 490
P.3.1	510 - **655** - 770	360 - **460** - 540
P.3.2	410 - **525** - 625	280 - **360** - 425
P.3.3	375 - **490** - 575	260 - **345** - 410
P.4.1	560 - **720** - 855	375 - **490** - 575
P.4.2	410 - **525** - 625	280 - **360** - 425
M.1.1	460 - **605** - 720	330 - **425** - 510
M.2.1	460 - **605** - 720	330 - **425** - 510
M.3.1	410 - **525** - 625	280 - **360** - 425
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -03		
	P25M	BK6425	BK8425
	v_c (ft/min) min. – Recommended – max.		
P.1.1	245 - **330** - 395	805 - **1050** - 1245	655 - **855** - 1000
P.1.2	245 - **330** - 395	805 - **1050** - 1245	655 - **855** - 1000
P.1.3	230 - **295** - 345	560 - **720** - 855	690 - **885** - 1050
P.1.4	230 - **295** - 345	740 - **950** - 1115	640 - **820** - 970
P.1.5	230 - **295** - 345	705 - **920** - 1085	690 - **885** - 1050
P.2.1	195 - **260** - 310	835 - **1085** - 1280	690 - **885** - 1050
P.2.2	195 - **260** - 310	805 - **1050** - 1245	655 - **855** - 1000
P.2.3	195 - **260** - 310	560 - **720** - 855	460 - **590** - 690
P.2.4	195 - **260** - 310	460 - **590** - 690	375 - **490** - 575
P.3.1	195 - **245** - 295	510 - **655** - 770	410 - **525** - 625
P.3.2	180 - **230** - 280	410 - **525** - 625	330 - **425** - 510
P.3.3	180 - **230** - 280	375 - **490** - 575	295 - **395** - 460
P.4.1	150 - **195** - 230	560 - **720** - 855	460 - **590** - 690
P.4.2	150 - **195** - 230	410 - **525** - 625	330 - **425** - 510
M.1.1	230 - **295** - 345	460 - **605** - 720	375 - **490** - 575
M.2.1	180 - **230** - 280	460 - **605** - 720	375 - **490** - 575
M.3.1	180 - **230** - 280	410 - **525** - 625	360 - **460** - 540
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -11			
	K10	BK50	BK77	BK7710
	v_c (ft/min) min. – Recommended – max.			
P.1.1				
P.1.2				
P.1.3				
P.1.4				
P.1.5				
P.2.1				
P.2.2				
P.2.3				
P.2.4				
P.3.1				
P.3.2				
P.3.3				
P.4.1				
P.4.2				
M.1.1				
M.2.1				
M.3.1				
K.1.1				
K.1.2				
K.2.1				
K.2.2				
K.3.1				
K.3.2				
N.1.1	490 - **640** - 785	2525 - **3280** - 4035	820 - **1065** - 1310	1265 - **1640** - 2020
N.1.2	490 - **640** - 785	2525 - **3280** - 4035	820 - **1065** - 1310	1265 - **1640** - 2020
N.2.1	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.2.2	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.2.3	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
N.3.1	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
N.3.2	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.3.3	375 - **490** - 605	1970 - **2560** - 3150	640 - **820** - 1015	985 - **1280** - 1575
N.4.1	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
S.1.1				
S.1.2				
S.2.1			195 - **260** - 330	
S.2.2			130 - **165** - 195	
S.2.3				
S.3.1				245 - **330** - 410
S.3.2				195 - **260** - 330
S.3.3				130 - **165** - 195
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1			195 - **245** - 295	245 - **330** - 410
O.1.2			195 - **245** - 295	245 - **330** - 410
O.2.1		510 - **655** - 805		
O.2.2		510 - **655** - 805	195 - **245** - 295	245 - **330** - 410
O.3.1		510 - **655** - 805	195 - **245** - 295	245 - **330** - 410

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -13		
	BK7325	BK79	BK8425
	v_c (ft/min) min. – Recommended – max.		
P.1.1	755 - **985** - 1215	230 - **295** - 345	835 - **855** - 1050
P.1.2	755 - **985** - 1215	230 - **295** - 345	835 - **855** - 1050
P.1.3	690 - **885** - 1085	195 - **260** - 310	575 - **885** - 1085
P.1.4	640 - **820** - 1015	195 - **260** - 310	655 - **820** - 1015
P.1.5	755 - **985** - 1215	195 - **260** - 310	655 - **885** - 1085
P.2.1	690 - **885** - 1085	195 - **245** - 295	690 - **885** - 1085
P.2.2	655 - **855** - 1050	195 - **245** - 295	640 - **855** - 1050
P.2.3	605 - **785** - 970	195 - **245** - 295	460 - **590** - 720
P.2.4	510 - **655** - 805	195 - **245** - 295	375 - **490** - 605
P.3.1	510 - **655** - 805	180 - **230** - 280	410 - **525** - 640
P.3.2	410 - **525** - 640	150 - **195** - 230	330 - **425** - 525
P.3.3	360 - **460** - 560	150 - **195** - 230	375 - **395** - 490
P.4.1	560 - **720** - 885	130 - **165** - 195	410 - **590** - 720
P.4.2	410 - **525** - 640	130 - **165** - 195	330 - **425** - 525
M.1.1	560 - **720** - 885	195 - **245** - 295	295 - **490** - 605
M.2.1	560 - **720** - 885	180 - **230** - 280	460 - **490** - 605
M.3.1	510 - **655** - 805	150 - **195** - 230	330 - **460** - 560
K.1.1			410 - **525** - 625
K.1.2			295 - **395** - 460
K.2.1			410 - **525** - 625
K.2.2			245 - **330** - 395
K.3.1			295 - **395** - 460
K.3.2			245 - **330** - 395
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
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O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -15		
	BK60	BK73	BK8430
	v_c (ft/min) min. – Recommended – max.		
P.1.1	805 - **1050** - 1245	755 - **985** - 1215	835 - **855** - 1050
P.1.2	805 - **1050** - 1245	755 - **985** - 1215	835 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085	575 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015	655 - **820** - 1015
P.1.5	705 - **920** - 1085	755 - **985** - 1215	655 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050	640 - **855** - 1050
P.2.3	560 - **720** - 855	605 - **785** - 970	460 - **590** - 720
P.2.4	460 - **590** - 690	510 - **655** - 805	375 - **490** - 605
P.3.1	510 - **655** - 770	510 - **655** - 805	410 - **525** - 640
P.3.2	410 - **525** - 625	410 - **525** - 640	330 - **425** - 525
P.3.3	375 - **490** - 575	360 - **460** - 560	375 - **395** - 490
P.4.1	560 - **720** - 855	560 - **720** - 885	410 - **590** - 720
P.4.2	410 - **525** - 625	410 - **525** - 640	330 - **425** - 525
M.1.1	460 - **605** - 720	560 - **720** - 885	295 - **490** - 605
M.2.1	460 - **605** - 720	560 - **720** - 885	460 - **490** - 605
M.3.1	410 - **525** - 625	510 - **655** - 805	330 - **460** - 560
K.1.1			
K.1.2			
K.2.1			
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S.1.1			
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H.1.3			
H.1.4			
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H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -16	
	BK60	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	835 - **855** - 1050
P.1.2	805 - **1050** - 1245	835 - **855** - 1050
P.1.3	560 - **720** - 855	575 - **885** - 1085
P.1.4	740 - **950** - 1115	655 - **820** - 1015
P.1.5	705 - **920** - 1085	655 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	640 - **855** - 1050
P.2.3	560 - **720** - 855	460 - **590** - 720
P.2.4	460 - **590** - 690	375 - **490** - 605
P.3.1	510 - **655** - 770	410 - **525** - 640
P.3.2	410 - **525** - 625	330 - **425** - 525
P.3.3	375 - **490** - 575	375 - **395** - 490
P.4.1	560 - **720** - 855	410 - **590** - 720
P.4.2	410 - **525** - 625	330 - **425** - 525
M.1.1	460 - **605** - 720	295 - **490** - 605
M.2.1	460 - **605** - 720	460 - **490** - 605
M.3.1	410 - **525** - 625	330 - **460** - 560
K.1.1		
K.1.2		
K.2.1		
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S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
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O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -20	
	BK2730	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	640 - **820** - 1015	835 - **855** - 1050
P.1.2	560 - **720** - 885	835 - **855** - 1050
P.1.3	690 - **885** - 1085	575 - **885** - 1085
P.1.4	640 - **820** - 1015	655 - **820** - 1015
P.1.5	510 - **655** - 805	655 - **885** - 1085
P.2.1	690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050	640 - **855** - 1050
P.2.3	410 - **525** - 640	460 - **590** - 720
P.2.4	330 - **425** - 525	375 - **490** - 605
P.3.1	360 - **460** - 560	410 - **525** - 640
P.3.2	295 - **395** - 490	330 - **425** - 525
P.3.3	280 - **360** - 445	375 - **395** - 490
P.4.1	375 - **490** - 605	410 - **590** - 720
P.4.2	295 - **395** - 490	330 - **425** - 525
M.1.1	410 - **525** - 640	295 - **490** - 605
M.2.1	410 - **525** - 640	460 - **490** - 605
M.3.1	375 - **490** - 605	330 - **460** - 560
K.1.1	375 - **490** - 605	410 - **525** - 625
K.1.2	295 - **395** - 490	295 - **395** - 460
K.2.1	375 - **490** - 605	410 - **525** - 625
K.2.2	230 - **295** - 360	245 - **330** - 395
K.3.1	280 - **360** - 445	295 - **395** - 460
K.3.2	230 - **295** - 360	245 - **330** - 395
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
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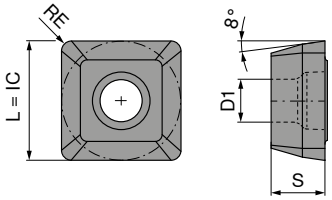


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CoreLine – Carbide drilling indexable insert

SOEX

- Universal topography with stable cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials



-01 BK8425	-01 BK7935	-01 BK6420
		
SOEX	SOEX	SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...	IH 10 822 ...
SOEX 050204EN	W83 13010.046420	5.56	2.30	2.38	5.56	0.4			**45501**
SOEX 050204EN	W83 13010.047935	5.56	2.30	2.38	5.56	0.4		**50501**	
SOEX 050204EN	W83 13010.048425	5.56	2.30	2.38	5.56	0.4	**30501**		
SOEX 060306EN	W83 18010.066420	6.35	2.65	3.18	6.35	0.6			**45601**
SOEX 060306EN	W83 18010.067935	6.35	2.65	3.18	6.35	0.6		**50601**	
SOEX 060306EN	W83 18010.068425	6.35	2.65	3.18	6.35	0.6	**30601**		
SOEX 07T308EN	W83 23010.086420	7.94	2.85	3.58	7.94	0.8			**45701**
SOEX 07T308EN	W83 23010.087935	7.94	2.85	3.58	7.94	0.8		**50701**	
SOEX 07T308EN	W83 23010.088425	7.94	2.85	3.58	7.94	0.8	**30701**		
SOEX 090408EN	W83 32010.086420	9.52	4.10	4.37	9.52	0.8			**45901**
SOEX 090408EN	W83 32010.087935	9.52	4.10	4.37	9.52	0.8		**50901**	
SOEX 090408EN	W83 32010.088425	9.52	4.10	4.37	9.52	0.8	**30901**		
SOEX 120508EN	W83 44010.086420	12.70	5.20	5.16	12.70	0.8			**46201**
SOEX 120508EN	W83 44010.087935	12.70	5.20	5.16	12.70	0.8		**51201**	
SOEX 120508EN	W83 44010.088425	12.70	5.20	5.16	12.70	0.8	**31201**		
P							●	●	●
M							●	●	●
K							●	●	●
N									
S								●	
H								●	
O									

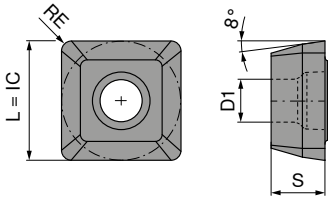
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -01 BK6420 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- Universal topography with stable cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





SOEX SOEX SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 829 ...	IH 10 822 ...	IH 10 822 ...
SOEX 050204EN	W83 13000.016115	5.56	2.30	2.38	5.56	0.4			**40501**
SOEX 050204EN	W83 13010.047615	5.56	2.30	2.38	5.56	0.4		**05501**	
SOEX 060306EN	W83 18000.096115	6.35	2.65	3.18	6.35	0.6			**40601**
SOEX 060306EN	W83 18000.0974	6.35	2.65	3.18	6.35	0.6	**60601**		
SOEX 060306EN	W83 18010.067615	6.35	2.65	3.18	6.35	0.6		**05601**	
SOEX 07T308EN	W83 23000.016115	7.94	2.85	3.58	7.94	0.8			**40701**
SOEX 07T308EN	W83 23010.087615	7.94	2.85	3.58	7.94	0.8		**05701**	
SOEX 090408EN	W83 32000.156115	9.52	4.10	4.37	9.52	0.8			**40901**
SOEX 090408EN	W83 32010.087615	9.52	4.10	4.37	9.52	0.8		**05901**	
SOEX 120508EN	W83 44000.186115	12.70	5.20	5.16	12.70	0.8			**41201**
SOEX 120508EN	W83 44010.087615	12.70	5.20	5.16	12.70	0.8		**06201**	
P							●		●
M							●		●
K								●	○
N									
S									
H									●
O									

→ Find the recommended values for cutting speeds here.

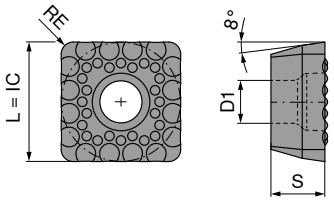
Information on solid drilling:
Only use SOEX -01 BK6115 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

Information on solid drilling:
Only use SOEX -01 BK7615 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- Dome-shaped chip former with extremely good chip breakage characteristics
- Excellent chip control even at low feeds
- Main application area: Steel materials, corrosion and acid-resistant materials





SOEX -03 BK8430



SOEX -03 BK6730

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...
SOEX 050204EN	W83 13030.048430	5.56	2.30	2.38	5.56	0.4	**00503**	
SOEX 060306EN	W83 18030.066730	6.35	2.65	3.18	6.35	0.6		**55603**
SOEX 060306EN	W83 18030.068430	6.35	2.65	3.18	6.35	0.6	**00603**	
SOEX 07T308EN	W83 23030.086730	7.94	2.85	3.58	7.94	0.8		**55703**
SOEX 07T308EN	W83 23030.088430	7.94	2.85	3.58	7.94	0.8	**00703**	
SOEX 090408EN	W83 32030.086730	9.52	4.10	4.37	9.52	0.8		**55903**
SOEX 090408EN	W83 32030.088430	9.52	4.10	4.37	9.52	0.8	**00903**	
SOEX 120508EN	W83 44030.086730	12.70	5.20	5.16	12.70	0.8		**56203**
SOEX 120508EN	W83 44030.088430	12.70	5.20	5.16	12.70	0.8	**01203**	

P	●	●
M	●	●
K		
N		
S		
H		
O		



→ Find the recommended values for cutting speeds here.

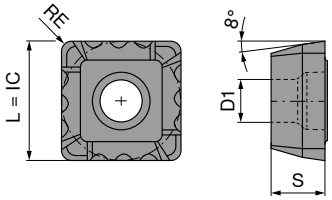


Information on solid drilling:
Only use SOEX -03 BK6730 as an outer cutting edge,
Use SOEX -03 BK8430 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle





SOEX SOEX SOEX SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...	IH 10 829 ...	IH 10 822 ...
SOEX 050204EN	W83 13130.047935	5.56	2.30	2.38	5.56	0.4		**50513**		
SOEX 050204EN	W83 13130.048425	5.56	2.30	2.38	5.56	0.4	**30513**			
SOEX 060306EN	W83 18130.067935	6.35	2.65	3.18	6.35	0.6		**50613**		
SOEX 060306EN	W83 18130.068425	6.35	2.65	3.18	6.35	0.6	**30613**			
SOEX 060308EN	W83 18130.088425	6.35	2.65	3.18	6.35	0.8	**38613**			
SOEX 07T308EN	W83 23000.0274	7.94	2.85	3.58	7.94	0.8			**60713**	
SOEX 07T308EN	W83 23130.086420	7.94	2.85	3.58	7.94	0.8				**40713**
SOEX 07T308EN	W83 23130.087935	7.94	2.85	3.58	7.94	0.8		**50713**		
SOEX 07T308EN	W83 23130.088425	7.94	2.85	3.58	7.94	0.8	**30713**			
SOEX 090408EN	W83 32130.087935	9.52	4.10	4.37	9.52	0.8		**50913**		
SOEX 090408EN	W83 32130.088425	9.52	4.10	4.37	9.52	0.8	**30913**			
SOEX 110508EN	W83 39130.087935	11.10	4.10	4.76	11.10	0.8		**51113**		
SOEX 110508EN	W83 39130.088425	11.10	4.10	4.76	11.10	0.8	**31113**			
SOEX 120508EN	W83 44130.087935	12.70	5.20	5.16	12.70	0.8		**51213**		
SOEX 120508EN	W83 44130.088425	12.70	5.20	5.16	12.70	0.8	**31213**			
P							●	●	●	●
M							●	●	●	●
K							●	●		●
N										
S										
H										
O										

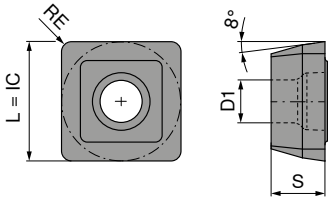
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -13 BK6420 as an outer cutting edge,
Use SOEX -13 BK8425 as a central cutting edge!

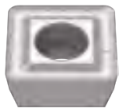
CoreLine – Carbide drilling indexable insert

SOEX

- ▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- ▲ Extremely sharp cutting edge
- ▲ Extremely good chip formation in aluminum with low silicon content
- ▲ Four-edged alternative to PCD-equipped cutting inserts



-21
BK7710



SOEX

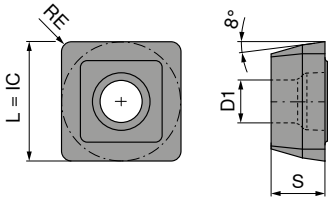
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.047710	5.56	2.30	2.38	5.56	0.4	**90521**
SOEX 060306EN	W83 18210.067710	6.35	2.65	3.18	6.35	0.6	**90621**
SOEX 07T308EN	W83 23210.087710	7.94	2.85	3.58	7.94	0.8	**90721**
SOEX 090408EN	W83 32210.087710	9.52	4.10	4.37	9.52	0.8	**90921**
SOEX 120508EN	W83 44210.087710	12.70	5.20	5.16	12.70	0.8	**91221**
P							
M							
K							
N							●
S							●
H							
O							●

→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

SOEX

▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.



-21
BK7935



SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.047935	5.56	2.30	2.38	5.56	0.4	**50521**
SOEX 060306EN	W83 18210.067935	6.35	2.65	3.18	6.35	0.6	**51621**
SOEX 060308EN	W83 18210.087935	6.35	2.65	3.18	6.35	0.8	**50621**
SOEX 07T308EN	W83 23210.087935	7.94	2.85	3.58	7.94	0.8	**50721**
SOEX 090408EN	W83 32210.087935	9.52	4.10	4.37	9.52	0.8	**50921**
SOEX 110508EN	W83 39210.087935	11.10	4.10	4.76	11.10	0.8	**51121**
SOEX 120508EN	W83 44210.087935	12.70	5.20	5.16	12.70	0.8	**51221**
P							●
M							●
K							●
N							
S							●
H							
O							



→ Find the recommended values for cutting speeds here.

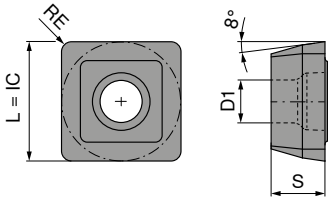


Information on solid drilling:
Only use SOEX -21 BK7935 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- ▲ Positive geometry for steel materials
- ▲ Cutting edge rounded



-21
BK8430



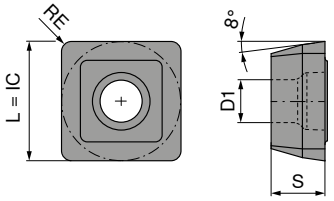
SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.048430	5.56	2.30	2.38	5.56	0.4	**00521**
SOEX 060306EN	W83 18210.068430	6.35	2.65	3.18	6.35	0.6	**01621**
SOEX 060308EN	W83 18210.088430	6.35	2.65	3.18	6.35	0.8	**00621**
SOEX 07T308EN	W83 23210.088430	7.94	2.85	3.58	7.94	0.8	**00721**
SOEX 090408EN	W83 32210.088430	9.52	4.10	4.37	9.52	0.8	**00921**
SOEX 110508EN	W83 39210.088430	11.10	4.10	4.76	11.10	0.8	**01121**
SOEX 120508EN	W83 44210.088430	12.70	5.20	5.16	12.70	0.8	**01221**
P							●
M							●
K							●
N							●
S							
H							
O							●

→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

SOEX





SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 829 ...
SOEX 07T308EN	W83 23210.086130	7.94	2.85	3.58	7.94	0.8	**50721**
SOEX 090408EN	W83 32210.086130	9.52	4.10	4.37	9.52	0.8	**50921**

P	●
M	●
K	○
N	
S	●
H	
O	

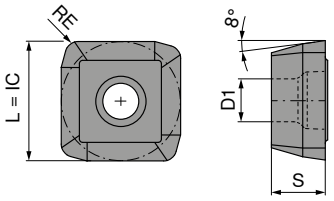
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -21 BK6130 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- Cutting edge geometry for burr-minimizing drill exit for steel materials
- For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced
- Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm



	-32 BK7935	-33 BK7935	-32 BK8425	-33 BK8425
				
	SOEX	SOEX	SOEX	SOEX
	IH	IH	IH	IH
Designation	**10 822 ...**	**10 822 ...**	**10 822 ...**	**10 822 ...**

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	50532			
SOEX 050204EN	W83 13320.047935	5.56	2.30	2.38	5.56	0.4				
SOEX 050204EN	W83 13320.048425	5.56	2.30	2.38	5.56	0.4			30532	
SOEX 060306EN	W83 18330.068425	6.35	2.65	3.18	6.35	0.6			30632	
SOEX 07T308EN	W83 23330.087935	7.94	2.85	3.58	7.94	0.8		50732		
SOEX 07T308EN	W83 23330.088425	7.94	2.85	3.58	7.94	0.8				30732
SOEX 090408EN	W83 32320.087935	9.52	4.10	4.37	9.52	0.8	50932			
SOEX 090408EN	W83 32320.088425	9.52	4.10	4.37	9.52	0.8			30932	
SOEX 120508EN	W83 44320.087935	12.70	5.20	5.16	12.70	0.8	51232			
SOEX 120508EN	W83 44320.088425	12.70	5.20	5.16	12.70	0.8			31232	
P							●	●	●	●
M							●	●	●	●
K									●	●
N										
S										
H										
O										

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -01					
	BK6115	BK6420	BK74	BK7615	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.					
P.1.1	230 - **300** - 370	245 - **320** - 380	230 - **300** - 370		195 - **250** - 310	200 - **260** - 320
P.1.2	230 - **300** - 370	245 - **320** - 380	230 - **300** - 370		170 - **220** - 270	200 - **260** - 320
P.1.3	210 - **270** - 330	170 - **220** - 260	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.1.4	195 - **250** - 310	225 - **290** - 340	195 - **250** - 310		195 - **250** - 310	195 - **250** - 310
P.1.5	230 - **300** - 370	215 - **280** - 330	230 - **300** - 370		155 - **200** - 245	210 - **270** - 330
P.2.1	210 - **270** - 330	255 - **330** - 390	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320	245 - **320** - 380	200 - **260** - 320		200 - **260** - 320	200 - **260** - 320
P.2.3	185 - **240** - 295	170 - **220** - 260	185 - **240** - 295		125 - **160** - 195	140 - **180** - 220
P.2.4	155 - **200** - 245	140 - **180** - 210	155 - **200** - 245		100 - **130** - 160	115 - **150** - 185
P.3.1	155 - **200** - 245	155 - **200** - 235	155 - **200** - 245		110 - **140** - 170	125 - **160** - 195
P.3.2	125 - **160** - 195	125 - **160** - 190	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
P.3.3	110 - **140** - 170	115 - **150** - 175	110 - **140** - 170		85 - **110** - 135	90 - **120** - 150
P.4.1	170 - **220** - 270	170 - **220** - 260	170 - **220** - 270		115 - **150** - 185	140 - **180** - 220
P.4.2	125 - **160** - 195	125 - **160** - 190	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
M.1.1	170 - **220** - 270	140 - **185** - 220	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.2.1	170 - **220** - 270	140 - **185** - 220	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.3.1	155 - **200** - 245	125 - **160** - 190	155 - **200** - 245		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 295	155 - **200** - 235		200 - **260** - 305	115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 220	115 - **150** - 175		125 - **160** - 190	90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 195	155 - **200** - 235		140 - **180** - 210	115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 125	90 - **120** - 140		90 - **120** - 140	70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 150	115 - **150** - 175		110 - **140** - 165	85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 125	90 - **120** - 140		90 - **120** - 140	70 - **90** - 110	75 - **100** - 125
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1					45 - **60** - 75	
S.1.2					40 - **50** - 60	
S.2.1					45 - **60** - 75	
S.2.2					40 - **50** - 60	
S.2.3					25 - **30** - 35	
S.3.1						
S.3.2						
S.3.3						
H.1.1	40 - **50** - 60				40 - **50** - 60	
H.1.2	35 - **45** - 55				25 - **35** - 45	
H.1.3						
H.1.4						
H.2.1	75 - **100** - 125				60 - **75** - 90	
H.3.1	40 - **50** - 60				25 - **35** - 45	
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -03	
	BK6730	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	200 - **260** - 320
P.1.2	245 - **320** - 380	200 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310
P.1.5	215 - **280** - 330	210 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320
P.2.3	170 - **220** - 260	140 - **180** - 220
P.2.4	140 - **180** - 210	115 - **150** - 185
P.3.1	155 - **200** - 235	125 - **160** - 195
P.3.2	125 - **160** - 190	100 - **130** - 160
P.3.3	115 - **150** - 175	90 - **120** - 150
P.4.1	170 - **220** - 260	140 - **180** - 220
P.4.2	125 - **160** - 190	100 - **130** - 160
M.1.1	140 - **185** - 220	115 - **150** - 185
M.2.1	140 - **185** - 220	115 - **150** - 185
M.3.1	125 - **160** - 190	110 - **140** - 170
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		



The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -13			
	BK6420	BK74	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.			
P.1.1	245 - **320** - 380	230 - **300** - 370	195 - **250** - 310	255 - **260** - 320
P.1.2	245 - **320** - 380	230 - **300** - 370	170 - **220** - 270	255 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330	210 - **270** - 330	175 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310	195 - **250** - 310	200 - **250** - 310
P.1.5	215 - **280** - 330	230 - **300** - 370	155 - **200** - 245	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330	210 - **270** - 330	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320	200 - **260** - 320	195 - **260** - 320
P.2.3	170 - **220** - 260	185 - **240** - 295	125 - **160** - 195	210 - **180** - 220
P.2.4	140 - **180** - 210	155 - **200** - 245	100 - **130** - 160	210 - **150** - 185
P.3.1	155 - **200** - 235	155 - **200** - 245	110 - **140** - 170	200 - **160** - 195
P.3.2	125 - **160** - 190	125 - **160** - 195	90 - **120** - 150	140 - **130** - 160
P.3.3	115 - **150** - 175	110 - **140** - 170	85 - **110** - 135	115 - **120** - 150
P.4.1	170 - **220** - 260	170 - **220** - 270	115 - **150** - 185	125 - **180** - 220
P.4.2	125 - **160** - 190	125 - **160** - 195	90 - **120** - 150	100 - **130** - 160
M.1.1	140 - **185** - 220	170 - **220** - 270	125 - **160** - 195	90 - **150** - 185
M.2.1	140 - **185** - 220	170 - **220** - 270	125 - **160** - 195	140 - **150** - 185
M.3.1	125 - **160** - 190	155 - **200** - 245	115 - **150** - 185	100 - **140** - 170
K.1.1	155 - **200** - 235		115 - **150** - 185	125 - **160** - 190
K.1.2	115 - **150** - 175		90 - **120** - 150	90 - **120** - 140
K.2.1	155 - **200** - 235		115 - **150** - 185	125 - **160** - 190
K.2.2	90 - **120** - 140		70 - **90** - 110	75 - **100** - 120
K.3.1	115 - **150** - 175		85 - **110** - 135	90 - **120** - 140
K.3.2	90 - **120** - 140		70 - **90** - 110	75 - **100** - 125
N.1.1				
N.1.2				
N.2.1				
N.2.2				
N.2.3				
N.3.1				
N.3.2				
N.3.3				
N.4.1				
S.1.1				
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1				
S.3.2				
S.3.3				
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1				
O.1.2				
O.2.1				
O.2.2				
O.3.1				

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -21			
	BK6130	BK7710	BK7935	BK8430
	v_c (m/min) min. – Recommended – max.			
P.1.1	225 - **290** - 340		195 - **250** - 310	200 - **260** - 320
P.1.2	225 - **290** - 340		170 - **220** - 270	200 - **260** - 320
P.1.3	200 - **260** - 305		210 - **270** - 330	210 - **270** - 330
P.1.4	200 - **260** - 305		195 - **250** - 310	195 - **250** - 310
P.1.5	225 - **290** - 340		155 - **200** - 245	210 - **270** - 330
P.2.1	200 - **260** - 305		210 - **270** - 330	210 - **270** - 330
P.2.2	195 - **250** - 295		200 - **260** - 320	200 - **260** - 320
P.2.3	175 - **230** - 270		125 - **160** - 195	140 - **180** - 220
P.2.4	145 - **190** - 225		100 - **130** - 160	115 - **150** - 185
P.3.1	145 - **190** - 225		110 - **140** - 170	125 - **160** - 195
P.3.2	115 - **150** - 175		90 - **120** - 150	100 - **130** - 160
P.3.3	100 - **130** - 155		85 - **110** - 135	90 - **120** - 150
P.4.1	160 - **210** - 250		115 - **150** - 185	140 - **180** - 220
P.4.2	115 - **150** - 175		90 - **120** - 150	100 - **130** - 160
M.1.1	160 - **210** - 250		125 - **160** - 195	115 - **150** - 185
M.2.1	160 - **210** - 250		125 - **160** - 195	115 - **150** - 185
M.3.1	145 - **190** - 225		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 285		115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 210		90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 190		115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 120		70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 140		85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 120		70 - **90** - 110	75 - **100** - 125
N.1.1		385 - **500** - 615		310 - **400** - 490
N.1.2		385 - **500** - 615		310 - **400** - 490
N.2.1		215 - **280** - 345		195 - **250** - 310
N.2.2		215 - **280** - 345		195 - **250** - 310
N.2.3		195 - **250** - 310		175 - **230** - 285
N.3.1		195 - **250** - 310		155 - **200** - 245
N.3.2		215 - **280** - 345		170 - **220** - 270
N.3.3		300 - **390** - 480		255 - **330** - 405
N.4.1		195 - **250** - 310		155 - **200** - 245
S.1.1	45 - **60** - 75		45 - **60** - 75	
S.1.2	40 - **50** - 60		40 - **50** - 60	
S.2.1	45 - **60** - 75		45 - **60** - 75	
S.2.2	40 - **50** - 60		40 - **50** - 60	
S.2.3	25 - **30** - 35		25 - **30** - 35	
S.3.1		75 - **100** - 125		
S.3.2		60 - **80** - 100		
S.3.3		40 - **50** - 60		
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1		75 - **100** - 125		
O.1.2		75 - **100** - 125		
O.2.1				155 - **200** - 245
O.2.2		75 - **100** - 125		155 - **200** - 245
O.3.1		75 - **100** - 125		155 - **200** - 245

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -32, -33	
	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.	
P.1.1	170 - **220** - 270	255 - **260** - 320
P.1.2	145 - **190** - 235	255 - **260** - 320
P.1.3	185 - **240** - 295	175 - **270** - 330
P.1.4	170 - **220** - 270	200 - **250** - 310
P.1.5	130 - **170** - 210	200 - **270** - 330
P.2.1	185 - **240** - 295	210 - **270** - 330
P.2.2	175 - **230** - 285	195 - **260** - 320
P.2.3	100 - **130** - 160	210 - **180** - 220
P.2.4	75 - **100** - 125	210 - **150** - 185
P.3.1	85 - **110** - 135	200 - **160** - 195
P.3.2	70 - **90** - 110	140 - **130** - 160
P.3.3	60 - **80** - 100	115 - **120** - 150
P.4.1	90 - **120** - 150	125 - **180** - 220
P.4.2	85 - **110** - 135	100 - **130** - 160
M.1.1	100 - **130** - 160	90 - **150** - 185
M.2.1	100 - **130** - 160	140 - **150** - 185
M.3.1	90 - **120** - 150	100 - **140** - 170
K.1.1		125 - **160** - 190
K.1.2		90 - **120** - 140
K.2.1		125 - **160** - 190
K.2.2		75 - **100** - 120
K.3.1		90 - **120** - 140
K.3.2		75 - **100** - 120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -01					
	BK6115	BK6420	BK74	BK7615	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.					
P.1.1	755 - **985** - 1215	805 - **1050** - 1245	755 - **985** - 1215		640 - **820** - 1015	655 - **855** - 1050
P.1.2	755 - **985** - 1215	805 - **1050** - 1245	755 - **985** - 1215		560 - **720** - 885	655 - **855** - 1050
P.1.3	690 - **885** - 1085	560 - **720** - 855	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.1.4	640 - **820** - 1015	740 - **950** - 1115	640 - **820** - 1015		640 - **820** - 1015	640 - **820** - 1015
P.1.5	755 - **985** - 1215	705 - **920** - 1085	755 - **985** - 1215		510 - **655** - 805	690 - **885** - 1085
P.2.1	690 - **885** - 1085	835 - **1085** - 1280	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050	805 - **1050** - 1245	655 - **855** - 1050		655 - **855** - 1050	655 - **855** - 1050
P.2.3	605 - **785** - 970	560 - **720** - 855	605 - **785** - 970		410 - **525** - 640	460 - **590** - 720
P.2.4	510 - **655** - 805	460 - **590** - 690	510 - **655** - 805		330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 805	510 - **655** - 770	510 - **655** - 805		360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 640	410 - **525** - 625	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
P.3.3	360 - **460** - 560	375 - **490** - 575	360 - **460** - 560		280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 885	560 - **720** - 855	560 - **720** - 885		375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 640	410 - **525** - 625	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
M.1.1	560 - **720** - 885	460 - **605** - 720	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.2.1	560 - **720** - 885	460 - **605** - 720	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.3.1	510 - **655** - 805	410 - **525** - 625	510 - **655** - 805		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 970	510 - **655** - 770		655 - **855** - 1000	375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 720	375 - **490** - 575		410 - **525** - 625	295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 640	510 - **655** - 770		460 - **590** - 690	375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 410	295 - **395** - 460		295 - **395** - 460	230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 490	375 - **490** - 575		360 - **460** - 540	280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 410	295 - **395** - 460		295 - **395** - 460	230 - **295** - 360	245 - **330** - 395
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1					150 - **195** - 245	
S.1.2					130 - **165** - 195	
S.2.1					150 - **195** - 245	
S.2.2					130 - **165** - 195	
S.2.3					80 - **100** - 115	
S.3.1						
S.3.2						
S.3.3						
H.1.1	130 - **165** - 195				130 - **165** - 195	
H.1.2	115 - **150** - 180				80 - **115** - 150	
H.1.3						
H.1.4						
H.2.1	245 - **330** - 410				195 - **245** - 295	
H.3.1	130 - **165** - 195				80 - **115** - 150	
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -03	
	BK6730	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	655 - **855** - 1050
P.1.2	805 - **1050** - 1245	655 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015
P.1.5	705 - **920** - 1085	690 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050
P.2.3	560 - **720** - 855	460 - **590** - 720
P.2.4	460 - **590** - 690	375 - **490** - 605
P.3.1	510 - **655** - 770	410 - **525** - 640
P.3.2	410 - **525** - 625	330 - **425** - 525
P.3.3	375 - **490** - 575	295 - **395** - 490
P.4.1	560 - **720** - 855	460 - **590** - 720
P.4.2	410 - **525** - 625	330 - **425** - 525
M.1.1	460 - **605** - 720	375 - **490** - 605
M.2.1	460 - **605** - 720	375 - **490** - 605
M.3.1	410 - **525** - 625	360 - **460** - 560
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -13			
	BK6420	BK74	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.			
P.1.1	805 - **1050** - 1245	755 - **985** - 1215	640 - **820** - 1015	655 - **855** - 1050
P.1.2	805 - **1050** - 1245	755 - **985** - 1215	560 - **720** - 885	655 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085	690 - **885** - 1085	690 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015	640 - **820** - 1015	640 - **820** - 1015
P.1.5	705 - **920** - 1085	755 - **985** - 1215	510 - **655** - 805	690 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085	690 - **885** - 1085	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050	655 - **855** - 1050	655 - **855** - 1050
P.2.3	560 - **720** - 855	605 - **785** - 970	410 - **525** - 640	460 - **590** - 720
P.2.4	460 - **590** - 690	510 - **655** - 805	330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 770	510 - **655** - 805	360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 625	410 - **525** - 640	295 - **395** - 490	330 - **425** - 525
P.3.3	375 - **490** - 575	360 - **460** - 560	280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 855	560 - **720** - 885	375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 625	410 - **525** - 640	295 - **395** - 490	330 - **425** - 525
M.1.1	460 - **605** - 720	560 - **720** - 885	410 - **525** - 640	375 - **490** - 605
M.2.1	460 - **605** - 720	560 - **720** - 885	410 - **525** - 640	375 - **490** - 605
M.3.1	410 - **525** - 625	510 - **655** - 805	375 - **490** - 605	360 - **460** - 560
K.1.1	510 - **655** - 770		375 - **490** - 605	410 - **525** - 625
K.1.2	375 - **490** - 575		295 - **395** - 490	295 - **395** - 460
K.2.1	510 - **655** - 770		375 - **490** - 605	410 - **525** - 625
K.2.2	295 - **395** - 460		230 - **295** - 360	245 - **330** - 395
K.3.1	375 - **490** - 575		280 - **360** - 445	295 - **395** - 460
K.3.2	295 - **395** - 460		230 - **295** - 360	245 - **330** - 395
N.1.1				
N.1.2				
N.2.1				
N.2.2				
N.2.3				
N.3.1				
N.3.2				
N.3.3				
N.4.1				
S.1.1				
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1				
S.3.2				
S.3.3				
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1				
O.1.2				
O.2.1				
O.2.2				
O.3.1				

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -21			
	BK6130	BK7710	BK7935	BK8430
	v_c (ft/min) min. – Recommended – max.			
P.1.1	740 - **950** - 1115		640 - **820** - 1015	655 - **855** - 1050
P.1.2	740 - **950** - 1115		560 - **720** - 885	655 - **855** - 1050
P.1.3	655 - **855** - 1000		690 - **885** - 1085	690 - **885** - 1085
P.1.4	655 - **855** - 1000		640 - **820** - 1015	640 - **820** - 1015
P.1.5	740 - **950** - 1115		510 - **655** - 805	690 - **885** - 1085
P.2.1	655 - **855** - 1000		690 - **885** - 1085	690 - **885** - 1085
P.2.2	640 - **820** - 970		655 - **855** - 1050	655 - **855** - 1050
P.2.3	575 - **755** - 885		410 - **525** - 640	460 - **590** - 720
P.2.4	475 - **625** - 740		330 - **425** - 525	375 - **490** - 605
P.3.1	475 - **625** - 740		360 - **460** - 560	410 - **525** - 640
P.3.2	375 - **490** - 575		295 - **395** - 490	330 - **425** - 525
P.3.3	330 - **425** - 510		280 - **360** - 445	295 - **395** - 490
P.4.1	525 - **690** - 820		375 - **490** - 605	460 - **590** - 720
P.4.2	375 - **490** - 575		295 - **395** - 490	330 - **425** - 525
M.1.1	525 - **690** - 820		410 - **525** - 640	375 - **490** - 605
M.2.1	525 - **690** - 820		410 - **525** - 640	375 - **490** - 605
M.3.1	475 - **625** - 740		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 935		375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 690		295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 625		375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 395		230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 460		280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 395		230 - **295** - 360	245 - **330** - 395
N.1.1		1265 - **1640** - 2020		1015 - **1310** - 1610
N.1.2		1265 - **1640** - 2020		1015 - **1310** - 1610
N.2.1		705 - **920** - 1130		640 - **820** - 1015
N.2.2		705 - **920** - 1130		640 - **820** - 1015
N.2.3		640 - **820** - 1015		575 - **755** - 935
N.3.1		640 - **820** - 1015		510 - **655** - 805
N.3.2		705 - **920** - 1130		560 - **720** - 885
N.3.3		985 - **1280** - 1575		835 - **1085** - 1330
N.4.1		640 - **820** - 1015		510 - **655** - 805
S.1.1	150 - **195** - 245		150 - **195** - 245	
S.1.2	130 - **165** - 195		130 - **165** - 195	
S.2.1	150 - **195** - 245		150 - **195** - 245	
S.2.2	130 - **165** - 195		130 - **165** - 195	
S.2.3	80 - **100** - 115		80 - **100** - 115	
S.3.1		245 - **330** - 410		
S.3.2		195 - **260** - 330		
S.3.3		130 - **165** - 195		
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1		245 - **330** - 410		
O.1.2		245 - **330** - 410		
O.2.1				510 - **655** - 805
O.2.2		245 - **330** - 410		510 - **655** - 805
O.3.1		245 - **330** - 410		510 - **655** - 805

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

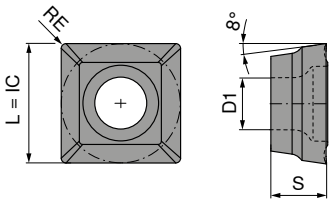
Index	10 822 ... SOEX -32, -33	
	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.	
P.1.1	560 - **720** - 885	655 - **855** - 1050
P.1.2	475 - **625** - 770	655 - **855** - 1050
P.1.3	605 - **785** - 970	690 - **885** - 1085
P.1.4	560 - **720** - 885	640 - **820** - 1015
P.1.5	425 - **560** - 690	690 - **885** - 1085
P.2.1	605 - **785** - 970	690 - **885** - 1085
P.2.2	575 - **755** - 935	655 - **855** - 1050
P.2.3	330 - **425** - 525	460 - **590** - 720
P.2.4	245 - **330** - 410	375 - **490** - 605
P.3.1	280 - **360** - 445	410 - **525** - 640
P.3.2	230 - **295** - 360	330 - **425** - 525
P.3.3	195 - **260** - 330	295 - **395** - 490
P.4.1	295 - **395** - 490	460 - **590** - 720
P.4.2	280 - **360** - 445	330 - **425** - 525
M.1.1	330 - **425** - 525	375 - **490** - 605
M.2.1	330 - **425** - 525	375 - **490** - 605
M.3.1	295 - **395** - 490	360 - **460** - 560
K.1.1		410 - **525** - 625
K.1.2		295 - **395** - 460
K.2.1		410 - **525** - 625
K.2.2		245 - **330** - 395
K.3.1		295 - **395** - 460
K.3.2		245 - **330** - 395
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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CoreLine – HM indexable insert

SOHX

- Positive geometry for steel materials
- Cutting edge rounded, periphery ground
- Compatible with SOEX indexable inserts



-21 BK2730	-21 BK8530
	
SOHX	SOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 618 ...	IH 62 618 ...
SOHX 090408EN	W82 32210.082730	9.52	4.1	4.37	9.52	0.8	**51801**	
SOHX 090408EN	W82 32210.088530	9.52	4.1	4.37	9.52	0.8		**61801**
P							○	●
M							●	○
K							○	○
N								
S							●	●
H							●	●
O								

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	62 618 ... SOHX -21	
	BK2730	BK8530
	v_c (m/min)	
P.1.1	200	**200**
P.1.2	200	**200**
P.1.3	200	**200**
P.1.4	180	**180**
P.1.5	180	**180**
P.2.1	160	**160**
P.2.2	160	**160**
P.2.3	160	**160**
P.2.4	160	**160**
P.3.1	140	**140**
P.3.2	140	**140**
P.3.3	140	**140**
P.4.1	120	**120**
P.4.2	120	**120**
M.1.1	**160**	160
M.2.1	**140**	140
M.3.1	**100**	100
K.1.1	180	180
K.1.2	160	160
K.2.1	140	140
K.2.2	140	140
K.3.1	120	120
K.3.2	120	120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1	**60**	**60**
S.1.2	**50**	**50**
S.2.1	**60**	**60**
S.2.2	**50**	**50**
S.2.3	**30**	**30**
S.3.1	**100**	**100**
S.3.2	**80**	**80**
S.3.3	**50**	**50**
H.1.1	**100**	**100**
H.1.2	**80**	**80**
H.1.3	**50**	**50**
H.1.4		
H.2.1	**100**	**100**
H.3.1	**80**	**80**
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

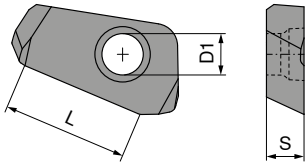


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CoreLine – Carbide drilling indexable insert

XOHX

▲ Tangential, stable geometry for cast iron materials





Designation	Product Reference No.	for	L mm	D1 mm	S mm	XOHX IH 62 615 ...	XOHX IH 62 615 ...	XOHX IH 62 615 ...
XOHX 0802ER-20,5	H60 20500.84	Ø 20,5	8	2.5	2.5		**30203**	
XOHX 1003ER-21,0	H60 21000.2715	Ø 21,0	10	3.3	3.0	**70403** [1]		
XOHX 1003ER-21,0	H60 21000.84	Ø 21,0	10	3.3	3.0		**30403**	
XOHX 1003ER-21,0	H60 21000.8440	Ø 21,0	10	3.3	3.0			**00400**
XOHX 1003ER-21,1	H60 21100.84	Ø 21,1	10	3.3	3.0		**30603**	
XOHX 1003ER-21,5	H60 21500.2715	Ø 21,5	10	3.3	3.0	**70803**		
XOHX 1003ER-21,5	H60 21500.8440	Ø 21,5	10	3.3	3.0			**00800**
XOHX 1003ER-21,8	H60 21800.2715	Ø 21,8	10	3.3	3.0	**71003**		
XOHX 1003ER-22,0	H60 22000.2715	Ø 22,0	10	3.3	3.0	**71203**		
XOHX 1003ER-22,0	H60 22000.84	Ø 22,0	10	3.3	3.0		**31203**	
XOHX 1003ER-22,0	H60 22000.8440	Ø 22,0	10	3.3	3.0			**01200**
XOHX 1003ER-22,5	H60 22500.84	Ø 22,5	10	3.3	3.0		**31403**	
XOHX 1003ER-23,0	H60 23000.84	Ø 23,0	10	3.3	3.0		**31603**	
XOHX 1003ER-24,0	H60 24000.2715	Ø 24,0	10	3.3	3.0	**71803**		
XOHX 1003ER-24,0	H60 24000.84	Ø 24,0	10	3.3	3.0		**31803**	
XOHX 1003ER-24,5	H60 24500.2715	Ø 24,5	10	3.3	3.0	**72003** [1]		
XOHX 12T3ER-25,0	H60 25000.84	Ø 25,0	12	3.9	3.6		**32203**	
XOHX 12T3ER-26,0	H60 26000.84	Ø 26,0	12	3.9	3.6		**32403**	
XOHX 12T3ER-26,0	H60 26000.8440	Ø 26,0	12	3.9	3.6			**02400**
XOHX 12T3ER-26,5	H60 26500.84	Ø 26,5	12	3.9	3.6		**32603**	
XOHX 12T3ER-26,5	H60 26500.8440	Ø 26,5	12	3.9	3.6			**02600**
XOHX 12T3ER-28,0	H60 28000.2715	Ø 28,0	12	3.9	3.6	**72803**		
XOHX 12T3ER-29,3	H60 29300.8440	Ø 29,3	12	3.9	3.6			**03000**
XOHX 12T3ER-29,7	H60 29700.84	Ø 29,7	12	3.9	3.6		**33203**	
XOHX 1504ER-30,0	H60 30000.2715	Ø 30,0	15	4.5	4.3	**73403**		
XOHX 1504ER-30,0	H60 30000.8440	Ø 30,0	15	4.5	4.3			**03400**
XOHX 1504ER-31,0	H60 31000.2715	Ø 31,0	15	4.5	4.3	**73603**		
XOHX 1504ER-32,0	H60 32000.2715	Ø 32,0	15	4.5	4.3	**73803** [1]		
XOHX 1504ER-32,0	H60 32000.8440	Ø 32,0	15	4.5	4.3			**03800**
XOHX 1504ER-33,0	H60 33000.2715	Ø 33,0	15	4.5	4.3	**74003**		
XOHX 1504ER-36,0	H60 36000.8440	Ø 36,0	15	4.5	4.3			**04400**
XOHX 2205ER-37,5	H60 37500.84	Ø 37,5	22	4.5	4.3		**34603**	
XOHX 2205ER-44,0	H60 44000.2715	Ø 44,0	22	4.5	4.3	**75003**		

P			
M			
K	●	●	●
N			
S			
H			
O			

1) Not in stock

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	62 615 ... XOHX		
	BK2715	BK84	BK8440
	v_c (m/min) min. – Recommended – max.		
P.1.1			
P.1.2			
P.1.3			
P.1.4			
P.1.5			
P.2.1			
P.2.2			
P.2.3			
P.2.4			
P.3.1			
P.3.2			
P.3.3			
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1	130 - **170** - 200	90 - **120** - 140	90 - **120** - 140
K.1.2	115 - **150** - 175	80 - **105** - 125	55 - **74** - 85
K.2.1	125 - **160** - 190	85 - **110** - 130	85 - **110** - 130
K.2.2	110 - **140** - 165	75 - **95** - 110	75 - **95** - 110
K.3.1	125 - **160** - 190	85 - **110** - 130	85 - **110** - 130
K.3.2	110 - **140** - 165	75 - **95** - 110	75 - **95** - 110
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

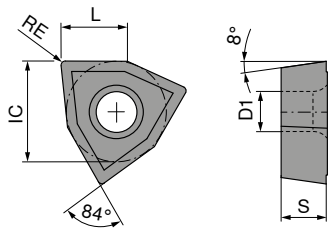
Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	62 615 ... XOHX		
	BK2715	BK84	BK8440
	v_c (ft/min) min. – Recommended – max.		
P.1.1			
P.1.2			
P.1.3			
P.1.4			
P.1.5			
P.2.1			
P.2.2			
P.2.3			
P.2.4			
P.3.1			
P.3.2			
P.3.3			
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1	425 - **560** - 655	295 - **395** - 460	295 - **395** - 460
K.1.2	375 - **490** - 575	260 - **345** - 410	180 - **240** - 280
K.2.1	410 - **525** - 625	280 - **360** - 425	280 - **360** - 425
K.2.2	360 - **460** - 540	245 - **310** - 360	245 - **310** - 360
K.3.1	410 - **525** - 625	280 - **360** - 425	280 - **360** - 425
K.3.2	360 - **460** - 540	245 - **310** - 360	245 - **310** - 360
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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CoreLine – Carbide drilling indexable insert

WCGT



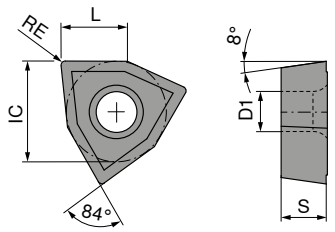


WCGT

Designation	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 812 ...
WCGT 030204FN	3.97	2.5	2.5	6	0.4	**650**
WCGT 050304FN	5.29	2.8	3.0	8	0.4	**652**
WCGT 060304FN	6.62	4.0	3.0	10	0.4	**654**
WCGT 07T304FN	7.94	4.4	3.8	12	0.4	**656**

CoreLine – Carbide drilling indexable insert

XOMT



CTPP430



XOMT

Designation	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 814 ...
XOMT 020204SN	3.37	2.25	2.3	5.5	0.4	**098**
XOMT 030204SN	3.97	2.50	2.5	6.0	0.4	**100**
XOMT 050304SN	5.29	2.80	3.0	8.0	0.4	**102**
XOMT 060304SN	6.62	4.00	3.0	10.0	0.4	**104**
XOMT 07T304SN	7.94	4.40	3.8	12.0	0.4	**106**

P	●
M	●
K	○
N	○
S	○
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 814 ... XOMT
	CTPP430
	v_c (m/min)
P.1.1	215
P.1.2	190
P.1.3	165
P.1.4	160
P.1.5	150
P.2.1	200
P.2.2	160
P.2.3	140
P.2.4	110
P.3.1	140
P.3.2	100
P.3.3	70
P.4.1	140
P.4.2	120
M.1.1	140
M.2.1	100
M.3.1	130
K.1.1	140
K.1.2	130
K.2.1	140
K.2.2	140
K.3.1	100
K.3.2	100
N.1.1	300
N.1.2	315
N.2.1	270
N.2.2	140
N.2.3	180
N.3.1	200
N.3.2	200
N.3.3	200
N.4.1	200
S.1.1	65
S.1.2	50
S.2.1	45
S.2.2	40
S.2.3	40
S.3.1	65
S.3.2	50
S.3.3	40
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.



CERATIZIT GROUP

Reaming and Countersinking



Contents

→ Explanation of symbols
→ Selection guide – Reamers
→ Toolfinder – High-speed reamers
→ Toolfinder – Reamers
→ Toolfinder – Countersinks
Product range – Reamers
→ Solid carbide – High speed reamers
→ Solid carbide – Reamers
→ HSS – Reamers
→ Product range – Countersinks
→ Cutting data
Technical information
→ Reamax TS assembly and operating instructions
→ Problems / possible causes / solutions
→ Types of wear
→ Cutting geometry and surface quality
→ Tolerance classes covered with 1/100 reamers
→ Manufacturer's tolerance and coatings
→ Overview of chip breakers and grades

Explanation of symbols

Coolant supply version


Central through coolant


Lateral through coolant

Shank


Plain cylindrical shank


Morse taper


Cylindrical shank with "Weldon" lateral driving face

Applications


Through hole


Blind hole


Through hole with transverse hole/interrupted cut


Blind hole with transverse hole/interrupted cut

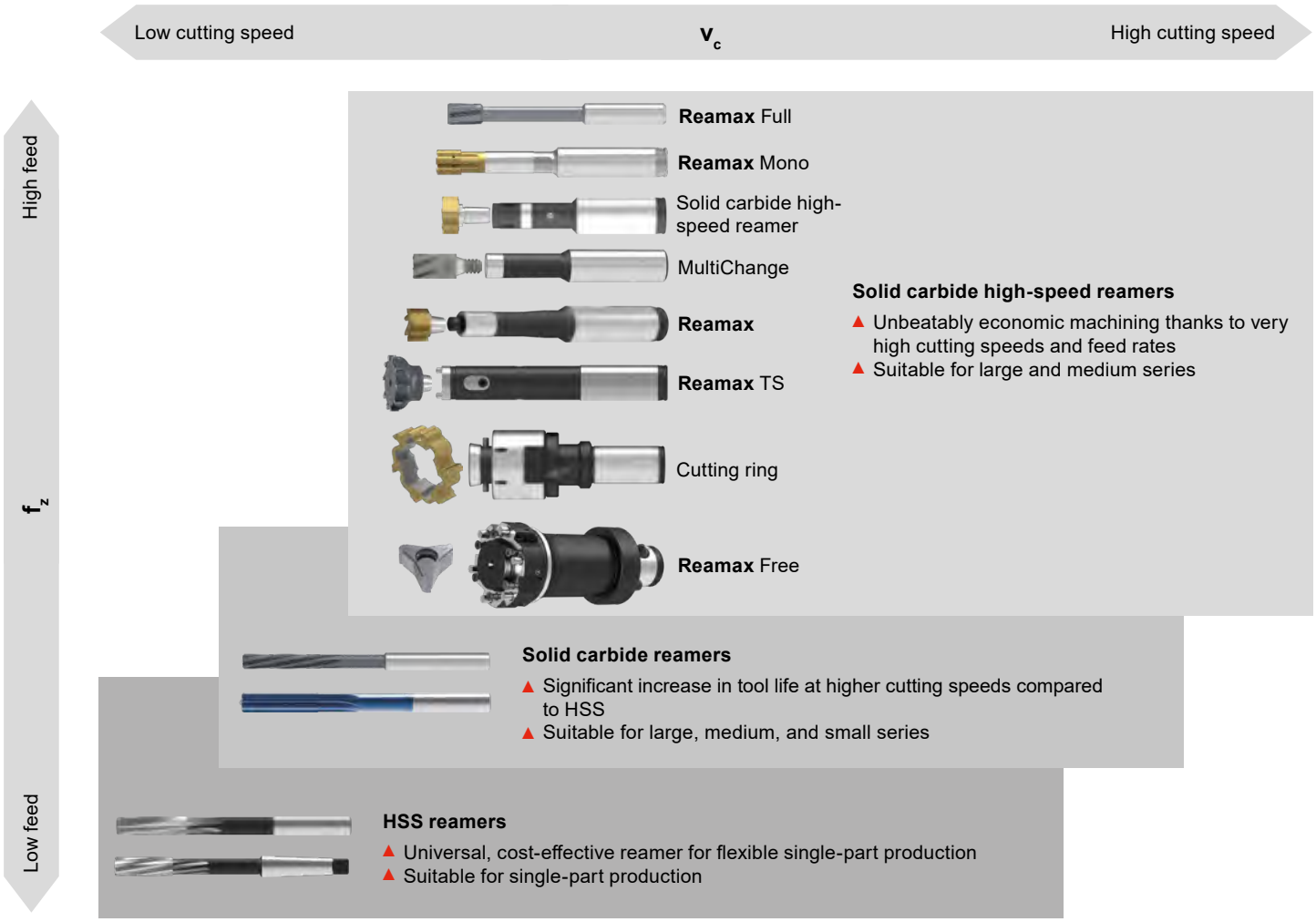
ZEFP = Number of teeth

● = Main application

○ = Secondary application



Selection guide – Reamers



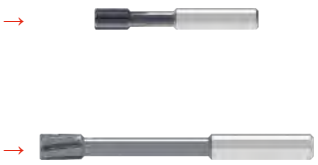
Overview of high-speed reamers

Ø mm / inch	10^{H7} 0.394	20^{H7} 0.787	30^{H7} 1.181	40^{H7} 1.575	50^{H7} 1.969	60^{H7} 2.362	70^{H7} 2.756	80^{H7} 3.150	90^{H7} 3.543	100^{H7} 3.937	110^{H7} 4.331	Accuracy	Tool structure	Adjustability
Reamax Full												IT7	Monolithic	Fixed
Reamax Mono												IT6	Monolithic	expandable
Solid carbide high-speed reamer												IT7	Modular	Fixed
MultiChange												IT7	Modular	Fixed
Reamax												IT7	Modular	Fixed
Reamax TS												IT6	Modular	expandable
Cutting ring												IT6	Modular	expandable
Reamax Free												IT7	Modular	Fixed

Toolfinder – High-speed reamers

Solid carbide – High speed reamers

Reamax Full



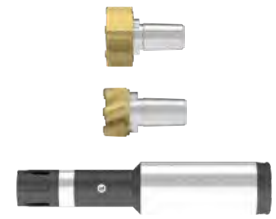
- High-speed reamer in shorter and longer version
- Reamers for machining steel, stainless and acid-resistant steels, cast materials, aluminum, and hardened materials up to 63 HRC
- Extremely irregular pitch
- Standard shank ~ DIN 6535 HA

Reamax Mono



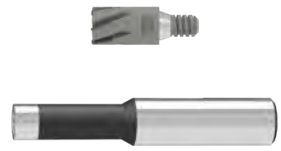
- Adjustable monoblock reamer in 3xD and 5xD
- Re-grinding and adjustment of base body possible
- All common materials

Solid carbide high-speed reamer



- Exchangeable head system
- Left hand spiral fluted cutting blades, available for highest productivity
- Re-tipping and regrinding available

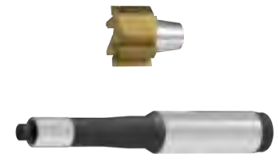
MultiChange



- Flexible quick change system for reaming, countersinking, and milling
- A high level of changeover precision guaranteed thanks to face and taper contact
- Stable holders made from solid carbide and steel, from short to long

→ Adapters and accessories

Reamax



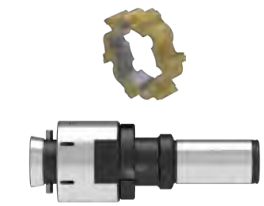
- Exchangeable head system, optimized for use with minimum quantity lubrication (MQL)
- Maximum changeover precision guaranteed thanks to face and taper contact
- Holders available in 3xD and 5xD

Reamax TS



- Extremely flexible and efficient exchangeable head system
- All common materials
- Can be adjusted in µm range
- Holders available in 3xD and 5xD
- DAH Zero holder type available in 3xD and 5xD

Cutting ring



- For large bore diameters
- Easy adjustment for wear compensation
- Suitable for regrinding and re-equipping

Reamax Free



- High precision ground indexable insert
- Highly stable due to tangential indexable insert mounting

	Bore diameter Ø DC	Standard tolerance	Through hole	Blind hole	Internal coolant supply	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O
Short version	**4,00 – 16,00 mm** (0.1575" – 0.6300")	H7			✓	●	●	●	○	○	○	
	2,96 – 20,05 mm 0.1165" – 0.7894"	1/100										
Long version	**4,00 – 16,00 mm** (0.1575" – 0.6300")	H7			✓	●	●	●	●	○	●	○
	2,96 – 20,05 mm 0.1165" – 0.7894"	1/100										
Short version	**5,60 – 25,89 mm 0.2205" – 1.0197"**	H7			✓	●	●	●	●			○
		1/100										
Long version	**5,60 – 25,89 mm 0.2205" – 1.0197"**	H7			✓	●	●	●	●			○
		1/100										
	(9,60 – 60,00 mm) **0.3780" – 2.3622"**	1/100			✓	●	●	●	●	●		
	(9,60 – 60,00 mm) **0.3780" – 2.3622"**	1/100			✓	●						
	8,00 – 30,20 mm (0.3150" – 1.1890")	H7			✓	●	●	●	●			
		1/100										
	12,50 – 40,00 mm 0.4921" – 1.5748"	H7			✓	●	●	●	●		●	○
		1/100										
	18,00 – 65,00 mm 0.7087" – 2.5590"	H7			✓	●	●	●	●			○
		1/100										
	60,60 – 110,59 mm 2.3858" – 4.3539"	H7			✓	●	●	●	●			
	70,00 – 100,00 mm (2.7559" – 3.9370")	H7			✓	●		●	●			

Toolfinder – Reamers

Solid carbide – Reamers

	Tool type		Bore diameter Ø DC	Standard tolerance	Through hole	Blind hole	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O
→ 	NC	▲ Universal solid carbide reamer without through coolant ▲ Extremely irregular pitch ▲ Standard shank ~ DIN 6535 HA	**2,00 – 30,00 mm** (0.0787" – 1.1811")	H7			●	○	●	●	○	○	●
→ 	NC 100		**0,59 – 12,05 mm** (0.0232" – 0.4744")	1/100			●	○	●	●	○	○	●
→ 	NC 100H	▲ Solid carbide reamer without through coolant suitable for use in hardened materials ▲ Standard shank ~ DIN 6535 HA	**0,98 – 12,05 mm** (0.0386" – 0.4744")	H7			○	○	○			●	
→ 	N	▲ Universal solid carbide reamer without through coolant ▲ Extremely irregular pitch	**2,00 – 12,00 mm** (0.0787" – 0.4724")	H7			●		○	●			

HSS – Reamers

→ 	NC	▲ HSS-E NC machine reamer ▲ Standard shank (DIN 1835 A)	**1,50 – 20,00 mm** (0.0591" – 0.7874")	H7			●		●	●			●
→ 	NC 100		**0,95 – 12,00 mm** (0.0374" – 0.4724")	1/100			●		●	●			●
→ 	N	▲ HSS-E machine reamer	**1,00 – 20,00 mm** (0.0394" – 0.7874")	H7			●	○	●	●	○		●
→ 	N 100		**0,95 – 12,00 mm** (0.0374" – 0.4724")	1/100			●	○	●	●	○		●
→ 	AR	▲ HSS-E automated reamer DIN 8089	**4,00 – 20,00 mm** (0.1575" – 0.7874")	H7			●	○	●	●	○		●
→ 	AR 100		**3,76 – 12,00 mm** (0.1480" – 0.4724")	1/100			●	○	●	●	○		●
→ 	N	▲ HSS-E machine reamer DIN 208 ▲ with Morse taper	**16,00 – 50,00 mm** (0.6299" – 1.9685")	H7			●	○	●	●	○		●
→ 		▲ HSS hand reamer with cylindrical shank DIN 206	**3,00 – 30,00 mm** (0.1181" – 1.1811")	H7			●	○	●	●	○		●

Toolfinder – Countersinks

	Tool type	Coating	Bore diameter Ø DC	Countersinking angle SIG	Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Hardened steel H	Non-metal materials O
Indexable insert counterbore											
→ 	WPS		**10 – 48 mm** (0.394" – 1.890")	180°	●	●	●	●	●	○	●
Insert countersink 60°/90°											
→ 	WPS		**16,5 – 25,5 mm** (0.650" – 1.004") **19,0 – 37,0 mm** **0.748" – 1.457"**	60° 90°	●	●	●	●	●	○	●
HSS – Counterbores											
→ 	N		**6,0 – 20,0 mm** (0.236" – 0.787")	180°	●	●	●	●	○		●
Solid carbide – Countersinks											
→ 	N	HPC-TiN	**6,3 – 31,0 mm** (0.248" – 1.220")	90°	●	○	●	●	○	○	○
→ 	N		**12,5 – 25,0 mm** (0.492" – 0.984")	60°	●	○	●	●	○	○	
→ 	N		**10,4 – 31,0 mm** (0.409" – 1.220")	90°	●	○	●	●	○	○	
HSS – Countersinks											
→ 	N	TiN	**4,3 – 31,0 mm** (0.169" – 1.220")	90°	●	○	●	●	○	○	○
→ 	N		**4,3 – 31,0 mm** (0.169" – 1.220")	90°	●	○	●	●	○		●
→ 	N	TiN	**5,0 – 31,0 mm** (0.197" – 1.220")	90°	●	○	●	●	○	○	●
→ 	N	TiAlN	**5,0 – 31,0 mm** (0.197" – 1.220")	90°	●	○	●	●	○	○	●
→ 	VA	TiAlN	**6,3 – 31,0 mm** (0.248" – 1.220")	90°	○	●	○	○	○	○	●
→ 	AL		**6,3 – 31,0 mm** (0.248" – 1.220")	90°	○	○	○	●	○		●
→ 	N		**6,3 – 25,0 mm** (0.248" – 0.984")	60°	●	○	●	●	○		●
→ 	N		**30,0 – 80,0 mm** (1.181" – 3.150")	90°	●	○	●	●	○		●
→ 	N		**6,3 – 25,0 mm** (0.248" – 0.984")	120°	●	○	●	●	○		●
Deburring countersinks											
→ 	N		**6,3 – 28,0 mm** (0.248" – 1.102")	90°	●	○	●	●	○		●
→ 	N	TiN	**6,3 – 28,0 mm** (0.248" – 1.102")	90°	●	○	●	●	○	○	●

Selection guide for exchangeable head reamer Reamax TS

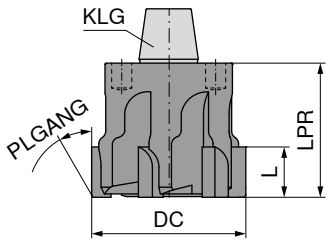
Ø 18 – 65 mm											
Article no.			40 597 …	40 544 …	40 577 …	40 521 …	40 526 …	40 539 …	40 585 …	40 535 …	40 571 …	40 580 …
Product reference no.			75J.93	75J.93	75J.65	75J.65	75J.17	75H.93	75H.65	75H.71	75H.65	75H.17
Cutting geometry			ASG4000	ASG3000	ASG3000	ASG0106	ASG0706	ASG3000	ASG3000	ASG3000	ASG0106	ASG0706
Lead angle			25°	45°	45°	45°	45°/8°	45°	45°	45°	45°	45°/8°
Grade / coating			DST	DST	DBG-P	DBG-P	DBC	DST	DBG-P	TiN	DBG-P	DBC
Preferred type available			✓	✓	✓	✓	✓	✓	✓		✓	
Type of hole			Through hole					Blind hole				
Material sub-group		Index										
P	Unalloyed steel	P.1.1	●	●	●			●	●	○		
		P.1.2	●	●	●			●	●	○		
		P.1.3	●	●	●			●	●	○		
		P.1.4	●	●	●			●	●	○		
		P.1.5	●	●	●			●	●	○		
	Low-alloy steel	P.2.1	●	●	●			●	●	○		
		P.2.2	●	●	●			●	●	○		
		P.2.3	●	●	●			●	●	○		
		P.2.4	●	●	●			●	●	○		
	High-alloy steel and high-alloy tool steel	P.3.1				●					●	
		P.3.2				●					●	
		P.3.3				●					●	
	Stainless steel	P.4.1				●					●	
		P.4.2				●					●	
M	Stainless steel	M.1.1				●					●	
		M.2.1				●					●	
		M.3.1				●					●	
K	Grey cast iron	K.1.1			●				●	●		
		K.1.2			●				●	●		
	Spherulitic graphite cast iron	K.2.1	●	●	●			●	●			
		K.2.2	●	●	●			●	●			
	Malleable iron	K.3.1		●	●			●	●			
		K.3.2	●	●	●			●	●			
N	Aluminum wrought alloys	N.1.1					●					●
		N.1.2					●					●
	Cast aluminum alloys	N.2.1					●					●
		N.2.2					●					●
		N.2.3					●					●
	Copper and copper alloys (bronze, brass)	N.3.1		○				○		●		
		N.3.2		○				○		●		
		N.3.3								●		
	Magnesium alloys	N.4.1					●					●
O	Non-metal materials	O.1.1										
		O.1.2										
		O.2.1										
		O.2.2										
		O.3.1					○					○

● = Main application range
○ = Secondary application range

Reamax – Exchangeable reaming heads

- up to tolerance class IT 6
- maximum changeover precision guaranteed
- high precision grind for maximum quality
- expandable to hold tight tolerances and extend tool life
- interface enables head change in the machine
- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size
- ZEFP = number of cutting edges

TS



DST	DBG-P	DBC	DBG-P	DST
				
75J.93 PLGANG 25° ASG4000 CERMET Through hole	75J.65 PLGANG 45° ASG0106 HM Through hole	75J.17 PLGANG 45/8° ASG0706 HM Through hole	75J.65 PLGANG 45° ASG3000 HM Through hole	75J.93 PLGANG 45° ASG3000 CERMET Through hole

DC H7 mm	L mm	LPR mm	ZEFP	KLG	RT 40 597 ...	RT 40 521 ...	RT 40 526 ...	RT 40 577 ...	RT 40 544 ...
18,00	6	20	6	1	18000	18000	18000	18000	18000
18,01 - 19,99	6	20	6	1	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
20,00	6	20	6	2	20000	20000	20000	20000	20000
20,01 - 21,99	6	20	6	2	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
22,00	6	20	6	3	22000	22000	22000	22000	22000
22,01 - 23,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
24,00	6	20	6	3	24000	24000	24000	24000	24000 1)
24,01 - 24,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
25,00	6	20	6	3	25000	25000	25000	25000	25000
25,01 - 25,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
26,00	6	20	6	3	26000	26000	26000 1)	26000	26000
26,01 - 26,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
27,00 - 27,99	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
28,00	6	25	6	4	28000	28000	28000	28000	28000
28,01 - 29,99	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
30,00	6	25	6	4	30000	30000	30000	30000	30000
30,01 - 31,79	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
31,80 - 31,99	6	25	8	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
32,00	6	25	8	4	32000	32000	32000	32000	32000
32,01 - 34,99	6	25	8	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
35,00	6	25	8	5	35000	35000	35000	35000	35000
35,01 - 39,99	6	25	8	5	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
40,00	6	25	8	5	40000	40000	40000	40000	40000
40,01 - 41,99	6	25	8	5	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
42,00	6	30	8	6	42000	42000	42000 1)	42000	42000
42,01 - 49,99	6	30	8	6	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
50,00	6	30	8	6	50000	50000	50000	50000	50000
50,01 - 51,99	6	30	8	6	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
52,00 - 53,99	8	35	10	7	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
54,00	8	35	10	7	54000 1)	54000 1)	54000 1)	54000 1)	54000 1)
54,01 - 65,00	8	35	10	7	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
P					●	●		●	●
M						●			
K					●			●	●
N							●		○
S									
H									
O							○		

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

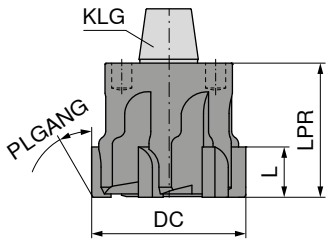
→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.
→ A detailed operating manual is available here.

For xxxx please indicate requested Ø in H7 in the order (e.g., Ø 24.12 H7 → article no. 40 597 2412)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request in addition to fixed-head variants (non-adjustable).

Reamax – Exchangeable reaming heads

- up to tolerance class IT 6
- maximum changeover precision guaranteed
- high precision grind for maximum quality
- expandable to hold tight tolerances and extend tool life
- interface enables head change in the machine
- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size
- ZEFP = number of cutting edges

TS



DST	DBG-P	DBC	DBG-P	TiN
				
75H.93	75H.65	75H.17	75H.65	75H.71
PLGANG 45°	PLGANG 45°	PLGANG 45/8°	PLGANG 45°	PLGANG 45°
ASG3000	ASG0106	ASG0706	ASG3000	ASG3000
CERMET	HM	HM	HM	HM
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole

DC H7 mm	L mm	LPR mm	ZEFP	KLG	RT 40 539 ...	RT 40 571 ...	RT 40 580 ...	RT 40 585 ...	RT 40 535 ...
18,00	6	20	6	1	18000	18000	18000 1)	18000	18000 1)
18,01 - 19,99	6	20	6	1	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
20,00	6	20	6	2	20000	20000	20000 1)	20000	20000 1)
20,01 - 21,99	6	20	6	2	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
22,00	6	20	6	3	22000	22000	22000 1)	22000	22000 1)
22,01 - 23,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
24,00	6	20	6	3	24000	24000	24000 1)	24000	24000 1)
24,01 - 24,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
25,00	6	20	6	3	25000	25000	25000 1)	25000	25000 1)
25,01 - 25,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
26,00	6	20	6	3	26000	26000	26000 1)	26000	26000 1)
26,01 - 26,99	6	20	6	3	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
27,00 - 27,99	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
28,00	6	25	6	4	28000	28000	28000 1)	28000	28000 1)
28,01 - 29,99	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
30,00	6	25	6	4	30000	30000	30000 1)	30000	30000 1)
30,01 - 31,79	6	25	6	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
31,80 - 31,99	6	25	8	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
32,00	6	25	8	4	32000	32000	32000 1)	32000	32000 1)
32,01 - 34,99	6	25	8	4	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
35,00	6	25	8	5	35000	35000	35000 1)	35000	35000 1)
35,01 - 39,99	6	25	8	5	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
40,00	6	25	8	5	40000	40000	40000 1)	40000	40000 1)
40,01 - 41,99	6	25	8	5	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
42,00	6	30	8	6	42000	42000	42000 1)	42000	42000 1)
42,01 - 49,99	6	30	8	6	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
50,00	6	30	8	6	50000	50000	50000 1)	50000	50000 1)
50,01 - 51,99	6	30	8	6	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
52,00 - 53,99	8	35	10	7	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
54,00	8	35	10	7	54000 1)	54000 1)	54000 1)	54000 1)	54000 1)
54,01 - 65,00	8	35	10	7	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)

P	●	●		●	○
M		●			
K	●			●	●
N	○		●		●
S					
H					
O			○		

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.
→ A detailed operating manual is available here.

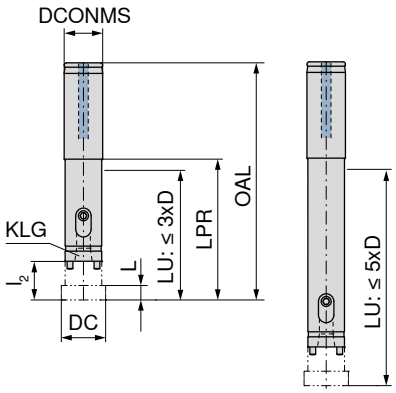
For xxxx please indicate requested Ø in H7 in the order (e.g., Ø 24.12 H7 → article no. 40 539 2412)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request in addition to fixed-head variants (non-adjustable).

Reamax – Holders

▲ KLG = Coupling size

Scope of supply:
Complete holder with pull stud. Reamer head not included

TS





≤ 3xD ≤ 5xD

DC mm	Product Reference No.	KLG	OAL mm	l_2 mm	LPR mm	L mm	DCONMS mm	Tightening torque Nm	TO 40 501 ...	TO 40 503 ...
18,00 - 19,99	75A.40.13010	1	130	20	80	6	20	1,5	**02099**	
18,00 - 19,99	75A.40.15010	1	190	20	140	6	20	1,5		**02099**
20,00 - 21,99	75A.40.13020	2	130	20	80	6	20	2,5	**02299**	
20,00 - 21,99	75A.40.15020	2	190	20	140	6	20	2,5		**02299**
22,00 - 26,99	75A.40.13030	3	130	20	80	6	20	4	**02799**	
22,00 - 26,99	75A.40.15030	3	210	20	160	6	20	4		**02799**
27,00 - 34,99	75A.40.13040	4	176	25	120	6	25	5	**03599**	
27,00 - 34,99	75A.40.15040	4	236	25	180	6	25	5		**03599**
35,00 - 41,99	75A.40.13050	5	176	25	120	6	25	6	**04299**	
35,00 - 41,99	75A.40.15050	5	256	25	200	6	25	6		**04299**
42,00 - 51,99	75A.40.13060	6	180	30	120	6	32	10	**05299**	
42,00 - 51,99	75A.40.15060	6	280	30	220	6	32	10		**05299**
52,00 - 65,00	75A.40.13070	7	180	35	120	8	32	13	**06599**	
52,00 - 65,00	75A.40.15070	7	280	35	220	8	32	13		**06599**

→ A detailed operating manual is available here.

Do not shrink the tool!


Clamping key T


Screwdriver


Reamax TS pull stud

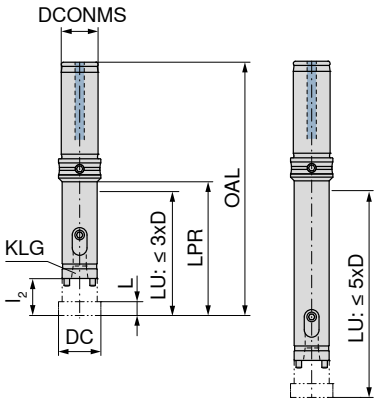
Spare parts DC		AS 80 397 ...		AS 80 950 ...	AS 40 900 ...
18,00 - 19,99			T08 - IP	**039**	**00100**
20,00 - 21,99	SW2,5	**025**			**00200**
22,00 - 26,99	SW3	**030**			**00300**
27,00 - 34,99	SW3	**030**			**00400**
35,00 - 41,99	SW3	**030**			**00500**
42,00 - 51,99	SW4	**040**			**00500**
52,00 - 65,00	SW5	**050**			**00700**

Reamax – DAH Zero holder

- KLG = Coupling size
- Adjustment inside the machine
- Alignable DAH Zero holder for correction of concentricity error
- DAH Zero holder is pre-loaded and set to a runout of < 0.0002"

Scope of supply:
Complete holder with pull stud. Reamer head not included

TS





DC mm	Product Reference No.	KLG	OAL mm	l_2 mm	LPR mm	L mm	DCONMS mm	Tightening torque Nm	TO 40 504 ...	TO 40 506 ...
18,00 - 19,99	75A.41.13010	1	145	20	95	6	20	1,5	**02099**	
18,00 - 19,99	75A.41.15010	1	205	20	155	6	20	1,5		**02099**
20,00 - 21,99	75A.41.13020	2	145	20	95	6	20	2,5	**02299**	
20,00 - 21,99	75A.41.15020	2	205	20	155	6	20	2,5		**02299**
22,00 - 26,99	75A.41.13030	3	145	20	95	6	20	4	**02799**	
22,00 - 26,99	75A.41.15030	3	225	20	175	6	20	4		**02799**
27,00 - 34,99	75A.41.13040	4	176	25	120	6	25	5	**03599**	
27,00 - 34,99	75A.41.15040	4	236	25	180	6	25	5		**03599**
35,00 - 41,99	75A.41.13050	5	176	25	120	6	25	6	**04299**	
35,00 - 41,99	75A.41.15050	5	256	25	200	6	25	6		**04299**

→ A detailed operating manual is available here.

Do not shrink the tool!







Spare parts DC		AS 80 397 ...		AS 80 950 ...	AS 40 900 ...
18,00 - 19,99			T08 - IP	**039**	**00100**
20,00 - 21,99	SW2,5	**025**			**00200**
22,00 - 26,99	SW3	**030**			**00300**
27,00 - 34,99	SW3	**030**			**00400**
35,00 - 41,99	SW3	**030**			**00500**

Selection guide for exchangeable head reamer Reamax TS – Through hole

Ø 0.7087 – 2.5590 inch										
Article no.			49 597 …	49 544 …	49 531 …	49 586 …	49 521 …	49 526 …	49 534 …	49 596 …	49 520 …
Product reference no.			75J.93	75J.93	75J.21	75J.65	75J.65	75J.17	75J.71	75J.71	75J.71
Cutting geometry			ASG4000	ASG3000	ASG03	ASG3000	ASG0106	ASG0706	ASG3000	ASG4000	ASG0106
Lead angle			25°	45°	30°/2°	45°	45°	45°/8°	45°	25°	45°
Grade / coating			DST	DST	K10	DBG-P	DBG-P	DBC	TiN	TiN	TiN
Type of hole			Through hole								
Material sub-group		Index									
P	Unalloyed steel	P.1.1	●	●		●			○	●	
		P.1.2	●	●		●			○	●	
		P.1.3	●	●		●			○	●	
		P.1.4	●	●		●			○	●	
		P.1.5	●	●		●			○	●	
	Low-alloy steel	P.2.1	●	●		●			○		
		P.2.2	●	●		●			○		
		P.2.3	●	●		●			○		
		P.2.4	●	●		●			○		
	High-alloy steel and high-alloy tool steel	P.3.1					●				○
		P.3.2					●				○
		P.3.3					●				○
	Stainless steel	P.4.1					●				○
		P.4.2					●				○
M	Stainless steel	M.1.1					●				○
		M.2.1					●				○
		M.3.1					●				○
K	Grey cast iron	K.1.1				●			○		
		K.1.2				●			○		
	Spherulitic graphite cast iron	K.2.1	●	●		●					
		K.2.2	●	●		●					
	Malleable iron	K.3.1		●		●					
		K.3.2	●	●		●					
N	Aluminum wrought alloys	N.1.1						●			
		N.1.2						●			
	Cast aluminum alloys	N.2.1						●			
		N.2.2						●			
		N.2.3						●			
	Copper and copper alloys (bronze, brass)	N.3.1		○					●		
		N.3.2		○					●		
		N.3.3							●		
	Magnesium alloys	N.4.1						●			
S	Heat-resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1			●						
		S.3.2			●						
		S.3.3			●						
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1						○			

● = Main application range
○ = Secondary application range

Selection guide for exchangeable head reamer Reamax TS – Blind hole

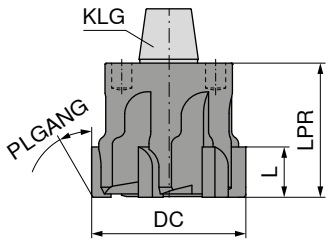
Ø 0.7087 – 2.5590 inch									
Article no.			49 539 ...	49 530 ...	49 585 ...	49 571 ...	49 527 ...	49 535 ...	49 580 ...
Product reference no.			75H.93	75H.21	75H.65	75H.65	75H.71	75H.71	75H.17
Cutting geometry			ASG3000	ASG03	ASG3000	ASG0106	ASG0106	ASG3000	ASG0706
Lead angle			45°	30°/2°	45°	45°	45°	45°	45°/8°
Grade / coating			DST	K10	DBG-P	DBG-P	TiN	TiN	DBC
Type of hole			Blind hole						
Material sub-group		Index							
P	Unalloyed steel	P.1.1	●		●			○	
		P.1.2	●		●			○	
		P.1.3	●		●			○	
		P.1.4	●		●			○	
		P.1.5	●		●			○	
	Low-alloy steel	P.2.1	●		●			○	
		P.2.2	●		●			○	
		P.2.3	●		●			○	
		P.2.4	●		●			○	
	High-alloy steel and high-alloy tool steel	P.3.1				●	○		
		P.3.2				●	○		
		P.3.3				●	○		
	Stainless steel	P.4.1				●	○		
		P.4.2				●	○		
M	Stainless steel	M.1.1				●	○		
		M.2.1				●	○		
		M.3.1				●	○		
K	Grey cast iron	K.1.1			●			●	
		K.1.2			●			●	
	Spherulitic graphite cast iron	K.2.1	●		●				
		K.2.2	●		●				
	Malleable iron	K.3.1	●		●				
		K.3.2	●		●				
N	Aluminum wrought alloys	N.1.1							●
		N.1.2							●
	Cast aluminum alloys	N.2.1							●
		N.2.2							●
		N.2.3							●
	Copper and copper alloys (bronze, brass)	N.3.1	○					●	
		N.3.2	○					●	
		N.3.3						●	
	Magnesium alloys	N.4.1							●
S	Heat-resistant alloys	S.1.1							
		S.1.2							
		S.2.1							
		S.2.2							
		S.2.3							
	Titanium alloys	S.3.1		●					
		S.3.2		●					
		S.3.3		●					
O	Non-metal materials	O.1.1							
		O.1.2							
		O.2.1							
		O.2.2							
		O.3.1							○

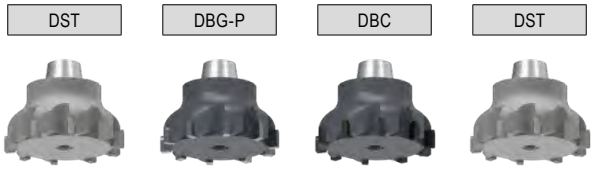
● = Main application range
○ = Secondary application range

Reamax – Replaceable reaming heads

- up to tolerance class IT 6
- maximum changeover precision guaranteed
- high precision grind for maximum quality
- expandable to hold tight tolerances and extend tool life
- interface enables head change in the machine
- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size
- ZEFP = number of cutting edges

TS





DST	DBG-P	DBC	DST
75J.93 PLGANG 25° ASG4000 CERMET Through hole	75J.65 PLGANG 45° ASG0106 HM Through hole	75J.17 PLGANG 45/8° ASG0706 HM Through hole	75J.93 PLGANG 45° ASG3000 CERMET Through hole

DC inch	L inch	LPR inch	ZEFP	KLG	RT 49 597 ...	RT 49 521 ...	RT 49 526 ...	RT 49 544 ...
0.7087 - 0.7874	0.236	0.787	6	1	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.7874 - 0.8661	0.236	0.787	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.8661 - 1.0630	0.236	0.787	6	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.0630 - 1.2519	0.236	0.984	6	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.2520 - 1.3779	0.236	0.984	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.3780 - 1.6535	0.236	0.984	8	5	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.6535 - 2.0472	0.236	1.181	8	6	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
2.0472 - 2.5590	0.315	1.378	10	7	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
P					●	●		●
M						●		
K					●			●
N							●	○
S								
H								
O							○	

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

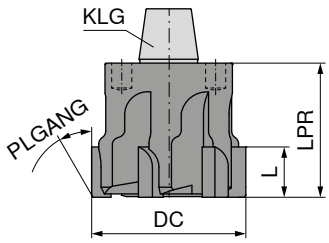
→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.
→ A detailed operating manual is available here.

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

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- ZEFP = number of cutting edges

TS



TiN	DBG-P	K10	TiN	TiN
				
75J.71 PLGANG 25° ASG4000 HM Through hole	75J.65 PLGANG 45° ASG3000 HM Through hole	75J.21 PLGANG 30/2° ASG03 HM Through hole	75J.71 PLGANG 45° ASG0106 HM Through hole	75J.71 PLGANG 45° ASG3000 HM Through hole

DC inch	L inch	LPR inch	ZEFP	KLG	RT 49 596 ...	RT 49 586 ...	RT 49 531 ...	RT 49 520 ...	RT 49 534 ...
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P					●	●		○	○
M								○	
K						●			○
N									●
S							●		
H									
O									

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

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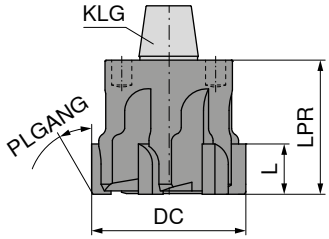
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- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size
- ZEFP = number of cutting edges

TS





DST	DBG-P	DBC	DBG-P	TiN
				
75H.93 PLGANG 45° ASG3000 CERMET Blind hole	75H.65 PLGANG 45° ASG0106 HM Blind hole	75H.17 PLGANG 45/8° ASG0706 HM Blind hole	75H.65 PLGANG 45° ASG3000 HM Blind hole	75H.71 PLGANG 45° ASG3000 HM Blind hole

DC inch	L inch	LPR inch	ZEFP	KLG	RT 49 539 ...	RT 49 571 ...	RT 49 580 ...	RT 49 585 ...	RT 49 535 ...
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P					●	●		●	○
M						●			
K					●			●	●
N					○		●		●
S									
H									
O							○		

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→ A detailed operating manual is available here.

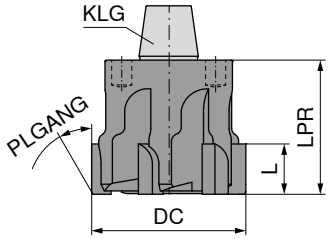
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- KLG = coupling size
- ZEFP = number of cutting edges

TS





K10



75H.21
PLGANG 30/2°
ASG03
HM
Blind hole

TiN



75H.71
PLGANG 45°
ASG0106
HM
Blind hole

DC inch	L inch	LPR inch	ZEFP	KLG	RT 49 530 ...	RT 49 527 ...
0.7087 - 0.7874	0.236	0.787	6	1	**xxxx** [1]	**xxxx** [1]
0.7874 - 0.8661	0.236	0.787	6	2	**xxxx** [1]	**xxxx** [1]
0.8661 - 1.0630	0.236	0.787	6	3	**xxxx** [1]	**xxxx** [1]
1.0630 - 1.2519	0.236	0.984	6	4	**xxxx** [1]	**xxxx** [1]
1.2520 - 1.3779	0.236	0.984	8	4	**xxxx** [1]	**xxxx** [1]
1.3780 - 1.6535	0.236	0.984	8	5	**xxxx** [1]	**xxxx** [1]
1.6535 - 2.0472	0.236	1.181	8	6	**xxxx** [1]	**xxxx** [1]
2.0472 - 2.5590	0.315	1.378	10	7	**xxxx** [1]	**xxxx** [1]
P						○
M						○
K						
N						
S					●	
H						
O						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.
→ A detailed operating manual is available here.

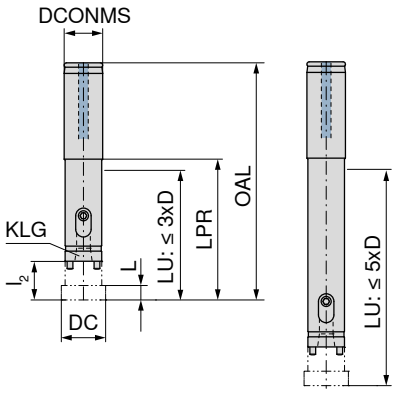
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

Reamax – Holders

▲ KLG = Coupling size

Scope of supply:
Complete holder with pull stud. Reamer head not included

TS





≤ 3xD ≤ 5xD

DC inch	Product Reference No.	KLG	OAL inch	l_2 inch	LPR inch	L inch	DCONMS inch	DCONMS mm	Tightening torque Nm	TO 40 501 ...	TO 40 503 ...
0,7087 - 0,7870	75A.40.13010	1	5.118	0.787	3.150	0.236	0.787	20	1,5	**02099**	
0,7087 - 0,7870	75A.40.15010	1	7.480	0.787	5.512	0.236	0.787	20	1,5		**02099**
0,7874 - 0,8657	75A.40.13020	2	5.118	0.787	3.150	0.236	0.787	20	2,5	**02299**	
0,7874 - 0,8657	75A.40.15020	2	7.480	0.787	5.512	0.236	0.787	20	2,5		**02299**
0,8661 - 1,0626	75A.40.13030	3	5.118	0.787	3.150	0.236	0.787	20	4	**02799**	
0,8661 - 1,0626	75A.40.15030	3	8.268	0.787	6.299	0.236	0.787	20	4		**02799**
1,0630 - 1,3776	75A.40.13040	4	6.929	0.984	4.724	0.236	0.984	25	5	**03599**	
1,0630 - 1,3776	75A.40.15040	4	9.291	0.984	7.087	0.236	0.984	25	5		**03599**
1,3780 - 1,6535	75A.40.13050	5	6.929	0.984	4.724	0.236	0.984	25	6	**04299**	
1,3780 - 1,6535	75A.40.15050	5	10.079	0.984	7.874	0.236	0.984	25	6		**04299**
1,6535 - 2,0472	75A.40.13060	6	7.087	1.181	4.724	0.236	1.260	32	10	**05299**	
1,6535 - 2,0472	75A.40.15060	6	11.024	1.181	8.661	0.236	1.260	32	10		**05299**
2,0472 - 2,5590	75A.40.13070	7	7.087	1.378	4.724	0.315	1.260	32	13	**06599**	
2,0472 - 2,5590	75A.40.15070	7	11.024	1.378	8.661	0.315	1.260	32	13		**06599**

→ A detailed operating manual is available here.

Do not shrink the tool!


Clamping key T


Screwdriver


Reamax TS pull stud

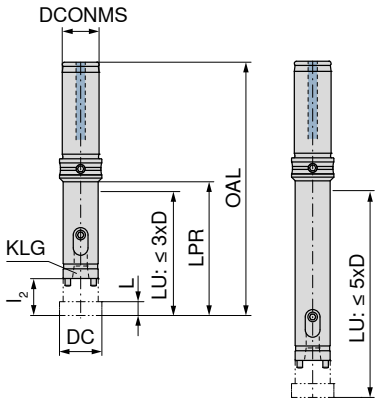
Spare parts DC		AS 80 397 ...		AS 80 950 ...	AS 40 900 ...
0,7087 - 0,7870			T08 - IP	**039**	**00100**
0,7874 - 0,8657	SW2,5	**025**			**00200**
0,8661 - 1,0626	SW3	**030**			**00300**
1,0630 - 1,3776	SW3	**030**			**00400**
1,3780 - 1,6535	SW3	**030**			**00500**
1,6535 - 2,0472	SW4	**040**			**00500**
2,0472 - 2,5590	SW5	**050**			**00700**

Reamax – DAH Zero holder

- ▲ KLG = Coupling size
- ▲ Adjustment inside the machine
- ▲ Alignable DAH Zero holder for correction of concentricity error
- ▲ DAH Zero holder is pre-loaded and set to a runout of < 0.0002"

Scope of supply:
Complete holder with pull stud. Reamer head not included

TS





DC inch	Product Reference No.	KLG	OAL inch	l_2 inch	LPR inch	L inch	DCONMS inch	DCONMS mm	Tightening torque Nm	TO 40 504 ...	TO 40 506 ...
0,7087 - 0,7870	75A.41.13010	1	5.709	0.787	3.740	0.236	0.787	20	1,5	**02099**	
0,7087 - 0,7870	75A.41.15010	1	8.071	0.787	6.102	0.236	0.787	20	1,5		**02099**
0,7874 - 0,8657	75A.41.13020	2	5.709	0.787	3.740	0.236	0.787	20	2,5	**02299**	
0,7874 - 0,8657	75A.41.15020	2	8.071	0.787	6.102	0.236	0.787	20	2,5		**02299**
0,8661 - 1,0626	75A.41.13030	3	5.709	0.787	3.740	0.236	0.787	20	4	**02799**	
0,8661 - 1,0626	75A.41.15030	3	8.858	0.787	6.890	0.236	0.787	20	4		**02799**
1,0630 - 1,3776	75A.41.13040	4	6.929	0.984	4.724	0.236	0.984	25	5	**03599**	
1,0630 - 1,3776	75A.41.15040	4	9.291	0.984	7.087	0.236	0.984	25	5		**03599**
1,3780 - 1,6535	75A.41.13050	5	6.929	0.984	4.724	0.236	0.984	25	6	**04299**	
1,3780 - 1,6535	75A.41.15050	5	10.079	0.984	7.874	0.236	0.984	25	6		**04299**

→ A detailed operating manual is available here.

Do not shrink the tool!

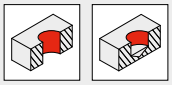
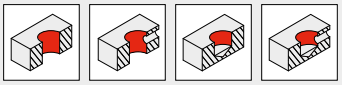

Clamping key T


Screwdriver


Reamax TS pull stud

Spare parts DC		AS 80 397 ...		AS 80 950 ...	AS 40 900 ...
0,7087 - 0,7870			T08 - IP	**039**	**00100**
0,7874 - 0,8657	SW2,5	**025**			**00200**
0,8661 - 1,0626	SW3	**030**			**00300**
1,0630 - 1,3776	SW3	**030**			**00400**
1,3780 - 1,6535	SW3	**030**			**00500**

Selection guide for exchangeable head reamer Reamax

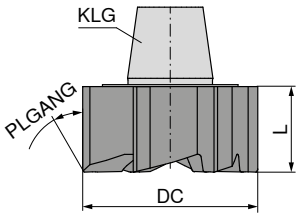
Ø 12,5 – 40 mm								
Article no.			40 536 …	40 525 …	40 560 …	40 551 …	40 570 …	40 505 …
Product reference no.			640.93	640.93	640.65	640.65	640.27	640.71
Cutting geometry			ASG4000	ASG3000	ASG3000	ASG0106	ASG0706	ASG3000
Lead angle			25°	45°	45°	45°	45°/8°	45°
Grade / coating			DST	DST	DBG-P	DBG-P	DBC	TiN
Preferred type available			✓	✓	✓	✓		✓
Type of hole			Through hole	Through hole + blind hole				
Material sub-group		Index						
P	Unalloyed steel	P.1.1	●	●	●			○
		P.1.2	●	●	●			○
		P.1.3	●	●	●			○
		P.1.4	●	●	●			○
		P.1.5	●	●	●			○
	Low-alloy steel	P.2.1	●	●	●			○
		P.2.2	●	●	●			○
		P.2.3	●	●	●			○
		P.2.4			●	●		○
	High-alloy steel and high-alloy tool steel	P.3.1				●		
		P.3.2				●		
		P.3.3				●		
	Stainless steel	P.4.1				●		
		P.4.2				●		
M	Stainless steel	M.1.1				●		
		M.2.1				●		
		M.3.1				●		
K	Grey cast iron	K.1.1			●			○
		K.1.2			●			○
	Spherulitic graphite cast iron	K.2.1	○	●	●			
		K.2.2	○	●	●			
	Malleable iron	K.3.1		●	●			
		K.3.2	○	●	●			
N	Aluminum wrought alloys	N.1.1					●	
		N.1.2					●	
	Cast aluminum alloys	N.2.1					●	
		N.2.2					●	
		N.2.3						
	Copper and copper alloys (bronze, brass)	N.3.1		○				●
		N.3.2		○				●
		N.3.3						●
	Magnesium alloys	N.4.1						
H	Hardened steel	H.1.1				●		
		H.1.2				●		
		H.1.3				●		
		H.1.4						
	Chilled iron	H.2.1				●		
	Hardened cast iron	H.3.1				●		
O	Non-metal materials	O.1.1						
		O.1.2						
		O.2.1						
		O.2.2						
		O.3.1					○	

● = Main application range
○ = Secondary application range

Reamax – Exchangeable reaming heads

- ▲ Up to tolerance class IT 7 with absolute process security, from the first hole
- ▲ Maximum changeover precision guaranteed
- ▲ Maximum radial run-out accuracy thanks to precision-ground face and taper contact
- ▲ No Ø adjustment necessary
- ▲ Optimised for use with minimum quantity lubrication (MQL)
- ▲ Retraction from the hole at 3-4x feed rate
- ▲ KLG = Coupling size
- ▲ ZEFP = Number of cutting edges





DST	DBG-P	DBC	DST	DBG-P	TiN
					
640.93 PLGANG 25° ASG4000 CERMET Through hole	640.65 PLGANG 45° ASG0106 HM Through hole + blind hole	640.27 PLGANG 45/8° ASG0706 HM Through hole + blind hole	640.93 PLGANG 45° ASG3000 CERMET Through hole + blind hole	640.65 PLGANG 45° ASG3000 HM Through hole + blind hole	640.71 PLGANG 45° ASG3000 HM Through hole + blind hole
RT	RT	RT	RT	RT	RT
40 536 ...	**40 551 ...**	**40 570 ...**	**40 525 ...**	**40 560 ...**	**40 505 ...**

DC H7 mm	L mm	ZEFP	KLG						
12,50 - 14,99	9	6	1	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
15,00	9	6	1	15000 [1]	15000	15000 [1]	15000 [1]	15000	150
15,01 - 15,99	9	6	1	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
16,00	9	6	2	160	16000	16000 [1]	160	16000	160
16,01 - 17,99	9	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
18,00	9	6	2	180	18000	18000 [1]	180	18000	180
18,01 - 19,99	9	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
20,00	9	6	2	200	20000	20000 [1]	200	20000	200
20,01 - 21,99	9	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
22,00	9	8	3	220	22000	22000 [1]	220	22000	220
22,01 - 23,99	9	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
24,00	9	8	3	24000 [1]	24000	24000 [1]	24000 [1]	24000	240
24,01 - 24,99	9	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
25,00	9	8	3	250	25000	25000 [1]	250	25000	250
25,01 - 25,99	9	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
26,00 - 27,99	9	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
28,00	9	8	4	280	28000	28000 [1]	280	28000	280
28,01 - 29,99	9	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
30,00	9	8	4	300	30000	30000 [1]	300	30000	300
30,01 - 32,00	9	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
32,01 - 39,99	9	8	5	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
40,00	9	8	5	400	40000	40000 [1]	400	40000	400

P	●	●		●	●	○
M		●				
K	○			●	●	○
N			●	○		●
S						
H		●				
O			○			

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units



→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.



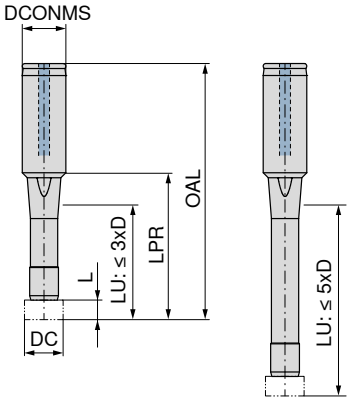
For xxxx please indicate requested Ø in H7 in the order (e.g., Ø 15.12 H7 → article no. 40 525 1512)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

A detailed operating manual is available for download in the online shop for the article.

Reamax – Holders

▲ KLG = Coupling size

Scope of supply:
Complete holder, but without exchangeable head





DC mm	Product Reference No.	KLG	OAL mm	LPR mm	L mm	DCONMS mm	Tightening torque Nm	TO 40 590 ...	TO 40 591 ...
12,50 - 15,99	640.01.001	1	107	59	9	16	4 - 5	**016** [1]	
12,50 - 15,99	640.81.001	1	137	89	9	16	4 - 5		**016** [1]
16,00 - 21,99	640.01.002	2	119	69	9	20	6 - 7	**022**	
16,00 - 21,99	640.81.002	2	169	119	9	20	6 - 7		**022**
22,00 - 25,99	640.01.003	3	140	84	9	25	10 - 12	**026**	
22,00 - 25,99	640.81.003	3	196	140	9	25	10 - 12		**026**
26,00 - 32,00	640.01.005	4	160	104	9	25	18 - 20	**032**	
26,00 - 32,00	640.81.005	4	226	170	9	25	18 - 20		**032**
32,01 - 40,00	640.01.006	5	199	139	9	32	26 - 28	**040**	
32,01 - 40,00	640.81.006	5	270	210	9	32	26 - 28		**040**

1) This holder can also be used for reaming heads for through holes from Ø 12 mm (.4724 inch), which are available on request

Do not shrink the tool!

A detailed operating manual is available for download in the online shop next to the product.

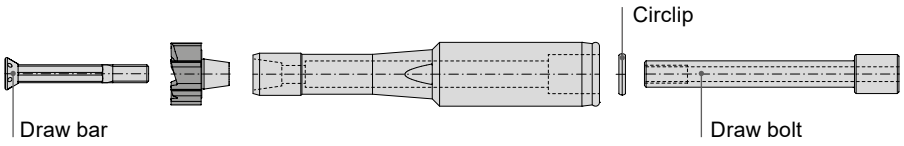
Draw bolt 5xD

Draw bolt 3xD

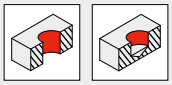
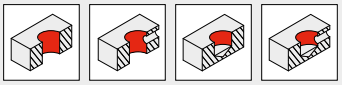

Draw bar


Circlip

Spare parts DC	AS 40 950 ... Draw bolt 5xD	AS 40 950 ... Draw bolt 3xD	AS 40 950 ... Draw bar	AS 40 950 ... Circlip
12,50 - 15,99		**101**	**001**	**301**
12,50 - 15,99	**107**		**001**	**301**
16,00 - 21,99		**102**	**002**	**302**
16,00 - 21,99	**108**		**002**	**302**
22,00 - 25,99		**103**	**003**	**303**
22,00 - 25,99	**109**		**003**	**303**
26,00 - 32,00		**10401**	**004**	**303**
26,00 - 32,00	**11001**		**004**	**303**
32,01 - 40,00		**106**	**005**	**304**
32,01 - 40,00	**112**		**005**	**304**



Selection guide for exchangeable head reamer Reamax

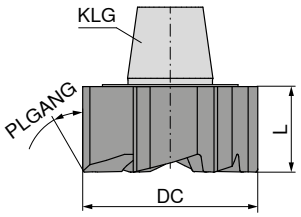
Ø 0.4921 – 1.5748 inch								
Article no.			40 536 …	40 525 …	40 560 …	40 551 …	40 570 …	40 505 …
Product reference no.			640.93	640.93	640.65	640.65	640.27	640.71
Cutting geometry			ASG4000	ASG3000	ASG3000	ASG0106	ASG0706	ASG3000
Lead angle			25°	45°	45°	45°	45°/8°	45°
Grade / coating			DST	DST	DBG-P	DBG-P	DBC	TiN
Preferred type available			✓	✓	✓	✓		✓
Type of hole			Through hole	Through hole + blind hole				
Material sub-group		Index						
P	Unalloyed steel	P.1.1	●	●	●			○
		P.1.2	●	●	●			○
		P.1.3	●	●	●			○
		P.1.4	●	●	●			○
		P.1.5	●	●	●			○
	Low-alloy steel	P.2.1	●	●	●			○
		P.2.2	●	●	●			○
		P.2.3	●	●	●			○
		P.2.4			●	●		○
	High-alloy steel and high-alloy tool steel	P.3.1				●		
		P.3.2				●		
		P.3.3				●		
	Stainless steel	P.4.1				●		
		P.4.2				●		
M	Stainless steel	M.1.1				●		
		M.2.1				●		
		M.3.1				●		
K	Grey cast iron	K.1.1			●			○
		K.1.2			●			○
	Spherulitic graphite cast iron	K.2.1	○	●	●			
		K.2.2	○	●	●			
	Malleable iron	K.3.1		●	●			
		K.3.2	○	●	●			
N	Aluminum wrought alloys	N.1.1					●	
		N.1.2					●	
	Cast aluminum alloys	N.2.1					●	
		N.2.2					●	
		N.2.3						
	Copper and copper alloys (bronze, brass)	N.3.1		○				●
		N.3.2		○				●
		N.3.3						●
	Magnesium alloys	N.4.1						
H	Hardened steel	H.1.1				●		
		H.1.2				●		
		H.1.3				●		
		H.1.4						
	Chilled iron	H.2.1				●		
	Hardened cast iron	H.3.1				●		
O	Non-metal materials	O.1.1						
		O.1.2						
		O.2.1						
		O.2.2						
		O.3.1					○	

● = Main application range
○ = Secondary application range

Reamax – Exchangeable reaming heads

- ▲ Up to tolerance class IT 7 with absolute process security, from the first hole
- ▲ Maximum changeover precision guaranteed
- ▲ Maximum radial run-out accuracy thanks to precision-ground face and taper contact
- ▲ No Ø adjustment necessary
- ▲ Optimised for use with minimum quantity lubrication (MQL)
- ▲ Retraction from the hole at 3-4x feed rate
- ▲ KLG = Coupling size
- ▲ ZEFP = Number of cutting edges





DST	DBG-P	DBC	DST	DBG-P	TiN
					
640.93 PLGANG 25° ASG4000 CERMET Through hole	640.65 PLGANG 45° ASG0106 HM Through hole + blind hole	640.27 PLGANG 45/8° ASG0706 HM Through hole + blind hole	640.93 PLGANG 45° ASG3000 CERMET Through hole + blind hole	640.65 PLGANG 45° ASG3000 HM Through hole + blind hole	640.71 PLGANG 45° ASG3000 HM Through hole + blind hole
RT	RT	RT	RT	RT	RT
40 536 ...	**40 551 ...**	**40 570 ...**	**40 525 ...**	**40 560 ...**	**40 505 ...**

DC H7 inch	L inch	ZEFP	KLG						
0.4921 - 0.5902	0.354	6	1	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.5906	0.354	6	1	15000 [1]	15000	15000 [1]	15000 [1]	15000	150
0.5909 - 0.6295	0.354	6	1	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.6299	0.354	6	2	160	16000	16000 [1]	160	16000	160
0.6303 - 0.7083	0.354	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.7087	0.354	6	2	180	18000	18000 [1]	180	18000	180
0.7091 - 0.7870	0.354	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.7874	0.354	6	2	200	20000	20000 [1]	200	20000	200
0.7878 - 0.8657	0.354	6	2	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.8661	0.354	8	3	220	22000	22000 [1]	220	22000	220
0.8665 - 0.9445	0.354	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.9449	0.354	8	3	24000 [1]	24000	24000 [1]	24000 [1]	24000	240
0.9453 - 0.9839	0.354	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.9843	0.354	8	3	250	25000	25000 [1]	250	25000	250
0.9846 - 1.0232	0.354	8	3	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.0236 - 1.1020	0.354	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.1024	0.354	8	4	280	28000	28000 [1]	280	28000	280
1.1028 - 1.1807	0.354	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.1811	0.354	8	4	300	30000	30000 [1]	300	30000	300
1.1815 - 1.2598	0.354	8	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.2602 - 1.5744	0.354	8	5	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
1.5748	0.354	8	5	400	40000	40000 [1]	400	40000	400

P	●	●		●	●	○
M		●				
K	○			●	●	○
N			●	○		●
S						
H		●				
O			○			

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units



→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.



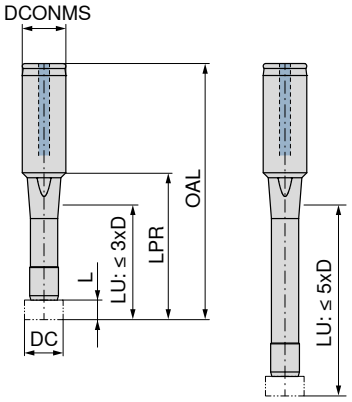
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

Reamax – Holders

▲ KLG = Coupling size

Scope of supply:
Complete holder, but without exchangeable head





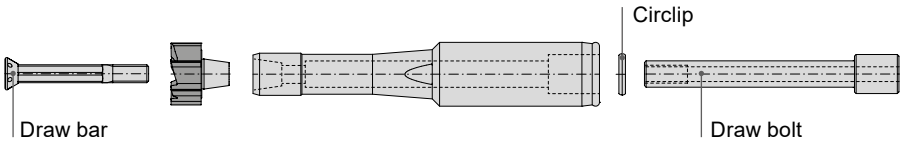
DC inch	Product Reference No.	KLG	OAL inch	LPR inch	L inch	DCONMS inch	DCONMS mm	Tightening torque Nm	TO 40 590 ...	TO 40 591 ...
0,4921 - 0,6295	640.01.001	1	4.213	2.323	0.354	0.630	16	4 - 5	**016** [1]	
0,4921 - 0,6295	640.81.001	1	5.394	3.504	0.354	0.630	16	4 - 5		**016** [1]
0,6299 - 0,8657	640.01.002	2	4.685	2.717	0.354	0.787	20	6 - 7	**022**	
0,6299 - 0,8657	640.81.002	2	6.654	4.685	0.354	0.787	20	6 - 7		**022**
0,8661 - 1,0232	640.01.003	3	5.512	3.307	0.354	0.984	25	10 - 12	**026**	
0,8661 - 1,0232	640.81.003	3	7.717	5.512	0.354	0.984	25	10 - 12		**026**
1,0236 - 1,2598	640.01.005	4	6.299	4.094	0.354	0.984	25	18 - 20	**032**	
1,0236 - 1,2598	640.81.005	4	8.898	6.693	0.354	0.984	25	18 - 20		**032**
1,2602 - 1,5748	640.01.006	5	7.835	5.472	0.354	1.260	32	26 - 28	**040**	
1,2602 - 1,5748	640.81.006	5	10.630	8.268	0.354	1.260	32	26 - 28		**040**

1) This holder can also be used for reaming heads for through holes from Ø 12 mm (.4724 inch), which are available on request

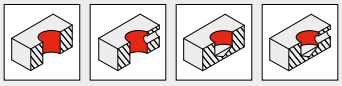
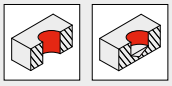
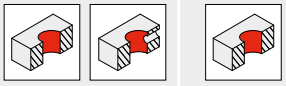
Do not shrink the tool!

A detailed operating manual is available for download in the online shop next to the product.

Spare parts DC	Draw bolt 5xD AS 40 950 ...	Draw bolt 3xD AS 40 950 ...	 Draw bar AS 40 950 ...	 Circlip AS 40 950 ...
0,4921 - 0,6295		**101**	**001**	**301**
0,4921 - 0,6295	**107**		**001**	**301**
0,6299 - 0,8657		**102**	**002**	**302**
0,6299 - 0,8657	**108**		**002**	**302**
0,8661 - 1,0232		**103**	**003**	**303**
0,8661 - 1,0232	**109**		**003**	**303**
1,0236 - 1,2598		**10401**	**004**	**303**
1,0236 - 1,2598	**11001**		**004**	**303**
1,2602 - 1,5748		**106**	**005**	**304**
1,2602 - 1,5748	**112**		**005**	**304**



Selection guide for Rapid Set Head

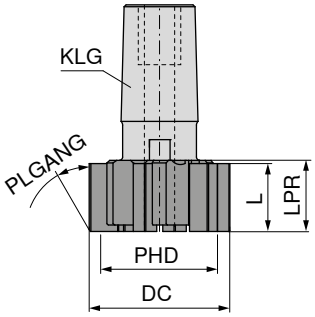
Ø 0.3780 – 2.3622 inch											
Article no.			49 817 ...	49 816 ...	49 800 ...	49 808 ...	49 809 ...	49 813 ...	49 804 ...	49 801 ...	49 805 ...	49 812 ...
Product reference no.			340.65	340.65	340.21	340.71	340.71	340.93	340.21	340.21	340.70	340.92
Cutting geometry			ASG3000	ASG0106	ASG03	ASG3000	ASG0106	ASG3000	ASG02	ASG3000	ASG05	ASG05
Lead angle			45°	45°	30°/2°	45°	45°	45°	45°/8°	45°	25°	25°
Grade / coating			DBG-P	DBG-P	K10	TiN	TiN	DST	K10	K10	TiN	DST
Type of hole			Through hole + blind hole								Through hole	
Material sub-group		Index										
P	Unalloyed steel	P.1.1	●			○		●		○	○	●
		P.1.2	●			○		●		○	○	●
		P.1.3	●			○		●		○	○	●
		P.1.4	●			○		●		○	○	●
		P.1.5	●			○		●		○	○	●
	Low-alloy steel	P.2.1	●			○		●		○	○	●
		P.2.2	●			○		●		○	○	●
		P.2.3	●			○		●		○	○	●
		P.2.4	●			●					●	
	High-alloy steel and high-alloy tool steel	P.3.1		●			●					
		P.3.2		●			●					
		P.3.3		●			●					
	Stainless steel	P.4.1		●			●					
		P.4.2		●			●					
M	Stainless steel	M.1.1		●			●					
		M.2.1		●			●					
		M.3.1		●			●					
K	Grey cast iron	K.1.1	●			●				○		
		K.1.2	●			●				○		
	Spherulitic graphite cast iron	K.2.1	●					●		○		
		K.2.2	●					●		○		
	Malleable iron	K.3.1	●					●		○		
		K.3.2	●					●		○		
N	Aluminum wrought alloys	N.1.1							●	○		
		N.1.2							●	○		
	Cast aluminum alloys	N.2.1							●	○		
		N.2.2							●	○		
		N.2.3							●	○		
	Copper and copper alloys (bronze, brass)	N.3.1				○		●	●	○		
		N.3.2				○			●	○		
		N.3.3				○			●	○		
	Magnesium alloys	N.4.1							●	○		
S	Heat-resistant alloys	S.1.1										
		S.1.2										
		S.2.1										
		S.2.2										
		S.2.3										
	Titanium alloys	S.3.1			●							
		S.3.2			●							
		S.3.3			●							
O	Non-metal materials	O.1.1										
		O.1.2										
		O.2.1										
		O.2.2										
		O.3.1										

● = Main application range
○ = Secondary application range

CoreLine – Rapid Set Head

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges





TiN	TiN	K10	K10	K10
				
340.71 Straight flute PLGANG 45° ASG3000 HM Through hole + blind hole	340.71 Straight flute PLGANG 45° ASG0106 HM Through hole + blind hole	340.21 Straight flute PLGANG 45° ASG3000 HM Through hole + blind hole	340.21 Straight flute PLGANG 30/2° ASG03 HM Through hole + blind hole	340.21 Straight flute PLGANG 45/8° ASG02 HM Through hole + blind hole
RT	RT	RT	RT	RT
49 808 ...	**49 809 ...**	**49 801 ...**	**49 800 ...**	**49 804 ...**

DC inch	L inch	LPR inch	PHD inch	ZEFP	KLG					
0.3780 - 0.4957	0.374	0.433	DC-0.1220	4	1	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	DC-0.1417	4	2	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	3	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7323 - 0.9449	0.413	0.433	DC-0.2008	6	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	DC-0.2362	6	5	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	DC-0.3150	6	7	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	DC-0.3150	6	8	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P	●	●	○		
M		●			
K	●		○		
N	○		○		●
S				●	
H					
O					

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

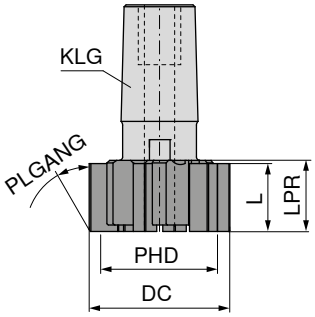
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Rapid Set Head

▲ PHD = Approximate diameter for face machining geometries (ASG)
▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges







340.93
Straight flute
PLGANG 45°
ASG3000
CERMET
Through hole + blind hole



340.65
Straight flute
PLGANG 45°
ASG3000
HM
Through hole + blind hole



340.65
Straight flute
PLGANG 45°
ASG0106
HM
Through hole + blind hole

DC inch	L inch	LPR inch	PHD inch	ZEFP	KLG	DST RT 49 813 ...	DBG-P RT 49 817 ...	DBG-P RT 49 816 ...
0.3780 - 0.4957	0.374	0.433	DC-0.1220	4	1	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	DC-0.1417	4	2	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	4		**xxxx** [1]	**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	6	3	**xxxx** [1]		
0.7323 - 0.9449	0.413	0.433	DC-0.2008	6	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	DC-0.2362	6	5	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	DC-0.3150	6	7	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	DC-0.3150	6	8	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P						●	●	●
M								●
K						●	●	
N						●		
S								
H								
O								

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units



→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

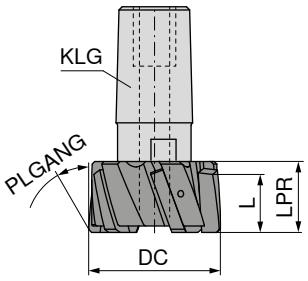


For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Rapid Set Head

▲ KLG = Coupling Size
▲ ZEFP = Number of cutting edges



DST



340.92
Left-hand helix
PLGANG 25°
ASG05
CERMET
Through hole

TiN



340.70
Left-hand helix
PLGANG 25°
ASG05
HM
Through hole

DC inch	L inch	LPR inch	PHD inch	ZEFP	KLG	RT 49 812 ...	RT 49 805 ...
0.3780 - 0.4957	0.374	0.433	DC-0.1220	4	1	**xxxx** [1]	**xxxx** [1]
0.4961 - 0.6138	0.413	0.433	DC-0.1417	4	2	**xxxx** [1]	**xxxx** [1]
0.6142 - 0.7319	0.413	0.433	DC-0.1417	4	3	**xxxx** [1]	**xxxx** [1]
0.7323 - 0.9449	0.413	0.433	DC-0.2008	6	4	**xxxx** [1]	**xxxx** [1]
0.9453 - 1.1850	0.413	0.433	DC-0.2362	6	5	**xxxx** [1]	**xxxx** [1]
1.1854 - 1.2165	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]
1.2169 - 1.5748	0.630	0.669	DC-0.2953	6	6	**xxxx** [1]	**xxxx** [1]
1.5752 - 1.9957	0.630	0.669	DC-0.3150	6	7	**xxxx** [1]	**xxxx** [1]
1.9961 - 2.3622	0.630	0.669	DC-0.3150	6	8	**xxxx** [1]	**xxxx** [1]
P						●	●
M							
K							
N							
S							
H							
O							

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

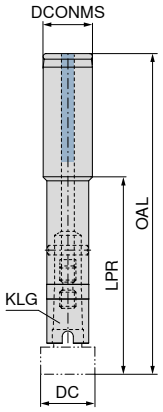
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 1.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Holder for Rapid Set Head

▲ KLG = Coupling Size

Scope of supply:
Holder includes radial coolant screw (through hole) for diameters 0.4961" – 2.3622".
Solid screw included for diameters 0.3780" – 0.4957".
Axial coolant screw (blind hole) must be ordered separately.





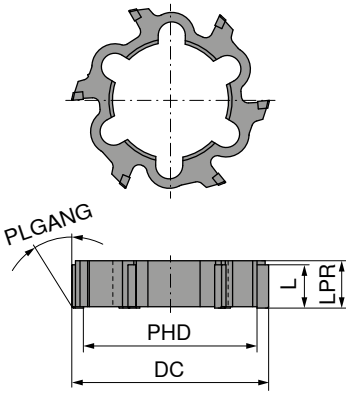
DC inch	Product Reference No.	KLG	OAL inch	LPR inch	DCONMS inch	DCONMS mm	TO 49 890 ...	TO 49 891 ...
0,3780 - 0,4957	540.56.001	1	3.740	1.969	0.500	12.700	**01399**	
0,3780 - 0,4957	540.13.001	1	6.220	4.449	0.500	12.700		**01399**
0,4961 - 0,6138	540.56.002	2	4.252	2.362	0.625	15.875	**01699**	
0,4961 - 0,6138	540.13.002	2	6.260	4.370	0.625	15.875		**01699**
0,6142 - 0,7319	540.56.003	3	4.331	2.362	0.625	15.875	**01999**	
0,6142 - 0,7319	540.13.003	3	6.732	4.764	0.625	15.875		**01999**
0,7323 - 0,9449	540.56.004	4	5.118	3.150	0.750	19.050	**02499**	
0,7323 - 0,9449	540.13.004	4	7.520	5.551	0.750	19.050		**02499**
0,9453 - 1,1850	540.56.005	5	6.220	3.858	1.000	25.400	**03099**	
0,9453 - 1,1850	540.13.005	5	8.622	6.260	1.000	25.400		**03099**
1,1854 - 1,5748	540.56.006	6	6.457	4.094	1.000	25.400	**04099**	
1,1854 - 1,5748	540.13.006	6	8.858	6.496	1.000	25.400		**04099**
1,5752 - 1,9961	540.56.007	7	7.244	4.094	1.500	38.100	**05199**	
1,5752 - 1,9961	540.13.007	7	11.142	7.992	1.500	38.100		**05199**
1,9961 - 2,3622	540.56.008	8	7.421	4.272	1.500	38.100	**06099**	
1,9961 - 2,3622	540.13.008	8	11.358	8.209	1.500	38.100		**06099**

A detailed operating manual is available for download in the online shop next to the product.

Spare parts DC	 Adjustment screw AS 10 950 ...	 Screw long version AS 40 950 ...	 Screw short version AS 40 950 ...	 Threaded pin AS 40 950 ...	 Differential Axial Coolant AS 40 950 ...	 Differential Radial Coolant AS 40 950 ...	 Bushing AS 40 950 ...
0,3780 - 0,4957			**41600**				
0,3780 - 0,4957		**41700**					
0,4961 - 0,6138				**41800**	**40600**	**40100**	**41100**
0,6142 - 0,7319	**09500**				**40700**	**40200**	**41200**
0,7323 - 0,9449				**42000**	**40800**	**40300**	**41300**
0,9453 - 1,1850				**42100**	**40900**	**40400**	**41400**
1,1854 - 1,5748				**42100**	**40900**	**40400**	**41400**
1,5752 - 1,9961				**42200**	**41000**	**40500**	**41500**
1,9961 - 2,3622				**42200**	**41000**	**40500**	**41500**

CoreLine – Cutting ring

▲ PHD = Approximate diameter for face machining
▲ ZEFP = Number of teeth



	TiN	TiN	DST	DST	uncoated	uncoated
						
	300.05 PLGANG 45° ASG3000 HM Through hole + blind hole	300.05 PLGANG 45° ASG0106 HM Through hole + blind hole	300.45 PLGANG 45° ASG3000 CERMET Through hole + blind hole	300.45 PLGANG 25° ASG4000 CERMET Through hole + blind hole	300.25 PLGANG 45° ASG3000 HM Through hole + blind hole	300.25 PLGANG 45/8° ASG02 HM Through hole + blind hole
	RT	RT	RT	RT	RT	RT
DC H7 mm	40 821 ...	40 822 ...	40 825 ...	40 826 ...	40 817 ...	40 818 ...
60,60 - 65,59			xxxx 1)	xxxx 1)		
60,60 - 65,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
65,60 - 70,59			xxxx 1)	xxxx 1)		
65,60 - 70,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
70,60 - 75,59			xxxx 1)	xxxx 1)		
70,60 - 75,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
75,60 - 79,59			xxxx 1)	xxxx 1)		
75,60 - 79,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
79,60 - 85,59			xxxx 1)	xxxx 1)		
79,60 - 85,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
85,60 - 90,59			xxxx 1)	xxxx 1)		
85,60 - 90,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
90,60 - 95,59			xxxx 1)	xxxx 1)		
90,60 - 95,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
95,60 - 100,59			xxxx 1)	xxxx 1)		
95,60 - 100,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
100,60 - 110,59			xxxx 1)	xxxx 1)		
100,60 - 110,59	xxxx 1)	xxxx 1)			xxxx 1)	xxxx 1)
P	○	●	●	●	○	
M		●				
K	○		●		○	
N	○		●		○	●
S						
H						
O						

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

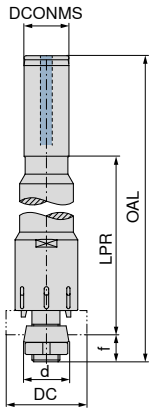
For xxxx please indicate requested Ø in H7 in the order (e.g., Ø 60.60 H7 → article no. 40 817 6060)!
All other diameters and tolerance classes (e.g., 60.60 +0.025 or 60.60 N7) as well as other variants (combination of ASG and grade) are available on request.

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Cutting ring holder for through hole machining

Scope of supply:
Holder with positioning pin, conical ring, and adjusting nut. Please order cutting ring separately.









≤ 3xD ≤ 5xD

DC mm	Product Reference No.	OAL mm	LPR mm	DCONMS mm	d mm	f mm	TO 40 892 ...	TO 40 893 ...
60,600 - 70,599	503.76.008	189.5	105	32	40.0	24.5	**07199** [1]	
60,600 - 70,599	504.76.009	321.5	237	32	40.0	24.5		**07199** [1]
70,600 - 79,599	503.76.009	189.5	105	32	40.0	24.5	**08099** [1]	
70,600 - 79,599	504.76.010	321.5	237	32	40.0	24.5		**08099** [1]
79,600 - 90,599	503.76.010	203.5	105	40	56.2	28.5	**09199** [1]	
79,600 - 90,599	504.76.011	338.5	240	40	56.2	28.5		**09199** [1]
90,600 - 100,599	503.76.011	203.5	105	40	56.2	28.5	**10199** [1]	
90,600 - 100,599	504.76.012	338.5	240	40	56.2	28.5		**10199** [1]

1) Not in stock

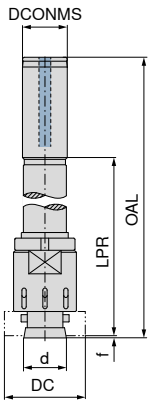
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number	 Position Pin AS 40 950 ...	 Adjustic Nut AS 40 950 ...	 Taper Ring AS 40 950 ...
40 892 07199	**50700**	**50100**	**50500**
40 893 07199	**50700**	**50100**	**50500**
40 892 08099	**50700**	**50100**	**50500**
40 893 08099	**50700**	**50100**	**50500**
40 892 09199	**50800**	**50200**	**50600**
40 893 09199	**50800**	**50200**	**50600**
40 892 10199	**50800**	**50200**	**50600**
40 893 10199	**50800**	**50200**	**50600**

CoreLine – Cutting ring holder for blind hole machining

Scope of supply:
Holder with bushing, taper screw, and adjusting nut. Please order cutting ring separately.






≤ 3xD


≤ 5xD

DC mm	Product Reference No.	OAL mm	LPR mm	DCONMS mm	d mm	f mm	TO 40 894 ...	TO 40 896 ...
60,600 - 70,599	513.76.008	166.5	105	32	37.0	1.5	**07199** [1]	
60,600 - 70,599	514.76.008	298.5	237	32	37.0	1.5		**07199** [1]
70,600 - 79,599	513.76.009	166.5	105	32	37.0	1.5	**08099** [1]	
70,600 - 79,599	514.76.009	298.5	237	32	37.0	1.5		**08099** [1]
79,600 - 90,599	513.76.010	176.5	105	40	53.2	1.5	**09199** [1]	
79,600 - 90,599	514.76.010	311.5	240	40	53.2	1.5		**09199** [1]
90,600 - 100,599	513.76.011	176.5	105	40	53.2	1.5	**10199** [1]	
90,600 - 100,599	514.76.011	311.5	240	40	53.2	1.5		**10199** [1]

1) Not in stock

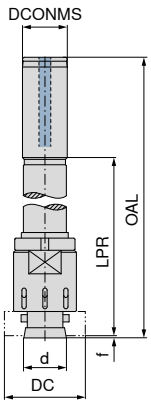
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number	 Adjustic Nut AS 40 950 ...	 Taper Screw AS 40 950 ...	 Bushing AS 40 950 ...
40 894 07199	**50300**	**51100**	**51500**
40 896 07199	**50300**	**51100**	**51500**
40 894 08099	**50300**	**51100**	**51600**
40 896 08099	**50300**	**51100**	**51600**
40 894 09199	**50400**	**51200**	**51700**
40 896 09199	**50400**	**51200**	**51700**
40 894 10199	**50400**	**51200**	**51800**
40 896 10199	**50400**	**51200**	**51800**

CoreLine – Cutting ring holder for blind hole machining

Scope of supply:
Holder with bushing, taper screw, and adjusting nut. Please order cutting ring separately.






≤ 3xD


≤ 5xD

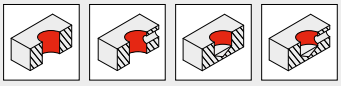
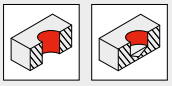
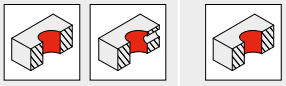
DC mm	Product Reference No.	OAL mm	LPR mm	DCONMS mm	d mm	f mm	TO 40 895 ...	TO 40 897 ...
60,600 - 70,599	513.81.008	166.5	105	32	37.0	1.5	**07199** [1]	
60,600 - 70,599	514.81.008	298.5	237	32	37.0	1.5		**07199** [1]
70,600 - 79,599	513.81.009	166.5	105	32	37.0	1.5	**08099** [1]	
70,600 - 79,599	514.81.009	298.5	237	32	37.0	1.5		**08099** [1]
79,600 - 90,599	513.81.010	176.5	105	40	53.2	1.5	**09199** [1]	
79,600 - 90,599	514.81.010	311.5	240	40	53.2	1.5		**09199** [1]
90,600 - 100,599	513.81.011	176.5	105	40	53.2	1.5	**10199** [1]	
90,600 - 100,599	514.81.011	311.5	240	40	53.2	1.5		**10199** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number	 Adjustic Nut AS 40 950 ...	 Taper Screw AS 40 950 ...	 Bushing AS 40 950 ...
40 895 07199	**50300**	**51300**	**51500**
40 897 07199	**50300**	**51300**	**51500**
40 895 08099	**50300**	**51300**	**51600**
40 897 08099	**50300**	**51300**	**51600**
40 895 09199	**50400**	**51400**	**51700**
40 897 09199	**50400**	**51400**	**51700**
40 895 10199	**50400**	**51400**	**51800**
40 897 10199	**50400**	**51400**	**51800**

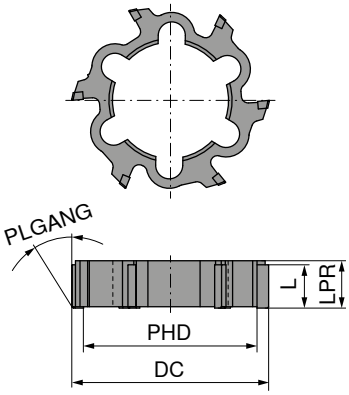
Selection guide for Cutting Ring

Ø 2.3858 – 4.3539 inch										
Article no.			49 836 ...	49 835 ...	49 839 ...	49 823 ...	49 824 ...	49 827 ...	49 832 ...	49 831 ...	49 828 ...
Product reference no.			300.65	300.65	300.17	300.05	300.05	300.45	300.25	300.05	300.45
Cutting geometry			ASG3000	ASG0106	ASG0706	ASG3000	ASG0106	ASG3000	ASG03	ASG4000	ASG4000
Lead angle			45°	45°	45°/8°	45°	45°	45°	30°/2°	25°	45°
Grade / coating			DBG-P	DBG-P	DBC	TiN	TiN	DST	K10	TiN	DST
Type of hole			Through hole + blind hole							Through hole	
Material sub-group		Index									
P	Unalloyed steel	P.1.1	●			○		●		●	●
		P.1.2	●			○		●		●	●
		P.1.3	●			○		●		●	●
		P.1.4	●			○		●		●	●
		P.1.5	●			○		●		●	●
	Low-alloy steel	P.2.1	●			○		●			●
		P.2.2	●			○		●			●
		P.2.3	●			○		●			●
		P.2.4	●			○					
	High-alloy steel and high-alloy tool steel	P.3.1		●			●				
		P.3.2		●			●				
		P.3.3		●							
	Stainless steel	P.4.1		●			○				
		P.4.2		●			○				
M	Stainless steel	M.1.1		●			○				
		M.2.1		●			○				
		M.3.1		●			○				
K	Grey cast iron	K.1.1	●			○					
		K.1.2	●			○					
	Spherulitic graphite cast iron	K.2.1	●					●			
		K.2.2	●					●			
	Malleable iron	K.3.1	●					●			
		K.3.2	●					●			
N	Aluminum wrought alloys	N.1.1			●						
		N.1.2			●						
	Cast aluminum alloys	N.2.1			●						
		N.2.2			●						
		N.2.3			●						
	Copper and copper alloys (bronze, brass)	N.3.1				○		●		○	
		N.3.2				○				○	
		N.3.3				○				○	
	Magnesium alloys	N.4.1			●						
S	Heat-resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1							●		
		S.3.2							●		
		S.3.3							●		
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1									

● = Main application range
○ = Secondary application range

CoreLine – Cutting ring

▲ PHD = Approximate diameter for face machining
▲ ZEFP = Number of teeth



	DBG-P	DBG-P	K10	TiN	TiN
					
	300.65 PLGANG 45° ASG3000 HM Through hole + blind hole	300.65 PLGANG 45° ASG0106 HM Through hole + blind hole	300.25 PLGANG 30/2° ASG03 HM Through hole + blind hole	300.05 PLGANG 45° ASG3000 HM Through hole + blind hole	300.05 PLGANG 45° ASG0106 HM Through hole + blind hole
	RT	RT	RT	RT	RT
DC inch	49 836 ...	49 835 ...	49 832 ...	49 823 ...	49 824 ...
2.3858 - 2.5823	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
2.5827 - 2.7791	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
2.7795 - 2.9760	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
2.9764 - 3.1335	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
3.1339 - 3.3697	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
3.3701 - 3.5665	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
3.5669 - 3.7634	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
3.7638 - 3.9602	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
3.9606 - 4.3539	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
L inch	0.630	0.630	0.630	0.630	0.630
LPR inch	0.728	0.728	0.728	0.728	0.728
PHD inch	DC-0.3307	DC-0.3307	DC-0.3307	DC-0.3307	DC-0.3307
ZEFP	6	6	6	6	6
	8	8	8	8	8
	8	8	8	8	8
	8	8	8	8	8
	10	10	10	10	10
P	●	●		○	●
M		●			●
K	●			○	
N				○	
S			●		
H					
O					

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

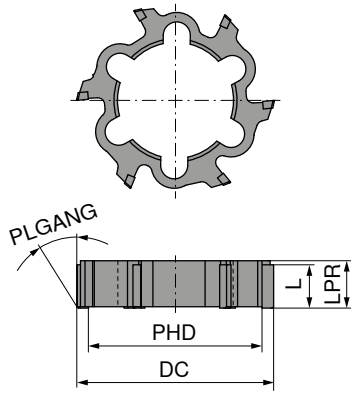
→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Cutting ring

▲ PHD = Approximate diameter for face machining
▲ ZEFP = Number of teeth



DST	DBC
	
300.45 PLGANG 45° ASG3000 CERMET Through hole + blind hole	300.17 PLGANG 45° ASG0706 HM Through hole + blind hole

DC inch	L inch	LPR inch	PHD inch	ZEFP	RT 49 827 ...	RT 49 839 ...
2.3858 - 2.5823	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.3858 - 2.5823	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.5827 - 2.7791	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.5827 - 2.7791	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.7795 - 2.9760	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.7795 - 2.9760	0.630	0.728	DC-0.3307	6		**xxxx** [1]
2.9764 - 3.1335	0.630	0.689	DC-0.3307	6	**xxxx** [1]	
2.9764 - 3.1335	0.630	0.728	DC-0.3307	6		**xxxx** [1]
3.1339 - 3.3697	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.1339 - 3.3697	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.3701 - 3.5665	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.3701 - 3.5665	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.5669 - 3.7634	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.5669 - 3.7634	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.7638 - 3.9602	0.630	0.689	DC-0.3307	8	**xxxx** [1]	
3.7638 - 3.9602	0.630	0.728	DC-0.3307	8		**xxxx** [1]
3.9606 - 4.3539	0.630	0.689	DC-0.3307	10	**xxxx** [1]	
3.9606 - 4.3539	0.630	0.728	DC-0.3307	10		**xxxx** [1]

P	●	
M		
K	●	
N	●	●
S		
H		
O		

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

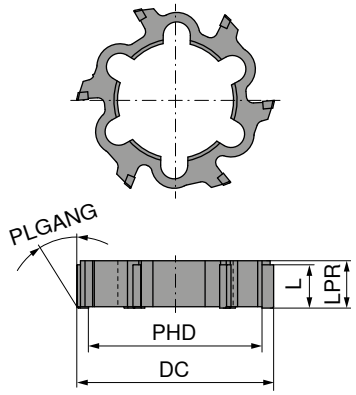
→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Cutting ring

▲ PHD = Approximate diameter for face machining
▲ ZEFP = Number of teeth



TiN	DST
	
300.05 PLGANG 25° ASG4000 HM Through hole	300.45 PLGANG 25° ASG4000 CERMET Through hole

DC inch	L inch	LPR inch	PHD inch	ZEFP	RT 49 831 ...	RT 49 828 ...
2.3858 - 2.5823	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.3858 - 2.5823	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.5827 - 2.7791	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.5827 - 2.7791	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.7795 - 2.9760	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.7795 - 2.9760	0.630	0.689	DC-0.3307	6		**xxxx** [1]
2.9764 - 3.1335	0.630	0.728	DC-0.3307	6	**xxxx** [1]	
2.9764 - 3.1335	0.630	0.689	DC-0.3307	6		**xxxx** [1]
3.1339 - 3.3697	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.1339 - 3.3697	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.3701 - 3.5665	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.3701 - 3.5665	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.5669 - 3.7634	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.5669 - 3.7634	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.7638 - 3.9602	0.630	0.728	DC-0.3307	8	**xxxx** [1]	
3.7638 - 3.9602	0.630	0.689	DC-0.3307	8		**xxxx** [1]
3.9606 - 4.3539	0.630	0.728	DC-0.3307	10	**xxxx** [1]	
3.9606 - 4.3539	0.630	0.689	DC-0.3307	10		**xxxx** [1]

	RT 49 831 ...	RT 49 828 ...
P	●	●
M		
K		
N	○	
S		
H		
O		

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

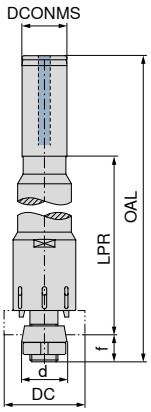
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 2.5000" ±.0005")

A detailed operating manual is available for download in the online shop for the article.

CoreLine – Cutting ring holder for through hole machining

Scope of supply:
Holder with positioning pin, conical ring, and adjusting nut. Please order cutting ring separately.









≤ 3xD ≤ 5xD

DC inch	Product Reference No.	OAL inch	LPR inch	DCONMS inch	DCONMS mm	d inch	f inch	TO 40 892 ...	TO 40 893 ...
2,3858 - 2,7795	503.76.008	7.461	4.134	1.260	32	1.575	0.965	**07199** [1]	
2,3858 - 2,7795	504.76.009	12.658	9.331	1.260	32	1.575	0.965		**07199** [1]
2,7795 - 3,1338	503.76.009	7.461	4.134	1.260	32	1.575	0.965	**08099** [1]	
2,7795 - 3,1338	504.76.010	12.658	9.331	1.260	32	1.575	0.965		**08099** [1]
3,1339 - 3,5669	503.76.010	8.012	4.134	1.575	40	2.213	1.122	**09199** [1]	
3,1339 - 3,5669	504.76.011	13.327	9.449	1.575	40	2.213	1.122		**09199** [1]
3,5669 - 3,9606	503.76.011	8.012	4.134	1.575	40	2.213	1.122	**10199** [1]	
3,5669 - 3,9606	504.76.012	13.327	9.449	1.575	40	2.213	1.122		**10199** [1]

1) Not in stock

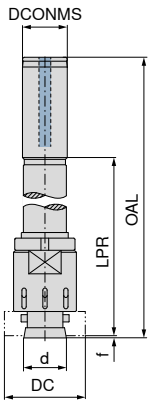
A detailed operating manual is available for download in the online shop next to the product.

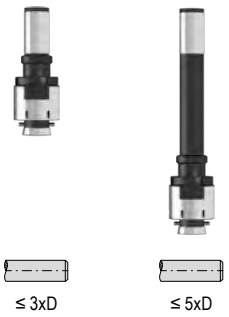
Spare parts DC	 Position Pin AS 40 950 ...	 Adjustic Nut AS 40 950 ...	 Taper Ring AS 40 950 ...
2,3858 - 2,7795	**50700**	**50100**	**50500**
2,7795 - 3,1338	**50700**	**50100**	**50500**
3,1339 - 3,5669	**50800**	**50200**	**50600**
3,5669 - 3,9606	**50800**	**50200**	**50600**

CoreLine – Cutting ring holder for blind hole machining

Scope of supply:
Holder with bushing, taper screw, and adjusting nut. Please order cutting ring separately.







DC inch	Product Reference No.	OAL inch	LPR inch	DCONMS inch	DCONMS mm	d inch	f inch	TO 40 894 ...	TO 40 896 ...
2,3858 - 2,7795	513.76.008	6.555	4.134	1.260	32	1.457	0.059	**07199** [1)]	
2,3858 - 2,7795	514.76.008	11.752	9.331	1.260	32	1.457	0.059		**07199** [1)]
2,7795 - 3,1338	513.76.009	6.555	4.134	1.260	32	1.457	0.059	**08099** [1)]	
2,7795 - 3,1338	514.76.009	11.752	9.331	1.260	32	1.457	0.059		**08099** [1)]
3,1339 - 3,5669	513.76.010	6.949	4.134	1.575	40	2.094	0.059	**09199** [1)]	
3,1339 - 3,5669	514.76.010	12.264	9.449	1.575	40	2.094	0.059		**09199** [1)]
3,5669 - 3,9606	513.76.011	6.949	4.134	1.575	40	2.094	0.059	**10199** [1)]	
3,5669 - 3,9606	514.76.011	12.264	9.449	1.575	40	2.094	0.059		**10199** [1)]

1) Not in stock

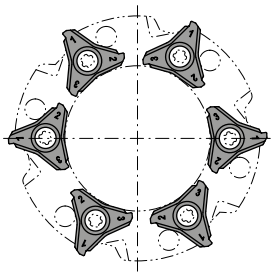


A detailed operating manual is available for download in the online shop next to the product.

Reamax – Indexable insert set

Scope of supply:
Indexable insert set with clamping screws

Free



	DBG-P	DBG-P	DST	DST
				
	71G.65 / 71H.65 PLGANG 45° ASG3000 HM	71G.65 / 71H.65 PLGANG 25° ASG4000 HM	71G.93 / 71H.93 PLGANG 45° ASG3000 CERMET	71G.93 / 71H.93 PLGANG 25° ASG4000 CERMET
	RT	RT	RT	RT
DC $_{H7}$ mm / ZEFP	40 301 ...	40 302 ...	40 303 ...	40 304 ...
70 / 6	07000	07000	07000	07000
75 / 6	07500	07500		
80 / 8	08000	08000	08000	
85 / 8	08500	08500		
90 / 8	09000	09000	09000	
95 / 8	09500	09500		
100 / 8	10000	10000		
P	●	●	●	●
M				
K	●		●	
N	●		●	
S				
H				
O				

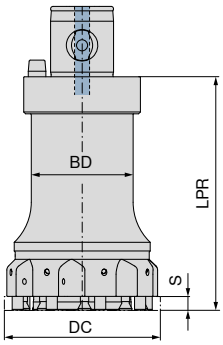
→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

All other diameters and tolerance classes (e.g., 72.0 +0.025 or 72 N7) are available on request. Please note that insert sets must always match the holder.

Reamax – Holder with ABS connection

Scope of supply:
Holder with clamping screws

Free





DC mm	Product Reference No.	Adapter	LPR mm	S mm	BD mm	ZNF	Tightening torque Nm	TO 40 300 ...
40	72A.60.04000	ABS 32	115.0	5.0	30	6	2,8	**04089**
45	72A.60.04500	ABS 32	115.0	5.0	30	6	2,8	**04589**
50	72A.60.05000	ABS 40	119.0	5.0	38	8	2,8	**05088**
55	72A.60.05500	ABS 40	119.0	5.0	38	8	2,8	**05588**
60	72A.60.06000	ABS 50	119.0	5.0	38	8	2,8	**06097**
65	72A.60.06500	ABS 50	119.0	5.0	38	8	2,8	**06597**
70	72A.60.07000	ABS 63	125.0	7.0	60	6	4,3	**07096**
75	72A.60.07500	ABS 63	125.0	7.0	60	6	4,3	**07596**
80	72A.60.08000	ABS 63	125.0	7.0	60	8	4,3	**08096**
85	72A.60.08500	ABS 63	125.0	7.0	60	8	4,3	**08596**
90	72A.60.09000	ABS 63	125.0	7.0	60	8	4,3	**09096**
100	72A.60.10000	ABS 63	125.0	7.0	60	8	4,3	**10096**
110	72A.60.11000	ABS 80	131.5	7.0	70	10	4,3	**11092**

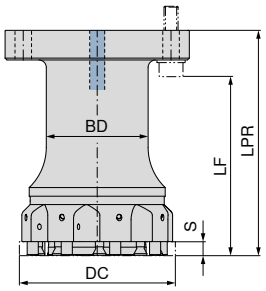
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number	 TORX® screw FI 62 950 ...	 Set CT 84 950 ...	 Screwdriver AS 80 950 ...	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...
40 300 04089	**52600**	**98800**	**119**	**23700**	**26100**	**24500**
40 300 04589	**52600**	**98800**	**119**	**23700**	**26100**	**24500**
40 300 05088	**52600**	**98700**	**119**	**23800**	**26200**	**24600**
40 300 05588	**52600**	**98700**	**119**	**23800**	**26200**	**24600**
40 300 06097	**52600**	**99900**	**119**	**20200**	**20000**	**20100**
40 300 06597	**52600**	**99900**	**119**	**20200**	**20000**	**20100**
40 300 07096	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 07596	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 08096	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 08596	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 09096	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 10096	**53300**	**98600**	**121**	**23900**	**26300**	**24700**
40 300 11092	**53300**	**98500**	**121**	**24000**	**26400**	**24800**

Reamax – Holder with DAH interface

Scope of supply:
Holder with clamping screws

Free





DC mm	Product Reference No.	Adapter	LPR mm	LF mm	S mm	BD mm	ZNF	Tightening torque Nm	TO 40 300 ...
75	72A.30.07500	DAH 81	117.0	99	7.0	38	6	4,3	**07500**
80	72A.30.08000	DAH 115	121.5	96	7.0	55	8	4,3	**08000**
90	72A.30.09000	DAH 115	121.5	96	7.0	55	8	4,3	**09000**
95	72A.30.09500	DAH 115	121.5	96	7.0	55	8	4,3	**09500**

A detailed operating manual is available for download in the online shop next to the product.

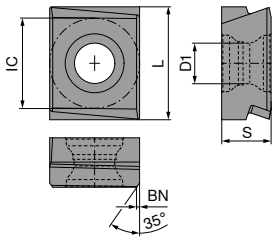




Spare parts for article number		AS 62 950 ...		AS 80 950 ...
40 300 07500	M4,5x14 - 20IP	**53300**	T20 - IP	**121**
40 300 08000	M4,5x14 - 20IP	**53300**	T20 - IP	**121**
40 300 09000	M4,5x14 - 20IP	**53300**	T20 - IP	**121**
40 300 09500	M4,5x14 - 20IP	**53300**	T20 - IP	**121**

Reamax – HM indexable insert

- Segment-specific special indexable insert
- Only indexable inserts that match the holder can be used
- Full tool design and details of operating conditions on request



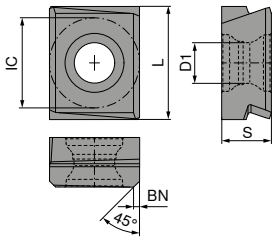
DBG-P



Designation	IC	S	L	BN	D1	XX
	mm	mm	mm	mm	mm	40 299 ...
LNXX 0904	7.58	4.17	9.52	0.26	3.4	**00900**

Reamax – HM indexable insert set

- Segment-specific special indexable insert
- Only indexable inserts that match the holder can be used
- Full tool design and details of operating conditions on request



DBG-P

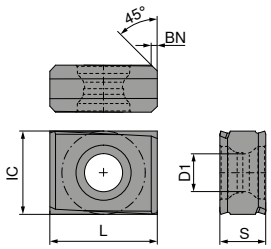


Scope of supply:
Set contains four indexable inserts

Designation	for	IC	S	L	BN	D1	XX
		mm	mm	mm	mm	mm	40 299 ...
LNXX 0904	Ø 35,00 - Ø 44,99	7.58	4.17	9.52	0.51	3.4	**99900**

Reamax – HM indexable insert set

- Segment-specific special indexable insert
- Only indexable inserts that match the holder can be used
- Full tool design and details of operating conditions on request



DBG-P



Scope of supply:
Set contains two indexable inserts

Designation	for	IC	S	L	BN	D1	XX
		mm	mm	mm	mm	mm	40 299 ...
LNXX 0904	Ø 25,00 - Ø 34,99	7.56	4.17	9.52	0.70	3.4	**99800**
LNXX 1205	Ø 35,00 - Ø 44,99	9.85	5.56	12.70	0.67	4.5	**99700**
LNXX 1205	Ø 45,00 - Ø 54,99	9.85	5.56	12.70	0.67	4.5	**99600**
LNXX 1205	Ø 55,00 - Ø 64,99	9.85	5.56	12.70	0.67	4.5	**99500**

MultiChange – Program Overview

The "MultiChange" exchangeable head system enables tools to be changed extremely quickly and easily. It has been designed to deliver the highest changeover precision and radial run-out accuracy while maintaining excellent stability. The following chapters contain suitable exchangeable heads for a range of applications.

Exchangeable heads

→ Solid carbide drills

Solid carbide NC spot drills

Ø 8, 10, 12, 16, 20 mm
NOF 2


SIG 90°


SIG 120°


SIG 142°

→ Reamers and countersinks

Exchangeable reaming heads

Ø 8,00 – 30,20 mm


Through hole

Ø 12,20 – 30,20 mm


Blind hole

→ Solid carbide milling cutters

Solid carbide shoulder mills
Ø 8, 10, 12, 16, 20 mm /
ZEFP 3+4


Type PCR UNI


Type PCR ALU


Type N

Solid carbide torus cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 3+4


Type W


Type N

Solid carbide roughing-finishing milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 4+6


Type NF

Solid carbide finish milling cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide ball-nosed end mills
Ø 10, 12, 16, 20 mm / ZEFP 4


Type N

Solid carbide high-feed cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide quarter round cutters
Ø 8, 10, 12, 16, 20 mm / ZEFP 6


Type N

Solid carbide deburring cutters
Ø 10, 12, 16, 20 mm / ZEFP 4+6


Type N


Type N

NOF / ZEFP = Number of cutting edges

Holders

→ Adapters and accessories

OAL 60 – 90 mm


Conical 87° / steel


Cylindrical* / steel

OAL 85 – 120 mm


Conical 87° / steel


Cylindrical* / steel


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 110 – 150 mm


Conical 87° / solid carbide


Cylindrical* / solid carbide

OAL 150 – 200 mm


Conical 87° / solid carbide


Cylindrical* / steel


Cylindrical* / solid carbide

OAL 200 – 250 mm


Cylindrical* / steel


Cylindrical* / solid carbide

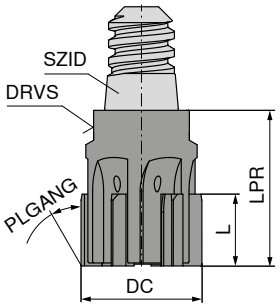
* Only suitable for milling to a certain degree

CoreLine – Exchangeable reaming heads

- ▲ Up to tolerance class IT 7 with absolute process security – from the first hole
- ▲ High-speed reaming heads
- ▲ Irregular pitch for highest radial run-out accuracy
- ▲ A high level of changeover precision guaranteed
- ▲ SZID = Coupling size

Multi Change





CWC10	TiAlN	K10	PDC
			
Left-hand helix PLGANG 30° CERMET Through hole	Left-hand helix PLGANG 30° HM Through hole	Straight flute PLGANG 45° Solid carbide Through hole	Straight flute PLGANG 45° PCD Through hole

DC H7 mm	SZID	L mm	LPR mm	ZEFP	DRVS mm	TQX Nm	RT 40 210 ...	RT 40 220 ...	RT 40 240 ...	PC 40 245 ...
8,00	06	8	18	4	6	5.0	080	080	080 [1]	080 [1]
8,01 - 9,70	06	8	18	4	6	5.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
9,71 - 9,99	06	8	18	6	8	5.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
10,00	06	8	18	6	8	5.0	100	100	100 [1]	100 [1]
10,01 - 10,70	06	8	18	6	8	5.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
10,71 - 11,99	08	8	20	6	8	12.5	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
12,00	08	8	20	6	8	12.5	120	120	120 [1]	120 [1]
12,01 - 12,70	08	8	20	6	8	12.5	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
12,71 - 13,99	10	8	22	6	10	15.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
14,00	10	8	22	6	10	15.0	140	140	140 [1]	140 [1]
14,01 - 15,99	10	8	22	6	10	15.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
16,00	10	8	22	6	10	15.0	160	160	160 [1]	160 [1]
16,01 - 16,20	10	8	22	6	10	15.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
16,21 - 17,20	10	8	22	6	13	15.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
17,21 - 17,99	12	12	26	6	13	20.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
18,00	12	12	26	6	13	20.0	180	180	180 [1]	180 [1]
18,01 - 19,20	12	12	26	6	13	20.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
19,21 - 19,99	12	12	26	6	16	20.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
20,00	12	12	26	6	16	20.0	200	200	200 [1]	200 [1]
20,01 - 20,20	12	12	26	6	16	20.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
20,21 - 21,20	12	12	26	6	16	20.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
21,21 - 21,99	16	12	26	6	16	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
22,00	16	12	26	6	16	25.0	220	220	220 [1]	220 [1]
22,01 - 23,99	16	12	26	6	16	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
24,00	16	12	26	6	16	25.0	240	240	240 [1]	240 [1]
24,01 - 24,20	16	12	26	6	16	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
24,21 - 24,99	16	12	26	6	19	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
25,00	16	12	26	6	19	25.0	250	250	250 [1]	250 [1]
25,01 - 25,99	16	12	26	6	19	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
26,00	16	12	26	6	19	25.0	260	260	260 [1]	260 [1]
26,01 - 26,20	16	12	26	6	19	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
26,21 - 27,99	16	12	26	6	21	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
28,00	16	12	26	6	21	25.0	280	280	280 [1]	280 [1]
28,01 - 28,20	16	12	26	6	21	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
28,21 - 29,20	16	12	26	6	24	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
29,21 - 29,99	16	12	26	8	24	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
30,00	16	12	26	8	24	25.0	300	300	300 [1]	300 [1]
30,01 - 30,20	16	12	26	8	24	25.0	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
P							●	●		
M								●		
K							●			
N									●	●
S										
H										
O										

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.

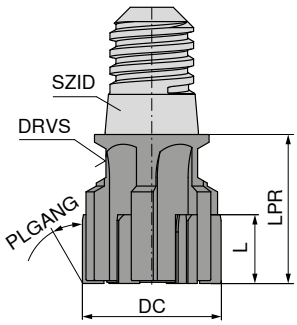
For xxxx please indicate requested diameter in H7 in the order (e.g., 10.89 H7 → article no. 40 210 1089)!
All other diameters and tolerance classes are also possible on request (e.g., 18.5 + 0.025 or 11 N7).

CoreLine – Exchangeable reaming heads

- ▲ Up to tolerance class IT 7 with absolute process security – from the first hole
- ▲ High-speed reaming heads
- ▲ Irregular pitch for highest radial run-out accuracy
- ▲ A high level of changeover precision guaranteed
- ▲ SZID = Coupling size

Multi Change





CWC10	TiAlN	K10	PDC
			
Straight flute PLGANG 60° CERMET Blind hole	Straight flute PLGANG 60° HM Blind hole	Straight flute PLGANG 60° Solid carbide Blind hole	Straight flute PLGANG 75° PCD Blind hole

DC H7 mm	SZID	L mm	LPR mm	ZEFP	DRVS mm	TQX Nm	RT 40 211 ...	RT 40 221 ...	RT 40 241 ...	PC 40 246 ...
12,20 - 12,70	06	8	18	6	6	5.0		xxxx 1)	xxxx 1)	
12,20 - 12,70	06	8	20	6	6	5.0	xxxx 1)			xxxx 1)
12,71 - 13,99	06	8	18	6	6	5.0		xxxx 1)	xxxx 1)	
12,71 - 13,99	06	8	22	6	6	5.0	xxxx 1)			xxxx 1)
14,00	06	8	18	6	6	5.0		140	140 1)	
14,00	06	8	22	6	6	5.0	140			140 1)
14,01 - 14,20	06	8	18	6	6	5.0		xxxx 1)	xxxx 1)	
14,01 - 14,20	06	8	22	6	6	5.0	xxxx 1)			xxxx 1)
14,21 - 15,99	08	8	20	6	8	12.5		xxxx 1)	xxxx 1)	
14,21 - 15,99	08	8	22	6	8	12.5	xxxx 1)			xxxx 1)
16,00	08	8	20	6	8	12.5		160	160 1)	
16,00	08	8	22	6	8	12.5	160			160 1)
16,01 - 16,20	08	8	20	6	8	12.5		xxxx 1)	xxxx 1)	
16,01 - 16,20	08	8	22	6	8	12.5	xxxx 1)			xxxx 1)
16,21 - 17,20	10	8	22	6	10	15.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
17,21 - 17,99	10	12	26	6	10	15.0	xxxx 1)			xxxx 1)
17,21 - 17,99	10	12	22	6	10	15.0		xxxx 1)	xxxx 1)	
18,00	10	12	26	6	10	15.0	180			180 1)
18,00	10	12	22	6	10	15.0		180	180 1)	
18,01 - 19,99	10	12	26	6	10	15.0	xxxx 1)			xxxx 1)
18,01 - 19,99	10	12	22	6	10	15.0		xxxx 1)	xxxx 1)	
20,00	10	12	26	6	10	15.0	200			200 1)
20,00	10	12	22	6	10	15.0		200	200 1)	
20,01 - 20,20	10	12	26	6	10	15.0	xxxx 1)			xxxx 1)
20,01 - 20,20	10	12	22	6	10	15.0		xxxx 1)	xxxx 1)	
20,21 - 21,99	12	12	26	6	13	20.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
22,00	12	12	26	6	13	20.0	220	220	220 1)	220 1)
22,01 - 23,99	12	12	26	6	13	20.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
24,00	12	12	26	6	13	20.0	240	240	240 1)	240 1)
24,01 - 24,20	12	12	26	6	13	20.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
24,21 - 24,99	16	12	26	6	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
25,00	16	12	26	6	16	25.0	250	250	250 1)	250 1)
25,01 - 25,99	16	12	26	6	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
26,00	16	12	26	6	16	25.0	260	260	260 1)	260 1)
26,01 - 27,99	16	12	26	6	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
28,00	16	12	26	6	16	25.0	280	280	280 1)	280 1)
28,01 - 28,20	16	12	26	6	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
28,21 - 29,20	16	12	26	6	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
29,21 - 29,99	16	12	26	8	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
30,00	16	12	26	8	16	25.0	300	300	300 1)	300 1)
30,01 - 30,20	16	12	26	8	16	25.0	xxxx 1)	xxxx 1)	xxxx 1)	xxxx 1)
P							●	●		
M								●		
K							●			
N									●	●
S										
H										
O										

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.

For xxxx please indicate requested diameter in H7 in the order (e.g., 12.89 H7 → article no. 40 211 1289)!
All other diameters and tolerance classes are also possible on request (e.g., 18.5 + 0.025 or 15 N7).

Selection guide for high-speed reamer Reamax Mono

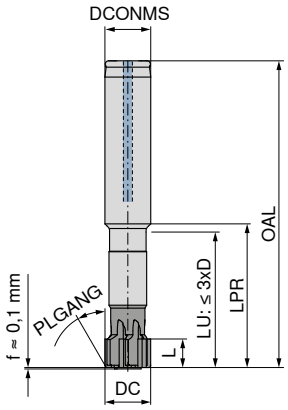
Ø 5,60 – 25,89 mm										
Article no. (3xD)			40 635 ...	40 625 ...	40 656 ...	40 652 ...	40 648 ...	40 605 ...	40 657 ...	40 644 ...	40 640 ...
Article no. (5xD)			40 636 ...	40 626 ...	40 666 ...	40 653 ...	40 649 ...	40 606 ...	40 665 ...	40 645 ...	40 641 ...
Product reference no. (3xD)			56J.93	56J.93	56J.65	56J.65	56J.17	56J.71	56H.65	56H.65	56H.17
Product reference no. (5xD)			56R.93	56R.93	56R.65	56R.65	56R.17	56R.71	56Q.65	56Q.65	56Q.17
Cutting geometry			ASG4000	ASG3000	ASG3000	ASG0106	ASG0706	ASG3000	ASG3000	ASG0106	ASG0706
Lead angle			25°	45°	45°	45°	45°/8°	45°	45°	45°	45°/8°
Grade / coating			DST	DST	DBG-P	DBG-P	DBC	TIN	DBG-P	DBG-P	DBC
Preferred type available			✓	✓	✓	✓		✓			
Type of hole			Through hole						Blind hole		
Material sub-group		Index									
P	Unalloyed steel	P.1.1	●	●	●			○	●		
		P.1.2	●	●	●			○	●		
		P.1.3	●	●	●			○	●		
		P.1.4	●	●	●			○	●		
		P.1.5	●	●	●			○	●		
	Low-alloy steel	P.2.1	●	●	●			○	●		
		P.2.2	●	●	●			○	●		
		P.2.3	●	●	●			○	●		
		P.2.4			●	●		○	●		
	High-alloy steel and high-alloy tool steel	P.3.1				●				●	
		P.3.2				●				●	
		P.3.3				●				●	
	Stainless steel	P.4.1				●				●	
		P.4.2				●				●	
M	Stainless steel	M.1.1				●				●	
		M.2.1				●				●	
		M.3.1				●				●	
K	Grey cast iron	K.1.1			●			○	●		
		K.1.2			●			○	●		
	Spherulitic graphite cast iron	K.2.1	○	●	●				●		
		K.2.2	○	●	●				●		
	Malleable iron	K.3.1	○	●	●				●		
		K.3.2	○	●	●				●		
N	Aluminum wrought alloys	N.1.1					●				●
		N.1.2					●				●
	Cast aluminum alloys	N.2.1					●				●
		N.2.2					●				●
		N.2.3					●				●
	Copper and copper alloys (bronze, brass)	N.3.1		○				●			
		N.3.2		○				●			
		N.3.3						●			
	Magnesium alloys	N.4.1									
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1					○				○

● = Main application range
○ = Secondary application range

Reamax – High-speed reamers, short

- ▲ Can be adjusted for the smallest hole tolerances
- ▲ Wear compensation within the tolerance zone
- ▲ Retraction from the hole at 3-4x feed rate
- ▲ Up to tolerance class IT 5 with absolute process security, from the first hole

Mono



DST	DST	TiN
		
56J.93	56J.93	56J.71
		
≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 25°	PLGANG 45°
ASG3000	ASG4000	ASG3000
CERMET	CERMET	HM
Through hole	Through hole	Through hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 625 ...	RT 40 635 ...	RT 40 605 ...
5,60 - 5,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	35	40	85	12	4	060	060	060
6,01 - 7,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	35	40	85	12	4	080	080	080
8,01 - 8,89	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	45	50	95	12	6	100	100	100
10,01 - 11,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	45	50	95	12	6	120	120	120
12,01 - 13,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	45	50	95	12	6	140	140	140
14,01 - 14,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	45	50	95	12	6	150	150	150
15,01 - 15,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	45	50	100	16	6	160	160	160
16,01 - 17,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	45	50	100	16	6	180	180	180
18,01 - 18,89	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	55	60	120	20	6	200	200	200
20,01 - 25,89	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●	●	○
M									
K							●	○	○
N							○		●
S									
H									
O									

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 635 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

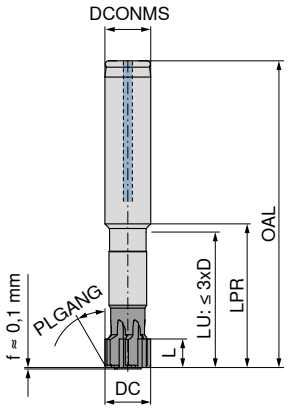
Detailed adjustment instructions are available to download in the online shop for the article.

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- ▲ Up to tolerance class IT 5 with absolute process security, from the first hole

Mono



DBG-P	DBC	DBG-P
		
56J.65	56J.17	56J.65
		
≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Through hole	Through hole	Through hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 652 ...	RT 40 648 ...	RT 40 656 ...
5,60 - 5,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	35	40	85	12	4	06000	06000 1)	06000
6,01 - 7,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	35	40	85	12	4	08000	08000 1)	08000
8,01 - 8,89	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	45	50	95	12	6	10000	10000 1)	10000
10,01 - 11,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	45	50	95	12	6	12000	12000 1)	12000
12,01 - 13,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	45	50	95	12	6	14000	14000 1)	14000
14,01 - 14,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	45	50	95	12	6	15000	15000 1)	15000
15,01 - 15,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	45	50	100	16	6	16000	16000 1)	16000
16,01 - 17,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	45	50	100	16	6	18000	18000 1)	18000
18,01 - 18,89	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	55	60	120	20	6	20000	20000 1)	20000
20,01 - 25,89	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●		●
M							●		
K									●
N								●	
S									
H									
O								○	

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For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 652 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

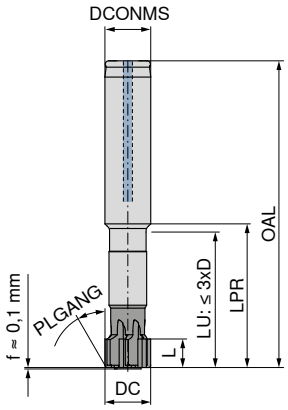
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Mono



DBG-P	DBC	DBG-P
		
56H.65	56H.17	56H.65
		
≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Blind hole	Blind hole	Blind hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 644 ...	RT 40 640 ...	RT 40 657 ...
5,60 - 5,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	35	40	85	12	4	06000 1)	06000 1)	06000 1)
6,01 - 7,99	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	35	40	85	12	4	08000 1)	08000 1)	08000 1)
8,01 - 8,89	9.5	35	40	85	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	45	50	95	12	6	10000 1)	10000 1)	10000 1)
10,01 - 11,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	45	50	95	12	6	12000 1)	12000 1)	12000 1)
12,01 - 13,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	45	50	95	12	6	14000 1)	14000 1)	14000 1)
14,01 - 14,99	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	45	50	95	12	6	15000 1)	15000 1)	15000 1)
15,01 - 15,89	9.5	45	50	95	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	45	50	100	16	6	16000 1)	16000 1)	16000 1)
16,01 - 17,99	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	45	50	100	16	6	18000 1)	18000 1)	18000 1)
18,01 - 18,89	9.5	45	50	100	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	55	60	120	20	6	20000 1)	20000 1)	20000 1)
20,01 - 25,89	9.5	55	60	120	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●		●
M							●		
K									●
N								●	
S									
H									
O								○	

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→ Find the cutting data standard values here.
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For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 644 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

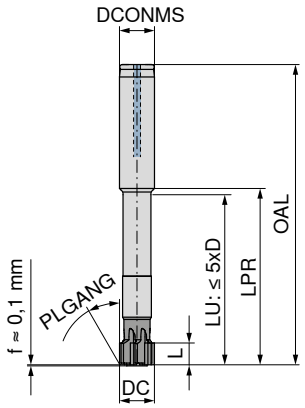
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- ▲ Up to tolerance class IT 5 with absolute process security, from the first hole

Mono



DST	DST	TiN
		
56R.93	56R.93	56R.71
		
≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 25°	PLGANG 45°
ASG3000	ASG4000	ASG3000
CERMET	CERMET	HM
Through hole	Through hole	Through hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 626 ...	RT 40 636 ...	RT 40 606 ...
5,60 - 5,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	80	85	130	12	4	060	060	060
6,01 - 7,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	80	85	130	12	4	080	080	080
8,01 - 8,89	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	80	85	130	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	110	115	160	12	6	100	100	100
10,01 - 11,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	110	115	160	12	6	120	120	120
12,01 - 13,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	110	115	160	12	6	140	140	140
14,01 - 14,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	110	115	160	12	6	150	150	150
15,01 - 15,89	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	125	130	180	16	6	160	160	160
16,01 - 17,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	125	130	180	16	6	180	180	180
18,01 - 18,89	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	135	140	200	20	6	200	200	200
20,01 - 25,89	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●	●	○
M									
K							●	○	○
N							○		●
S									
H									
O									

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For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 636 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request

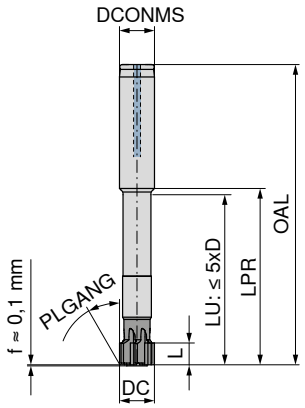
Detailed adjustment instructions are available to download in the online shop for the article.

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- ▲ Up to tolerance class IT 5 with absolute process security, from the first hole

Mono



DBG-P	DBC	DBG-P
		
56R.65	56R.17	56R.65
		
≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Through hole	Through hole	Through hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 653 ...	RT 40 649 ...	RT 40 666 ...
5,60 - 5,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	80	85	130	12	4	06000	06000 1)	06000
6,01 - 7,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	80	85	130	12	4	08000	08000 1)	08000
8,01 - 8,89	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	80	85	130	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	110	115	160	12	6	10000	10000 1)	10000
10,01 - 11,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	110	115	160	12	6	12000	12000 1)	12000
12,01 - 13,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	110	115	160	12	6	14000	14000 1)	14000
14,01 - 14,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	110	115	160	12	6	15000	15000 1)	15000
15,01 - 15,89	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	125	130	180	16	6	16000	16000 1)	16000
16,01 - 17,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	125	130	180	16	6	18000	18000 1)	18000
18,01 - 18,89	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	135	140	200	20	6	20000	20000 1)	20000
20,01 - 25,89	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●		●
M							●		
K									●
N								●	
S									
H									
O								○	

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

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For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 653 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

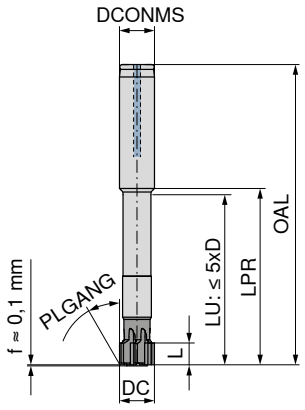
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Mono



DBG-P	DBC	DBG-P
		
56Q.65	56Q.17	56Q.65
		
≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Blind hole	Blind hole	Blind hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 645 ...	RT 40 641 ...	RT 40 665 ...
5,60 - 5,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
6,00	9.5	80	85	130	12	4	06000 1)	06000 1)	06000 1)
6,01 - 7,99	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,00	9.5	80	85	130	12	4	08000 1)	08000 1)	08000 1)
8,01 - 8,89	9.5	80	85	130	12	4	xxxx 1)	xxxx 1)	xxxx 1)
8,90 - 9,89	9.5	80	85	130	12	6	xxxx 1)	xxxx 1)	xxxx 1)
9,90 - 9,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
10,00	9.5	110	115	160	12	6	10000 1)	10000 1)	10000 1)
10,01 - 11,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
12,00	9.5	110	115	160	12	6	12000 1)	12000 1)	12000 1)
12,01 - 13,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
14,00	9.5	110	115	160	12	6	14000 1)	14000 1)	14000 1)
14,01 - 14,99	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,00	9.5	110	115	160	12	6	15000 1)	15000 1)	15000 1)
15,01 - 15,89	9.5	110	115	160	12	6	xxxx 1)	xxxx 1)	xxxx 1)
15,90 - 15,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
16,00	9.5	125	130	180	16	6	16000 1)	16000 1)	16000 1)
16,01 - 17,99	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,00	9.5	125	130	180	16	6	18000 1)	18000 1)	18000 1)
18,01 - 18,89	9.5	125	130	180	16	6	xxxx 1)	xxxx 1)	xxxx 1)
18,90 - 19,99	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
20,00	9.5	135	140	200	20	6	20000 1)	20000 1)	20000 1)
20,01 - 25,89	9.5	135	140	200	20	6	xxxx 1)	xxxx 1)	xxxx 1)
P							●		●
M							●		
K									●
N								●	
S									
H									
O								○	

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For xxxx please indicate requested Ø in H7 in the order (e.g., 15.89 H7 → article no. 40 645 1589)!
All other diameters and tolerance classes (e.g., 18.5 +0.025 or 18 N7) as well as other variants (combination of ASG and grade) are available on request.

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Selection guide for high-speed reamer Reamax Mono – Through hole

Ø 0.2205 – 1.0197 inch										
Article no. (3xD)			49 652 ...	49 676 ...	49 648 ...	49 688 ...	49 605 ...	49 656 ...	49 635 ...	49 625 ...	49 672 ...
Article no. (5xD)			49 653 ...	49 677 ...	49 649 ...	49 689 ...	49 606 ...	49 661 ...	49 636 ...	49 626 ...	49 673 ...
Product reference no. (3xD)			56J.65	56.J65	56J.17	56J.71	56J.71	56J.71	56J.93	56J.93	56J.21
Product reference no. (5xD)			56R.65	56.R65	56R.17	56R.71	56R.71	56R.71	56R.93	56R.93	56R.21
Cutting geometry			ASG0106	ASG3000	ASG0706	ASG4000	ASG3000	ASG0106	ASG4000	ASG3000	ASG03
Lead angle			45°	45°	45°/8°	45°	45°	45°	25°	45°	30°/2°
Grade / coating			DBG-P	DBG-P	DBC	TiN	TIN	TiN	DST	DST	K10
Type of hole			Through hole								
Material sub-group		Index									
P	Unalloyed steel	P.1.1		●		●	○		●	●	
		P.1.2		●		●	○		●	●	
		P.1.3		●		●	○		●	●	
		P.1.4		●		●	○		●	●	
		P.1.5		●		●	○		●	●	
	Low-alloy steel	P.2.1		●			○		●	●	
		P.2.2		●			○		●	●	
		P.2.3		●			○		●	●	
		P.2.4	●	●							
	High-alloy steel and high-alloy tool steel	P.3.1	●					○			
		P.3.2	●					○			
		P.3.3	●					○			
	Stainless steel	P.4.1	●					○			
		P.4.2	●					○			
M	Stainless steel	M.1.1	●					○			
		M.2.1	●					○			
		M.3.1	●					○			
K	Grey cast iron	K.1.1		●			○				
		K.1.2		●			○				
	Spherulitic graphite cast iron	K.2.1		●					○	●	
		K.2.2		●					○	●	
	Malleable iron	K.3.1		●					○	●	
		K.3.2		●					○	●	
N	Aluminum wrought alloys	N.1.1			●						
		N.1.2			●						
	Cast aluminum alloys	N.2.1			●						
		N.2.2			●						
		N.2.3			●						
	Copper and copper alloys (bronze, brass)	N.3.1					●			○	
		N.3.2					●			○	
		N.3.3					●				
	Magnesium alloys	N.4.1									
S	Heat-resistant alloys	S.1.1									
		S.1.2									
		S.2.1									
		S.2.2									
		S.2.3									
	Titanium alloys	S.3.1									●
		S.3.2									●
		S.3.3									●
O	Non-metal materials	O.1.1									
		O.1.2									
		O.2.1									
		O.2.2									
		O.3.1			○						

● = Main application range
○ = Secondary application range

Selection guide for high-speed reamer Reamax Mono – Blind hole

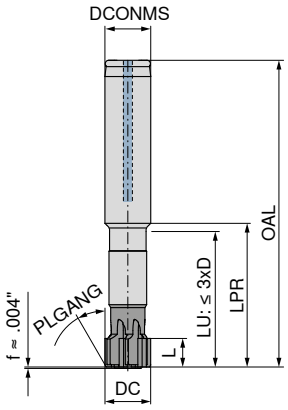
Ø 0.2205 – 1.0197 inch								
Article no. (3xD)			49 657 ...	49 644 ...	49 684 ...	49 660 ...	49 640 ...	49 680 ...	49 668 ...
Article no. (5xD)			49 665 ...	49 645 ...	49 685 ...	49 664 ...	49 641 ...	49 681 ...	49 669 ...
Product reference no. (3xD)			56H.65	56H.65	56H.71	56H.71	56H.17	56H.93	56H.21
Product reference no. (5xD)			56Q.65	56Q.65	56Q.71	56Q.71	56Q.17	56Q.93	56Q.21
Cutting geometry			ASG3000	ASG0106	ASG3000	ASG0106	ASG0706	ASG3000	ASG03
Lead angle			45°	45°	45°	45°	45°/8°	45°	30°/2°
Grade / coating			DBG-P	DBG-P	TiN	TiN	DBC	DST	K10
Type of hole			Blind hole						
Material sub-group		Index							
P	Unalloyed steel	P.1.1	●		○			●	
		P.1.2	●		○			●	
		P.1.3	●		○			●	
		P.1.4	●		○			●	
		P.1.5	●		○			●	
	Low-alloy steel	P.2.1	●		○			●	
		P.2.2	●		○			●	
		P.2.3	●		○			●	
		P.2.4	●						
	High-alloy steel and high-alloy tool steel	P.3.1		●		○			
		P.3.2		●		○			
		P.3.3		●		○			
	Stainless steel	P.4.1		●		○			
		P.4.2		●		○			
M	Stainless steel	M.1.1		●		○			
		M.2.1		●		○			
		M.3.1		●		○			
K	Grey cast iron	K.1.1	●		○				
		K.1.2	●		○				
	Spherulitic graphite cast iron	K.2.1	●					●	
		K.2.2	●					●	
	Malleable iron	K.3.1	●					●	
		K.3.2	●					●	
N	Aluminum wrought alloys	N.1.1					●		
		N.1.2					●		
	Cast aluminum alloys	N.2.1					●		
		N.2.2					●		
		N.2.3					●		
	Copper and copper alloys (bronze, brass)	N.3.1			●			○	
		N.3.2			●			○	
		N.3.3			●				
	Magnesium alloys	N.4.1							
S	Heat-resistant alloys	S.1.1							
		S.1.2							
		S.2.1							
		S.2.2							
		S.2.3							
	Titanium alloys	S.3.1							●
		S.3.2							●
		S.3.3							●
O	Non-metal materials	O.1.1							
		O.1.2							
		O.2.1							
		O.2.2							
		O.3.1					○		

● = Main application range
○ = Secondary application range

Reamax – High-speed reamers, short

- ▲ expandable to hold tight tolerances and extend tool life
- ▲ wear compensation within the tolerance zone
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono



DST	DBC	DBG-P	DST	TiN
				
56J.93	56J.17	56J.65	56J.93	56J.71
				
≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°	PLGANG 25°	PLGANG 45°
ASG3000	ASG0706	ASG0106	ASG4000	ASG3000
CERMET	HM	HM	CERMET	HM
Through hole	Through hole	Through hole	Through hole	Through hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 625 ...	RT 49 648 ...	RT 49 652 ...	RT 49 635 ...	RT 49 605 ...
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P								●		●	●	○
M										●		
K								●			○	○
N								○	●			●
S												
H												
O									○			

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 2 units

→ Find the cutting data standard values here.
→ You can find further information on the cutting geometries (ASG) here.

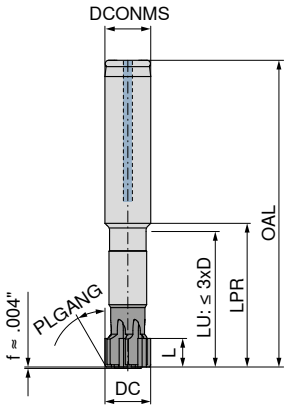
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")
Detailed adjustment instructions are available to download in the online shop for the article.

Do not shrink the tool!

Reamax – High-speed reamers, short

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- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono



K10	DBG-P	TiN	TiN
			
56J.21	56J.65	56J.17	56J.71
			
≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 30/2°	PLGANG 45°	PLGANG 25°	PLGANG 45°
ASG03	ASG3000	ASG4000	ASG0106
HM	HM	HM	HM
Through hole	Through hole	Through hole	Through hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP	RT 49 672 ...	RT 49 676 ...	RT 49 688 ...	RT 49 656 ...
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P		●	●	○
M				○
K		●		
N				
S	●			
H				
O				

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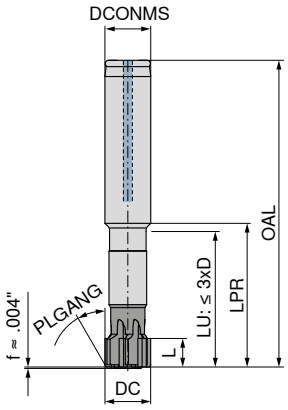
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Mono



DBG-P	DBC	DBG-P
		
56H.65	56H.17	56H.65
		
≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Blind hole	Blind hole	Blind hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 644 ...	RT 49 640 ...	RT 49 657 ...
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P	●		●
M	●		
K			●
N		●	
S			
H			
O		○	

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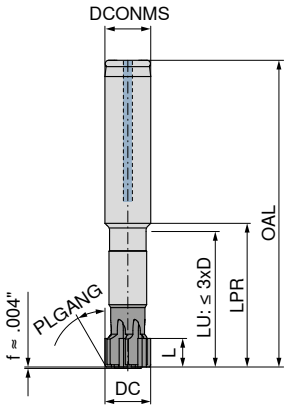
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Mono



TiN	K10	DST	TiN
			
56H.71	56H.21	56H.93	56H.71
			
≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
PLGANG 45°	PLGANG 30/2°	PLGANG 45°	PLGANG 45°
ASG0106	ASG03	ASG3000	ASG3000
HM	HM	CERMET	HM
Blind hole	Blind hole	Blind hole	Blind hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 660 ...	RT 49 668 ...	RT 49 680 ...	RT 49 684 ...
0.2205 - 0.3504	0.394	1.575	1.654	3.346	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.6259	0.394	1.969	2.047	3.740	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	1.969	2.047	3.937	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	2.362	2.441	4.724	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P	○		●	○
M	○			
K			●	○
N			○	●
S		●		
H				
O				

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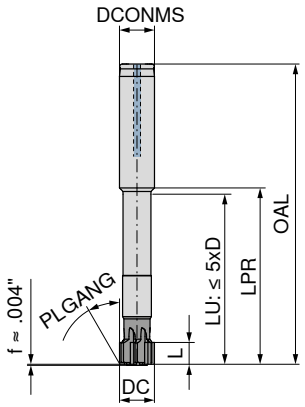
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- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono



DST	DBC	DBG-P	DST	TiN
				
56R.93	56R.17	56R.65	56R.93	56R.71
				
≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°	PLGANG 25°	PLGANG 45°
ASG3000	ASG0706	ASG0106	ASG4000	ASG3000
CERMET	HM	HM	CERMET	HM
Through hole	Through hole	Through hole	Through hole	Through hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 626 ...	RT 49 649 ...	RT 49 653 ...	RT 49 636 ...	RT 49 606 ...
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
P								●		●	●	○
M										●		
K								●			○	○
N								○	●			●
S												
H												
O									○			

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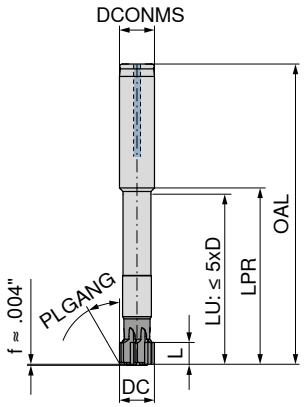
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- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono



TiN	DBG-P	K10	TiN
			
56R.71	56R.65	56R.21	56R.71
			
≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45°	PLGANG 30/2°	PLGANG 45°
ASG4000	ASG3000	ASG03	ASG0106
HM	HM	HM	HM
Through hole	Through hole	Through hole	Through hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 689 ...	RT 49 677 ...	RT 49 673 ...	RT 49 661 ...
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	xxxx [1]	xxxx [1]	xxxx [1]	xxxx [1]

P	●	●		○
M				○
K		●		
N				
S			●	
H				
O				

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For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")
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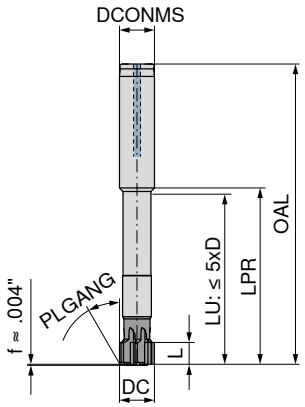
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- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono





DBG-P	DBC	DBG-P
		
56Q.65	56Q.17	56Q.65
		
≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45/8°	PLGANG 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Blind hole	Blind hole	Blind hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS $_{h6}$ inch	DCONMS mm	ZEFP	RT 49 645 ...	RT 49 641 ...	RT 49 665 ...
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P	●		●
M	●		
K			●
N		●	
S			
H			
O		○	

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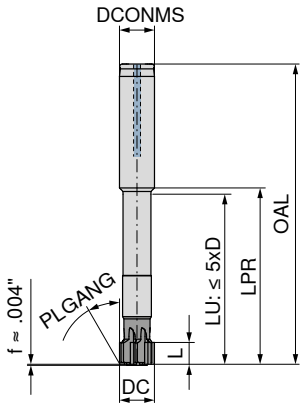
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")
Detailed adjustment instructions are available to download in the online shop for the article.

Do not shrink the tool!

Reamax – High-speed reamers, long

- ▲ expandable to hold tight tolerances and extend tool life
- ▲ wear compensation within the tolerance zone
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ up to tolerance class IT 5
- ▲ ZEFP = number of cutting edges

Mono



DST	TiN	K10	TiN
			
56Q.93	56Q.71	56Q.21	56Q.71
			
≤ 5xD	≤ 5xD	≤ 5xD	≤ 5xD
PLGANG 45°	PLGANG 45°	PLGANG 30/2°	PLGANG 45°
ASG3000	ASG3000	ASG03	ASG0106
CERMET	HM	HM	HM
Blind hole	Blind hole	Blind hole	Blind hole

DC inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 49 681 ...	RT 49 685 ...	RT 49 669 ...	RT 49 664 ...
0.2205 - 0.3504	0.394	3.346	3.425	5.118	0.472	12	4	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3504 - 0.3897	0.394	3.346	3.425	5.118	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.3898 - 0.6259	0.394	4.528	4.606	6.299	0.472	12	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.6260 - 0.7441	0.394	5.118	5.197	7.087	0.630	16	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]
0.7441 - 1.0197	0.394	5.512	5.591	7.874	0.787	20	6	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]	**xxxx** [1]

P	●	○		○
M				○
K	●	○		
N	○	●		
S			●	
H				
O				

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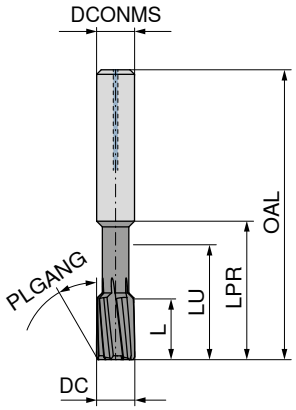
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Reamax – High-performance machine reamers, short

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometry and coating for universal use

Full UNI



DBG-U



51P.57

Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 483 ...
4	12	17	22	50	4	4	**04000**
5	12	23	28	64	6	4	**05000**
6	12	23	28	64	6	4	**06000**
7	16	29	39	75	8	6	**07000**
8	16	29	39	75	8	6	**08000**
9	16	35	40	80	10	6	**09000**
10	16	35	40	80	10	6	**10000**
11	20	40	45	90	12	6	**11000**
12	20	40	45	90	12	6	**12000**
16	20	40	45	93	16	8	**16000**

P	●
M	●
K	●
N	○
S	○
H	○
O	

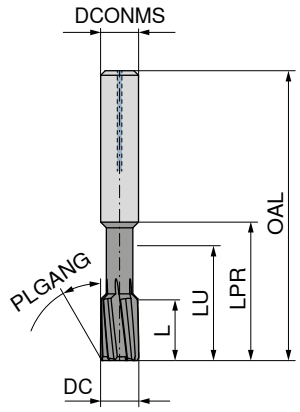
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Full UNI





DBG-U



51P.57



Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 489 ...
2,96 - 3,96	12	17	22	50	4	4	xxxxx 1)
3,97	12	17	22	50	4	4	03970
3,98	12	17	22	50	4	4	03980
3,99	12	17	22	50	4	4	03990
4,00	12	17	22	50	4	4	04000
4,01	12	17	22	50	4	4	04010
4,02	12	17	22	50	4	4	04020
4,03	12	17	22	50	4	4	04030
4,04 - 4,05	12	17	22	50	4	4	xxxxx 1)
4,06 - 4,96	12	23	28	64	6	4	xxxxx 1)
4,97	12	23	28	64	6	4	04970
4,98	12	23	28	64	6	4	04980
4,99	12	23	28	64	6	4	04990
5,00	12	23	28	64	6	4	05000
5,01	12	23	28	64	6	4	05010
5,02	12	23	28	64	6	4	05020
5,03	12	23	28	64	6	4	05030
5,04 - 5,96	12	23	28	64	6	4	xxxxx 1)
5,97	12	23	28	64	6	4	05970
5,98	12	23	28	64	6	4	05980
5,99	12	23	28	64	6	4	05990
6,00	12	23	28	64	6	4	06000
6,01	12	23	28	64	6	4	06010
6,02	12	23	28	64	6	4	06020
6,03	12	23	28	64	6	4	06030
6,04 - 6,05	12	23	28	64	6	4	xxxxx 1)
6,06 - 7,96	16	29	39	75	8	6	xxxxx 1)
7,97	16	29	39	75	8	6	07970
7,98	16	29	39	75	8	6	07980

P	●
M	●
K	●
N	○
S	○
H	○
O	

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For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 489 08820)!
All other diameters and tolerance classes (e.g., 8.82 +0.025 or 8.82 N7) as well as other variants (combination of ASG and grade) are available on request.

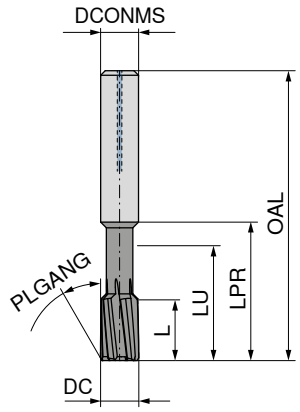
Continued on next page

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Full UNI





DBG-U



51P.57



Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 489 ...
7,99	16	29	39	75	8	6	07990
8,00	16	29	39	75	8	6	08000
8,01	16	29	39	75	8	6	08010
8,02	16	29	39	75	8	6	08020
8,03	16	29	39	75	8	6	08030
8,04 - 8,05	16	29	39	75	8	6	xxxxx 1)
8,06 - 9,96	16	35	40	80	10	6	xxxxx 1)
9,97	16	35	40	80	10	6	09970
9,98	16	35	40	80	10	6	09980
9,99	16	35	40	80	10	6	09990
10,00	16	35	40	80	10	6	10000
10,01	16	35	40	80	10	6	10010
10,02	16	35	40	80	10	6	10020
10,03	16	35	40	80	10	6	10030
10,04 - 10,05	16	35	40	80	10	6	xxxxx 1)
10,06 - 11,96	20	40	45	90	12	6	xxxxx 1)
11,97	20	40	45	90	12	6	11970
11,98	20	40	45	90	12	6	11980
11,99	20	40	45	90	12	6	11990
12,00	20	40	45	90	12	6	12000
12,01	20	40	45	90	12	6	12010
12,02	20	40	45	90	12	6	12020
12,03	20	40	45	90	12	6	12030
12,04 - 12,05	20	40	45	90	12	6	xxxxx 1)
12,06 - 14,05	20	40	45	90	14	6	xxxxx 1)
14,06 - 15,96	20	40	45	93	16	6	xxxxx 1)
15,97 - 16,05	20	40	45	93	16	8	xxxxx 1)
16,06 - 18,05	20	47	52	100	18	8	xxxxx 1)
18,06 - 20,05	20	47	52	102	20	8	xxxxx 1)

P	●
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H	○
O	

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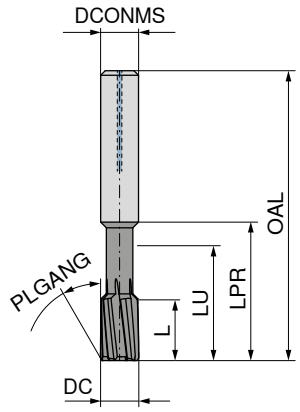
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Full UNI





DBG-U



51P.57



Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 489 ...
0.1165 - 0.1559	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx** [1]
0.1563	0.472	0.669	0.866	1.969	0.157	4	4	**03970**
0.1567	0.472	0.669	0.866	1.969	0.157	4	4	**03980**
0.1571	0.472	0.669	0.866	1.969	0.157	4	4	**03990**
0.1575	0.472	0.669	0.866	1.969	0.157	4	4	**04000**
0.1579	0.472	0.669	0.866	1.969	0.157	4	4	**04010**
0.1583	0.472	0.669	0.866	1.969	0.157	4	4	**04020**
0.1587	0.472	0.669	0.866	1.969	0.157	4	4	**04030**
0.1591 - 0.1594	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx** [1]
0.1598 - 0.1953	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.1957	0.472	0.906	1.102	2.520	0.236	6	4	**04970**
0.1961	0.472	0.906	1.102	2.520	0.236	6	4	**04980**
0.1965	0.472	0.906	1.102	2.520	0.236	6	4	**04990**
0.1969	0.472	0.906	1.102	2.520	0.236	6	4	**05000**
0.1972	0.472	0.906	1.102	2.520	0.236	6	4	**05010**
0.1976	0.472	0.906	1.102	2.520	0.236	6	4	**05020**
0.1980	0.472	0.906	1.102	2.520	0.236	6	4	**05030**
0.1984 - 0.2346	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.2350	0.472	0.906	1.102	2.520	0.236	6	4	**05970**
0.2354	0.472	0.906	1.102	2.520	0.236	6	4	**05980**
0.2358	0.472	0.906	1.102	2.520	0.236	6	4	**05990**
0.2362	0.472	0.906	1.102	2.520	0.236	6	4	**06000**
0.2366	0.472	0.906	1.102	2.520	0.236	6	4	**06010**
0.2370	0.472	0.906	1.102	2.520	0.236	6	4	**06020**
0.2374	0.472	0.906	1.102	2.520	0.236	6	4	**06030**
0.2378 - 0.2382	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.2386 - 0.3134	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx** [1]
0.3138	0.630	1.142	1.535	2.953	0.315	8	6	**07970**
0.3142	0.630	1.142	1.535	2.953	0.315	8	6	**07980**

P	●
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K	●
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O	

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For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

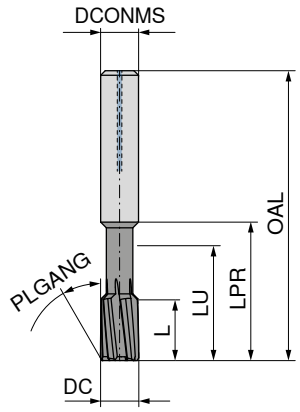
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Full UNI





DBG-U



51P.57



Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 489 ...
0.3146	0.630	1.142	1.535	2.953	0.315	8	6	**07990**
0.3150	0.630	1.142	1.535	2.953	0.315	8	6	**08000**
0.3154	0.630	1.142	1.535	2.953	0.315	8	6	**08010**
0.3157	0.630	1.142	1.535	2.953	0.315	8	6	**08020**
0.3161	0.630	1.142	1.535	2.953	0.315	8	6	**08030**
0.3165 - 0.3169	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx** [1]
0.3173 - 0.3921	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx** [1]
0.3925	0.630	1.378	1.575	3.150	0.394	10	6	**09970**
0.3929	0.630	1.378	1.575	3.150	0.394	10	6	**09980**
0.3933	0.630	1.378	1.575	3.150	0.394	10	6	**09990**
0.3937	0.630	1.378	1.575	3.150	0.394	10	6	**10000**
0.3941	0.630	1.378	1.575	3.150	0.394	10	6	**10010**
0.3945	0.630	1.378	1.575	3.150	0.394	10	6	**10020**
0.3949	0.630	1.378	1.575	3.150	0.394	10	6	**10030**
0.3953 - 0.3957	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx** [1]
0.3961 - 0.4709	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx** [1]
0.4713	0.787	1.575	1.772	3.543	0.472	12	6	**11970**
0.4717	0.787	1.575	1.772	3.543	0.472	12	6	**11980**
0.4720	0.787	1.575	1.772	3.543	0.472	12	6	**11990**
0.4724	0.787	1.575	1.772	3.543	0.472	12	6	**12000**
0.4728	0.787	1.575	1.772	3.543	0.472	12	6	**12010**
0.4732	0.787	1.575	1.772	3.543	0.472	12	6	**12020**
0.4736	0.787	1.575	1.772	3.543	0.472	12	6	**12030**
0.4740 - 0.4744	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx** [1]
0.4748 - 0.5532	0.787	1.575	1.772	3.543	0.551	14	6	**xxxxx** [1]
0.5535 - 0.6283	0.787	1.575	1.772	3.661	0.630	16	6	**xxxxx** [1]
0.6287 - 0.6319	0.787	1.575	1.772	3.661	0.630	16	8	**xxxxx** [1]
0.6323 - 0.7106	0.787	1.850	2.047	3.937	0.709	18	8	**xxxxx** [1]
0.7110 - 0.7894	0.787	1.850	2.047	4.016	0.787	20	8	**xxxxx** [1]

P	●
M	●
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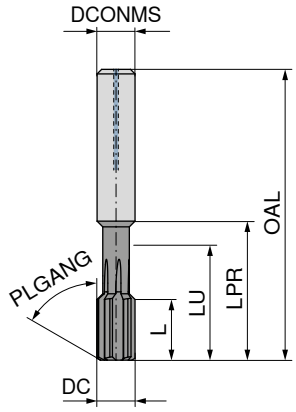
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Full UNI





DBG-U



51M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

DC H7 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 481 ...
4	12	17	22	50	4	4	**04000**
5	12	23	28	64	6	4	**05000**
6	12	23	28	64	6	4	**06000**
7	16	29	39	75	8	6	**07000**
8	16	29	39	75	8	6	**08000**
9	16	35	40	80	10	6	**09000**
10	16	35	40	80	10	6	**10000**
11	20	40	45	90	12	6	**11000**
12	20	40	45	90	12	6	**12000**
16	20	40	45	93	16	8	**16000**

P	●
M	●
K	●
N	○
S	○
H	○
O	



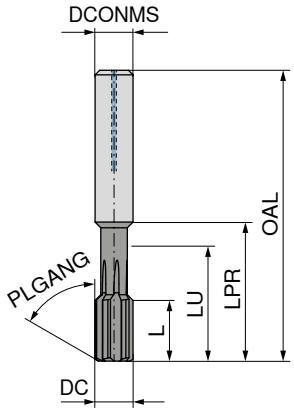
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Full UNI





DBG-U



51M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 488 ...
2,96 - 3,96	12	17	22	50	4	4	xxxxx 1)
3,97	12	17	22	50	4	4	03970
3,98	12	17	22	50	4	4	03980
3,99	12	17	22	50	4	4	03990
4,00	12	17	22	50	4	4	04000
4,01	12	17	22	50	4	4	04010
4,02	12	17	22	50	4	4	04020
4,03	12	17	22	50	4	4	04030
4,04 - 4,05	12	17	22	50	4	4	xxxxx 1)
4,06 - 4,96	12	23	28	64	6	4	xxxxx 1)
4,97	12	23	28	64	6	4	04970
4,98	12	23	28	64	6	4	04980
4,99	12	23	28	64	6	4	04990
5,00	12	23	28	64	6	4	05000
5,01	12	23	28	64	6	4	05010
5,02	12	23	28	64	6	4	05020
5,03	12	23	28	64	6	4	05030
5,04 - 5,96	12	23	28	64	6	4	xxxxx 1)
5,97	12	23	28	64	6	4	05970
5,98	12	23	28	64	6	4	05980
5,99	12	23	28	64	6	4	05990
6,00	12	23	28	64	6	4	06000
6,01	12	23	28	64	6	4	06010
6,02	12	23	28	64	6	4	06020
6,03	12	23	28	64	6	4	06030
6,04 - 6,05	12	23	28	64	6	4	xxxxx 1)
6,06 - 7,96	16	29	39	75	8	6	xxxxx 1)
7,97	16	29	39	75	8	6	07970
7,98	16	29	39	75	8	6	07980

P	●
M	●
K	●
N	○
S	○
H	○
O	

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For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 488 08820)!
All other diameters and tolerance classes (e.g., Ø 8.82 +0.025 or 8.82 N7) as well as other variants (combination of ASG and grade) are available on request.

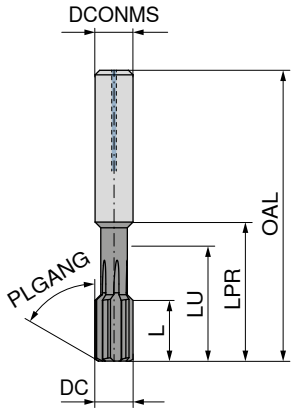
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Reamax – High-performance machine reamers, short

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometry and coating for universal use
- ▲ tolerance: Ø 2.96 – 6.03 mm = +0.004 mm
- ▲ tolerance: Ø 6.04 – 20.05 mm = +0.005 mm

Full UNI





DBG-U



51M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 488 ...
7,99	16	29	39	75	8	6	07990
8,00	16	29	39	75	8	6	08000
8,01	16	29	39	75	8	6	08010
8,02	16	29	39	75	8	6	08020
8,03	16	29	39	75	8	6	08030
8,04 - 8,05	16	29	39	75	8	6	xxxxx 1)
8,06 - 9,96	16	35	40	80	10	6	xxxxx 1)
9,97	16	35	40	80	10	6	09970
9,98	16	35	40	80	10	6	09980
9,99	16	35	40	80	10	6	09990
10,00	16	35	40	80	10	6	10000
10,01	16	35	40	80	10	6	10010
10,02	16	35	40	80	10	6	10020
10,03	16	35	40	80	10	6	10030
10,04 - 10,05	16	35	40	80	10	6	xxxxx 1)
10,06 - 11,96	20	40	45	90	12	6	xxxxx 1)
11,97	20	40	45	90	12	6	11970
11,98	20	40	45	90	12	6	11980
11,99	20	40	45	90	12	6	11990
12,00	20	40	45	90	12	6	12000
12,01	20	40	45	90	12	6	12010
12,02	20	40	45	90	12	6	12020
12,03	20	40	45	90	12	6	12030
12,04 - 12,05	20	40	45	90	12	6	xxxxx 1)
12,06 - 14,05	20	40	45	90	14	6	xxxxx 1)
14,06 - 15,96	20	40	45	93	16	6	xxxxx 1)
15,97 - 16,05	20	40	45	93	16	8	xxxxx 1)
16,06 - 18,05	20	47	52	100	18	8	xxxxx 1)
18,06 - 20,05	20	47	52	102	20	8	xxxxx 1)

P	●
M	●
K	●
N	○
S	○
H	○
O	

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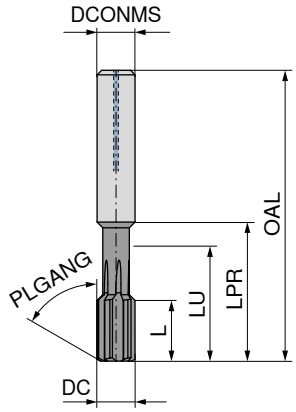
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Full UNI





DBG-U



51M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 488 ...
0.1165 - 0.1559	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx** [1]
0.1563	0.472	0.669	0.866	1.969	0.157	4	4	**03970**
0.1567	0.472	0.669	0.866	1.969	0.157	4	4	**03980**
0.1571	0.472	0.669	0.866	1.969	0.157	4	4	**03990**
0.1575	0.472	0.669	0.866	1.969	0.157	4	4	**04000**
0.1579	0.472	0.669	0.866	1.969	0.157	4	4	**04010**
0.1583	0.472	0.669	0.866	1.969	0.157	4	4	**04020**
0.1587	0.472	0.669	0.866	1.969	0.157	4	4	**04030**
0.1591 - 0.1594	0.472	0.669	0.866	1.969	0.157	4	4	**xxxxx** [1]
0.1598 - 0.1953	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.1957	0.472	0.906	1.102	2.520	0.236	6	4	**04970**
0.1961	0.472	0.906	1.102	2.520	0.236	6	4	**04980**
0.1965	0.472	0.906	1.102	2.520	0.236	6	4	**04990**
0.1969	0.472	0.906	1.102	2.520	0.236	6	4	**05000**
0.1972	0.472	0.906	1.102	2.520	0.236	6	4	**05010**
0.1976	0.472	0.906	1.102	2.520	0.236	6	4	**05020**
0.1980	0.472	0.906	1.102	2.520	0.236	6	4	**05030**
0.1984 - 0.2346	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.2350	0.472	0.906	1.102	2.520	0.236	6	4	**05970**
0.2354	0.472	0.906	1.102	2.520	0.236	6	4	**05980**
0.2358	0.472	0.906	1.102	2.520	0.236	6	4	**05990**
0.2362	0.472	0.906	1.102	2.520	0.236	6	4	**06000**
0.2366	0.472	0.906	1.102	2.520	0.236	6	4	**06010**
0.2370	0.472	0.906	1.102	2.520	0.236	6	4	**06020**
0.2374	0.472	0.906	1.102	2.520	0.236	6	4	**06030**
0.2378 - 0.2382	0.472	0.906	1.102	2.520	0.236	6	4	**xxxxx** [1]
0.2386 - 0.3134	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx** [1]
0.3138	0.630	1.142	1.535	2.953	0.315	8	6	**07970**
0.3142	0.630	1.142	1.535	2.953	0.315	8	6	**07980**

P	●
M	●
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O	

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For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

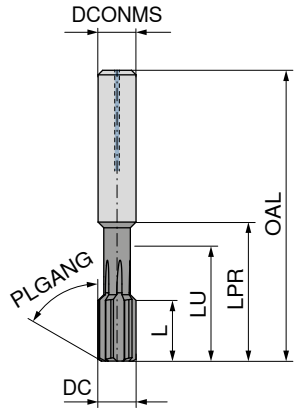
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Reamax – High-performance machine reamers, short

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- tolerance: Ø 6.04 – 20.05 mm = +0.005 mm

Full UNI





DBG-U



51M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 488 ...
0.3146	0.630	1.142	1.535	2.953	0.315	8	6	**07990**
0.3150	0.630	1.142	1.535	2.953	0.315	8	6	**08000**
0.3154	0.630	1.142	1.535	2.953	0.315	8	6	**08010**
0.3157	0.630	1.142	1.535	2.953	0.315	8	6	**08020**
0.3161	0.630	1.142	1.535	2.953	0.315	8	6	**08030**
0.3165 - 0.3169	0.630	1.142	1.535	2.953	0.315	8	6	**xxxxx** [1]
0.3173 - 0.3921	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx** [1]
0.3925	0.630	1.378	1.575	3.150	0.394	10	6	**09970**
0.3929	0.630	1.378	1.575	3.150	0.394	10	6	**09980**
0.3933	0.630	1.378	1.575	3.150	0.394	10	6	**09990**
0.3937	0.630	1.378	1.575	3.150	0.394	10	6	**10000**
0.3941	0.630	1.378	1.575	3.150	0.394	10	6	**10010**
0.3945	0.630	1.378	1.575	3.150	0.394	10	6	**10020**
0.3949	0.630	1.378	1.575	3.150	0.394	10	6	**10030**
0.3953 - 0.3957	0.630	1.378	1.575	3.150	0.394	10	6	**xxxxx** [1]
0.3961 - 0.4709	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx** [1]
0.4713	0.787	1.575	1.772	3.543	0.472	12	6	**11970**
0.4717	0.787	1.575	1.772	3.543	0.472	12	6	**11980**
0.4720	0.787	1.575	1.772	3.543	0.472	12	6	**11990**
0.4724	0.787	1.575	1.772	3.543	0.472	12	6	**12000**
0.4728	0.787	1.575	1.772	3.543	0.472	12	6	**12010**
0.4732	0.787	1.575	1.772	3.543	0.472	12	6	**12020**
0.4736	0.787	1.575	1.772	3.543	0.472	12	6	**12030**
0.4740 - 0.4744	0.787	1.575	1.772	3.543	0.472	12	6	**xxxxx** [1]
0.4748 - 0.5532	0.787	1.575	1.772	3.543	0.551	14	6	**xxxxx** [1]
0.5535 - 0.6283	0.787	1.575	1.772	3.661	0.630	16	6	**xxxxx** [1]
0.6287 - 0.6319	0.787	1.575	1.772	3.661	0.630	16	8	**xxxxx** [1]
0.6323 - 0.7106	0.787	1.850	2.047	3.937	0.709	18	8	**xxxxx** [1]
0.7110 - 0.7894	0.787	1.850	2.047	4.016	0.787	20	8	**xxxxx** [1]

P	●
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N	○
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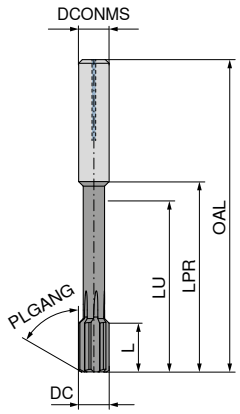
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Reamax – High-performance machine reamers, long

- ▲ extremely irregular pitch
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- ▲ specialized geometries and coatings





Full UNI

DBG-U



52P.57



Left-hand helix
PLGANG 30°
ASG2210
Solid carbide
Through hole

Full VA

DBQ



52S.44



Left-hand helix
PLGANG 30°
ASG2231
Solid carbide
Through hole

Full ALU

DBC-N



52N.17



Straight flute
PLGANG 30°
ASG2270
Solid carbide
Through hole

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	RT 40 484 ...	RT 40 401 ...	RT 40 471 ...
4	12	28	32	60	4	4	**04000**	**04000**	**04000** [1]
5	12	35	40	76	6	4	**05000**	**05000**	**05000** [1]
6	12	35	40	76	6	4	**06000**	**06000**	**06000** [1]
7	16	60	65	101	8	6	**07000**	**07000**	**07000** [1]
8	16	60	65	101	8	6	**08000**	**08000**	**08000** [1]
9	16	63	68	108	10	6	**09000**	**09000**	**09000** [1]
10	16	63	68	108	10	6	**10000**	**10000**	**10000** [1]
11	20	80	85	130	12	6	**11000**	**11000**	**11000** [1]
12	20	80	85	130	12	6	**12000**	**12000**	**12000** [1]
16	20	97	102	150	16	6	**16000**	**16000**	**16000** [1]
P							●	●	
M							●	●	
K							●		
N							○		●
S							○		
H							○		
O									○

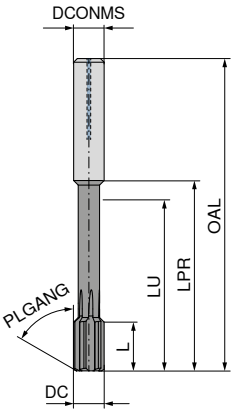
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- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm



Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
2,96 - 3,96	12	28	32	60	4	4	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
2,96 - 3,96	12	28	32	60	4	6			xxxxx 1)		
3,97	12	28	32	60	4	4	03970	03970 1)		03970 1)	03970 1)
3,97	12	28	32	60	4	6			03970 1)		
3,98	12	28	32	60	4	4	03980	03980 1)		03980 1)	03980 1)
3,98	12	28	32	60	4	6			03980 1)		
3,99	12	28	32	60	4	4	03990	03990 1)		03990 1)	03990 1)
3,99	12	28	32	60	4	6			03990 1)		
4,00	12	28	32	60	4	4	04000	04000 1)		04000 1)	04000 1)
4,00	12	28	32	60	4	6			04000 1)		
4,01	12	28	32	60	4	4	04010	04010 1)		04010 1)	04010 1)
4,01	12	28	32	60	4	6			04010 1)		
4,02	12	28	32	60	4	4	04020	04020 1)		04020 1)	04020 1)
4,02	12	28	32	60	4	6			04020 1)		
4,03	12	28	32	60	4	4	04030	04030 1)		04030 1)	04040 1)
4,03	12	28	32	60	4	6			04030 1)		
4,04 - 4,05	12	28	32	60	4	4	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
4,04 - 4,05	12	28	32	60	4	6			xxxxx 1)		
4,06 - 4,96	12	35	40	76	6	4	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
4,06 - 4,96	12	35	40	76	6	6			xxxxx 1)		
4,97	12	35	40	76	6	4	04970	04970 1)		04970 1)	04970 1)
4,97	12	35	40	76	6	6			04970 1)		
4,98	12	35	40	76	6	4	04980	04980 1)		04980 1)	04980 1)
4,98	12	35	40	76	6	6			04980 1)		
P							●	●			
M							●	●			
K							●		●		
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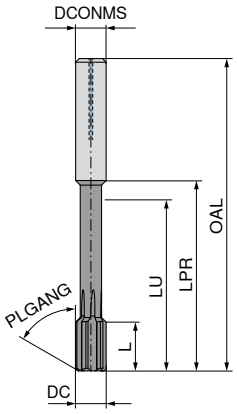
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For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 486 08820)!
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Continued on next page

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
4,99	12	35	40	76	6	4	04990	04990 1)		04990 1)	04990 1)
4,99	12	35	40	76	6	6			04990 1)		
5,00	12	35	40	76	6	4	05000	05000 1)		05000 1)	05000 1)
5,00	12	35	40	76	6	6			05000 1)		
5,01	12	35	40	76	6	4	05010	05010 1)		05010 1)	05010 1)
5,01	12	35	40	76	6	6			05010 1)		
5,02	12	35	40	76	6	4	05020	05020 1)		05020 1)	05020 1)
5,02	12	35	40	76	6	6			05020 1)		
5,03	12	35	40	76	6	4	05030	05030 1)		05030 1)	05030 1)
5,03	12	35	40	76	6	6			05030 1)		
5,04 - 5,96	12	35	40	76	6	4	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
5,04 - 5,96	12	35	40	76	6	6			xxxxx 1)		
5,97	12	35	40	76	6	4	05970	05970 1)		05970 1)	05970 1)
5,97	12	35	40	76	6	6			05970 1)		
5,98	12	35	40	76	6	4	05980	05980 1)		05980 1)	05980 1)
5,98	12	35	40	76	6	6			05980 1)		
5,99	12	35	40	76	6	4	05990	05990 1)		05990 1)	05990 1)
5,99	12	35	40	76	6	6			05990 1)		
6,00	12	35	40	76	6	4	06000	06000 1)		06000 1)	06000 1)
6,00	12	35	40	76	6	6			06000 1)		
6,01	12	35	40	76	6	4	06010	06010 1)		06010 1)	06010 1)
6,01	12	35	40	76	6	6			06010 1)		
6,02	12	35	40	76	6	4	06020	06020 1)		06020 1)	06020 1)
6,02	12	35	40	76	6	6			06020 1)		

P	●	●			
M	●	●			
K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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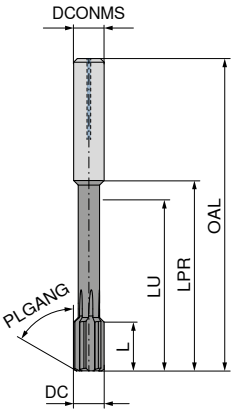
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For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 486 08820)!
All other diameters and tolerance classes (e.g., 8.82 +0.025 or 8.82 N7) as well as other variants (combination of ASG and grade) are available on request.

Continued on next page

Reamax – High-performance machine reamers, long

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometries and coatings
- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm



Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
6,03	12	35	40	76	6	4	06030	06030 [1]		06030 [1]	06030 [1]
6,03	12	35	40	76	6	6			06030 [1]		
6,04 - 6,05	12	35	40	76	6	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
6,04 - 6,05	12	35	40	76	6	6			xxxxx [1]		
6,06 - 7,96	16	60	65	101	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
6,06 - 7,96	16	60	65	101	8	8			xxxxx [1]		
7,97	16	60	65	101	8	6	07970	07970 [1]		07970 [1]	07970 [1]
7,97	16	60	65	101	8	8			07970 [1]		
7,98	16	60	65	101	8	6	07980	07980 [1]		07980 [1]	07980 [1]
7,98	16	60	65	101	8	8			07980 [1]		
7,99	16	60	65	101	8	6	07990	07990 [1]		07990 [1]	07990 [1]
7,99	16	60	65	101	8	8			07990 [1]		
8,00	16	60	65	101	8	6	08000	08000 [1]		08000 [1]	08000 [1]
8,00	16	60	65	101	8	8			08000 [1]		
8,01	16	60	65	101	8	6	08010	08010 [1]		08010 [1]	08010 [1]
8,01	16	60	65	101	8	8			08010 [1]		
8,02	16	60	65	101	8	6	08020	08020 [1]		08020 [1]	08020 [1]
8,02	16	60	65	101	8	8			08020 [1]		
8,03	16	60	65	101	8	6	08030	08030 [1]		08030 [1]	08030 [1]
8,03	16	60	65	101	8	8			08030 [1]		
8,04 - 8,05	16	60	65	101	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
8,04 - 8,05	16	60	65	101	8	8			xxxxx [1]		
8,06 - 9,96	16	63	68	108	10	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
8,06 - 9,96	16	63	68	108	10	8			xxxxx [1]		

P	●	●			
M	●	●			
K	●		●		
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H	○				●
O				○	

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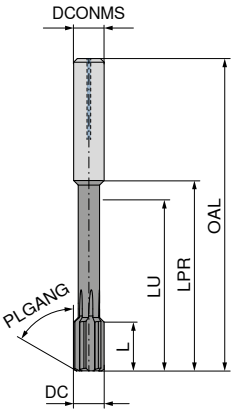
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Continued on next page

Reamax – High-performance machine reamers, long

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
9,97	16	63	68	108	10	6	09970	09970 1)		09970 1)	09970 1)
9,97	16	63	68	108	10	8			09970 1)		
9,98	16	63	68	108	10	6	09980	09980 1)		09980 1)	09980 1)
9,98	16	63	68	108	10	8			09980 1)		
9,99	16	63	68	108	10	6	09990	09990 1)		09990 1)	09990 1)
9,99	16	63	68	108	10	8			09990 1)		
10,00	16	63	68	108	10	6	10000	10000 1)		10000 1)	10000 1)
10,00	16	63	68	108	10	8			10000 1)		
10,01	16	63	68	108	10	6	10010	10010 1)		10010 1)	10010 1)
10,01	16	63	68	108	10	8			10010 1)		
10,02	16	63	68	108	10	6	10020	10020 1)		10020 1)	10020 1)
10,02	16	63	68	108	10	8			10020 1)		
10,03	16	63	68	108	10	6	10030	10030 1)		10030 1)	10030 1)
10,03	16	63	68	108	10	8			10030 1)		
10,04 - 10,05	16	63	68	108	10	6	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
10,04 - 10,05	16	63	68	108	10	8			xxxxx 1)		
10,06 - 11,96	20	80	85	130	12	6	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
10,06 - 11,96	20	80	85	130	12	8			xxxxx 1)		
11,97	20	80	85	130	12	6	11970	11970 1)		11970 1)	11970 1)
11,97	20	80	85	130	12	8			11970 1)		
11,98	20	80	85	130	12	6	11980	11980 1)		11980 1)	11980 1)
11,98	20	80	85	130	12	8			11980 1)		
11,99	20	80	85	130	12	6	11990	11990 1)		11990 1)	11990 1)
11,99	20	80	85	130	12	8			11990 1)		
P							●	●			
M							●	●			
K							●		●		
N							○			●	
S							○				
H							○				●
O										○	

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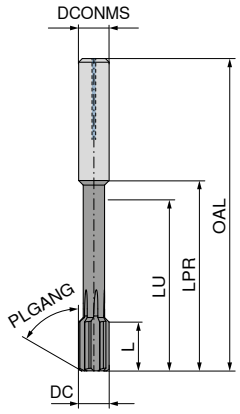
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Continued on next page

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
12,00	20	80	85	130	12	6	**12000**	**12000** [1]		**12000** [1]	**12000** [1]
12,00	20	80	85	130	12	8			**12000** [1]		
12,01	20	80	85	130	12	6	**12010**	**12010** [1]		**12010** [1]	**12010** [1]
12,01	20	80	85	130	12	8			**12010** [1]		
12,02	20	80	85	130	12	6	**12020**	**12020** [1]		**12020** [1]	**12020** [1]
12,02	20	80	85	130	12	8			**12020** [1]		
12,03	20	80	85	130	12	6	**12030**	**12030** [1]		**12030** [1]	**12030** [1]
12,03	20	80	85	130	12	8			**12030** [1]		
12,04 - 12,05	20	80	85	130	12	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
12,04 - 12,05	20	80	85	130	12	8			**xxxxx** [1]		
12,06 - 14,05	20	80	85	130	14	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
12,06 - 14,05	20	80	85	130	14	8			**xxxxx** [1]		
14,06 - 16,05	20	97	102	150	16	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
14,06 - 16,05	20	97	102	150	16	8			**xxxxx** [1]		
16,06 - 18,05	20	97	102	150	18	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
16,06 - 18,05	20	97	102	150	18	8			**xxxxx** [1]		
18,06 - 20,05	20	105	110	160	20	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
18,06 - 20,05	20	105	110	160	20	8			**xxxxx** [1]		
P							●	●			
M							●	●			
K							●		●		
N							○			●	
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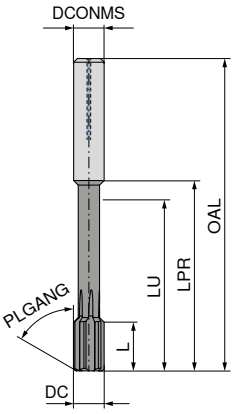
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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
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DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	6			**xxxxx** [1]		
0.1563	0.472	1.102	1.260	2.362	0.157	4	4	**03970**	**03970** [1]		**03970** [1]	**03970** [1]
0.1563	0.472	1.102	1.260	2.362	0.157	4	6			**03970** [1]		
0.1567	0.472	1.102	1.260	2.362	0.157	4	4	**03980**	**03980** [1]		**03980** [1]	**03980** [1]
0.1567	0.472	1.102	1.260	2.362	0.157	4	6			**03980** [1]		
0.1571	0.472	1.102	1.260	2.362	0.157	4	4	**03990**	**03990** [1]		**03990** [1]	**03990** [1]
0.1571	0.472	1.102	1.260	2.362	0.157	4	6			**03990** [1]		
0.1575	0.472	1.102	1.260	2.362	0.157	4	4	**04000**	**04000** [1]		**04000** [1]	**04000** [1]
0.1575	0.472	1.102	1.260	2.362	0.157	4	6			**04000** [1]		
0.1579	0.472	1.102	1.260	2.362	0.157	4	4	**04010**	**04010** [1]		**04010** [1]	**04010** [1]
0.1579	0.472	1.102	1.260	2.362	0.157	4	6			**04010** [1]		
0.1583	0.472	1.102	1.260	2.362	0.157	4	4	**04020**	**04020** [1]		**04020** [1]	**04020** [1]
0.1583	0.472	1.102	1.260	2.362	0.157	4	6			**04020** [1]		
0.1587	0.472	1.102	1.260	2.362	0.157	4	4	**04030**	**04030** [1]		**04030** [1]	**04040** [1]
0.1587	0.472	1.102	1.260	2.362	0.157	4	6			**04030** [1]		
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	6			**xxxxx** [1]		
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx** [1]		
0.1602	0.472	1.378	1.575	2.992	0.236	6	4					**04070** [1]
0.1957	0.472	1.378	1.575	2.992	0.236	6	4	**04970**	**04970** [1]		**04970** [1]	**04970** [1]
0.1957	0.472	1.378	1.575	2.992	0.236	6	6			**04970** [1]		
0.1961	0.472	1.378	1.575	2.992	0.236	6	4	**04980**	**04980** [1]		**04980** [1]	**04980** [1]

P	●	●			
M	●	●			
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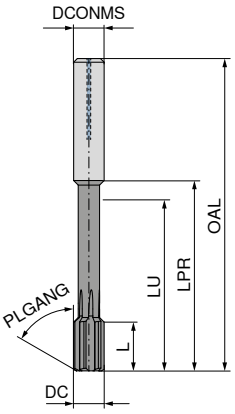
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For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

Continued on next page

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
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DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
0.1961	0.472	1.378	1.575	2.992	0.236	6	6			04980 [1]		
0.1965	0.472	1.378	1.575	2.992	0.236	6	4	04990	04990 [1]		04990 [1]	04990 [1]
0.1965	0.472	1.378	1.575	2.992	0.236	6	6			04990 [1]		
0.1969	0.472	1.378	1.575	2.992	0.236	6	4	05000	05000 [1]		05000 [1]	05000 [1]
0.1969	0.472	1.378	1.575	2.992	0.236	6	6			05000 [1]		
0.1972	0.472	1.378	1.575	2.992	0.236	6	4	05010	05010 [1]		05010 [1]	05010 [1]
0.1972	0.472	1.378	1.575	2.992	0.236	6	6			05010 [1]		
0.1976	0.472	1.378	1.575	2.992	0.236	6	4	05020	05020 [1]		05020 [1]	05020 [1]
0.1976	0.472	1.378	1.575	2.992	0.236	6	6			05020 [1]		
0.1980	0.472	1.378	1.575	2.992	0.236	6	4	05030	05030 [1]		05030 [1]	05030 [1]
0.1980	0.472	1.378	1.575	2.992	0.236	6	6			05030 [1]		
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	6			xxxxx [1]		
0.2350	0.472	1.378	1.575	2.992	0.236	6	4	05970	05970 [1]		05970 [1]	05970 [1]
0.2350	0.472	1.378	1.575	2.992	0.236	6	6			05970 [1]		
0.2354	0.472	1.378	1.575	2.992	0.236	6	4	05980	05980 [1]		05980 [1]	05980 [1]
0.2354	0.472	1.378	1.575	2.992	0.236	6	6			05980 [1]		
0.2358	0.472	1.378	1.575	2.992	0.236	6	4	05990	05990 [1]		05990 [1]	05990 [1]
0.2358	0.472	1.378	1.575	2.992	0.236	6	6			05990 [1]		
0.2362	0.472	1.378	1.575	2.992	0.236	6	4	06000	06000 [1]		06000 [1]	06000 [1]
0.2362	0.472	1.378	1.575	2.992	0.236	6	6			06000 [1]		
0.2366	0.472	1.378	1.575	2.992	0.236	6	4	06010	06010 [1]		06010 [1]	06010 [1]
0.2366	0.472	1.378	1.575	2.992	0.236	6	6			06010 [1]		
0.2370	0.472	1.378	1.575	2.992	0.236	6	4	06020	06020 [1]		06020 [1]	06020 [1]

P	●	●			
M	●	●			
K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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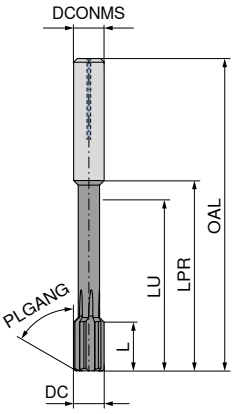
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- ▲ specialized geometries and coatings
- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm



Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
0.2370	0.472	1.378	1.575	2.992	0.236	6	6			06020 [1]		
0.2374	0.472	1.378	1.575	2.992	0.236	6	4	06030	06030 [1]		06030 [1]	06030 [1]
0.2374	0.472	1.378	1.575	2.992	0.236	6	6			06030 [1]		
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	6			xxxxx [1]		
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	8			xxxxx [1]		
0.3138	0.630	2.362	2.559	3.976	0.315	8	6	07970	07970 [1]		07970 [1]	07970 [1]
0.3138	0.630	2.362	2.559	3.976	0.315	8	8			07970 [1]		
0.3142	0.630	2.362	2.559	3.976	0.315	8	6	07980	07980 [1]		07980 [1]	07980 [1]
0.3142	0.630	2.362	2.559	3.976	0.315	8	8			07980 [1]		
0.3146	0.630	2.362	2.559	3.976	0.315	8	6	07990	07990 [1]		07990 [1]	07990 [1]
0.3146	0.630	2.362	2.559	3.976	0.315	8	8			07990 [1]		
0.3150	0.630	2.362	2.559	3.976	0.315	8	6	08000	08000 [1]		08000 [1]	08000 [1]
0.3150	0.630	2.362	2.559	3.976	0.315	8	8			08000 [1]		
0.3154	0.630	2.362	2.559	3.976	0.315	8	6	08010	08010 [1]		08010 [1]	08010 [1]
0.3154	0.630	2.362	2.559	3.976	0.315	8	8			08010 [1]		
0.3157	0.630	2.362	2.559	3.976	0.315	8	6	08020	08020 [1]		08020 [1]	08020 [1]
0.3157	0.630	2.362	2.559	3.976	0.315	8	8			08020 [1]		
0.3161	0.630	2.362	2.559	3.976	0.315	8	6	08030	08030 [1]		08030 [1]	08030 [1]
0.3161	0.630	2.362	2.559	3.976	0.315	8	8			08030 [1]		
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	8			xxxxx [1]		
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]

P								●	●			
M								●	●			
K								●		●		
N								○			●	
S								○				
H								○				●
O											○	

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→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.
→ You can find further information on the cutting geometries (ASG) here.

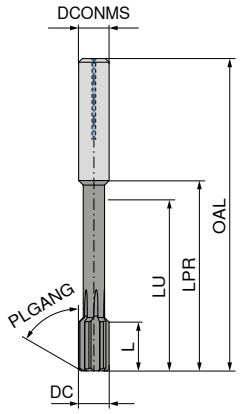
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

Continued on next page

Reamax – High-performance machine reamers, long

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	8			**xxxxx** [1]		
0.3925	0.630	2.480	2.677	4.252	0.394	10	6	**09970**	**09970** [1]		**09970** [1]	**09970** [1]
0.3925	0.630	2.480	2.677	4.252	0.394	10	8			**09970** [1]		
0.3929	0.630	2.480	2.677	4.252	0.394	10	6	**09980**	**09980** [1]		**09980** [1]	**09980** [1]
0.3929	0.630	2.480	2.677	4.252	0.394	10	8			**09980** [1]		
0.3933	0.630	2.480	2.677	4.252	0.394	10	6	**09990**	**09990** [1]		**09990** [1]	**09990** [1]
0.3933	0.630	2.480	2.677	4.252	0.394	10	8			**09990** [1]		
0.3937	0.630	2.480	2.677	4.252	0.394	10	6	**10000**	**10000** [1]		**10000** [1]	**10000** [1]
0.3937	0.630	2.480	2.677	4.252	0.394	10	8			**10000** [1]		
0.3941	0.630	2.480	2.677	4.252	0.394	10	6	**10010**	**10010** [1]		**10010** [1]	**10010** [1]
0.3941	0.630	2.480	2.677	4.252	0.394	10	8			**10010** [1]		
0.3945	0.630	2.480	2.677	4.252	0.394	10	6	**10020**	**10020** [1]		**10020** [1]	**10020** [1]
0.3945	0.630	2.480	2.677	4.252	0.394	10	8			**10020** [1]		
0.3949	0.630	2.480	2.677	4.252	0.394	10	6	**10030**	**10030** [1]		**10030** [1]	**10030** [1]
0.3949	0.630	2.480	2.677	4.252	0.394	10	8			**10030** [1]		
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	8			**xxxxx** [1]		
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	8			**xxxxx** [1]		
0.4713	0.787	3.150	3.346	5.118	0.472	12	6	**11970**	**11970** [1]		**11970** [1]	**11970** [1]
0.4713	0.787	3.150	3.346	5.118	0.472	12	8			**11970** [1]		
0.4717	0.787	3.150	3.346	5.118	0.472	12	6	**11980**	**11980** [1]		**11980** [1]	**11980** [1]
0.4717	0.787	3.150	3.346	5.118	0.472	12	8			**11980** [1]		
0.4720	0.787	3.150	3.346	5.118	0.472	12	6	**11990**	**11990** [1]		**11990** [1]	**11990** [1]

P	●	●				
M	●	●				
K	●		●			
N	○			●		
S	○					
H	○					●
O				○		

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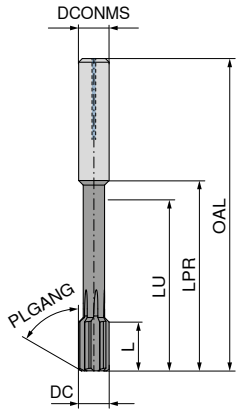
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
				
Left-hand helix PLGANG 30° ASG2210 Solid carbide Through hole	Left-hand helix PLGANG 30° ASG2231 Solid carbide Through hole	Straight flute PLGANG 30° ASG2350 Solid carbide Through hole	Straight flute PLGANG 30° ASG2270 Solid carbide Through hole	Straight flute PLGANG 30° ASG2360 Solid carbide Through hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 486 ...	RT 40 403 ...	RT 40 477 ...	RT 40 473 ...	RT 40 475 ...
0.4720	0.787	3.150	3.346	5.118	0.472	12	8			11990 [1]		
0.4724	0.787	3.150	3.346	5.118	0.472	12	6	12000	12000 [1]		12000 [1]	12000 [1]
0.4724	0.787	3.150	3.346	5.118	0.472	12	8			12000 [1]		
0.4728	0.787	3.150	3.346	5.118	0.472	12	6	12010	12010 [1]		12010 [1]	12010 [1]
0.4728	0.787	3.150	3.346	5.118	0.472	12	8			12010 [1]		
0.4732	0.787	3.150	3.346	5.118	0.472	12	6	12020	12020 [1]		12020 [1]	12020 [1]
0.4732	0.787	3.150	3.346	5.118	0.472	12	8			12020 [1]		
0.4736	0.787	3.150	3.346	5.118	0.472	12	6	12030	12030 [1]		12030 [1]	12030 [1]
0.4736	0.787	3.150	3.346	5.118	0.472	12	8			12030 [1]		
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	8			xxxxx [1]		
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	8			xxxxx [1]		
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	8			xxxxx [1]		
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	8			xxxxx [1]		
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	8			xxxxx [1]		
P								●	●			
M								●	●			
K								●		●		
N								○			●	
S								○				
H								○				●
O											○	

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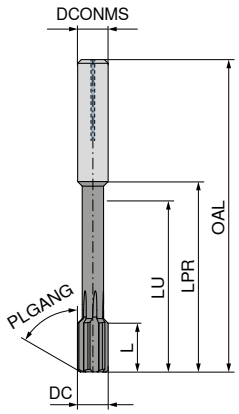
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For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Full UNI

DBG-U



52M.57



Straight flute
PLGANG 60°
ASG2110
Solid carbide
Blind hole

Full VA

DBQ



52T.45



Straight flute
PLGANG 45°
ASG2131
Solid carbide
Blind hole

Full ALU

DBC-N



52Q.17



Straight flute
PLGANG 60°
ASG2170
Solid carbide
Blind hole

DC $_{H7}$ mm	L mm	LU mm	LPR mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	RT 40 485 ...	RT 40 402 ...	RT 40 472 ...
4	12	28	32	60	4	4	**04000**	**04000**	**04000** [1]
5	12	35	40	76	6	4	**05000**	**05000**	**05000** [1]
6	12	35	40	76	6	4	**06000**	**06000**	**06000** [1]
7	16	60	65	101	8	6	**07000**	**07000**	**07000** [1]
8	16	60	65	101	8	6	**08000**	**08000**	**08000** [2]
9	16	63	68	108	10	6	**09000**	**09000**	**09000** [1]
10	16	63	68	108	10	6	**10000**	**10000**	**10000** [1]
11	20	80	85	130	12	6	**11000**	**11000**	**11000** [1]
12	20	80	85	130	12	6	**12000**	**12000**	**12000** [1]
16	20	97	102	150	16	6	**16000**	**16000**	**16000** [1]
P							●	●	
M							●	●	
K							●		
N							○		●
S							○		
H							○		
O									○

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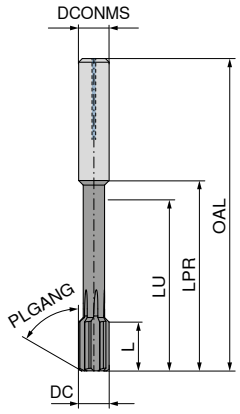


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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
2,96 - 3,96	12	28	32	60	4	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
2,96 - 3,96	12	28	32	60	4	6			xxxxx [1]		
3,97	12	28	32	60	4	4	03970	03970 [1]		03970 [1]	03970 [1]
3,97	12	28	32	60	4	6			03970 [1]		
3,98	12	28	32	60	4	4	03980	03980 [1]		03980 [1]	03980 [1]
3,98	12	28	32	60	4	6			03980 [1]		
3,99	12	28	32	60	4	4	03990	03990 [1]		03990 [1]	03990 [1]
3,99	12	28	32	60	4	6			03990 [1]		
4,00	12	28	32	60	4	4	04000	04000 [1]		04000 [1]	04000 [1]
4,00	12	28	32	60	4	6			04000 [1]		
4,01	12	28	32	60	4	4	04010	04010 [1]		04010 [1]	04010 [1]
4,01	12	28	32	60	4	6			04010 [1]		
4,02	12	28	32	60	4	4	04020	04020 [1]		04020 [1]	04020 [1]
4,02	12	28	32	60	4	6			04020 [1]		
4,03	12	28	32	60	4	4	04030	04030 [1]		04030 [1]	04030 [1]
4,03	12	28	32	60	4	6			04030 [1]		
4,04 - 4,05	12	28	32	60	4	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
4,04 - 4,05	12	28	32	60	4	6			xxxxx [1]		
4,06 - 4,96	12	35	40	76	6	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
4,06 - 4,96	12	35	40	76	6	6			xxxxx [1]		
4,97	12	35	40	76	6	4	04970	04970 [1]		04970 [1]	04970 [1]
4,97	12	35	40	76	6	6			04970 [1]		
4,98	12	35	40	76	6	4	04980	04980 [1]		04980 [1]	04980 [1]
4,98	12	35	40	76	6	6			04980 [1]		

P	●	●			
M	●	●			
K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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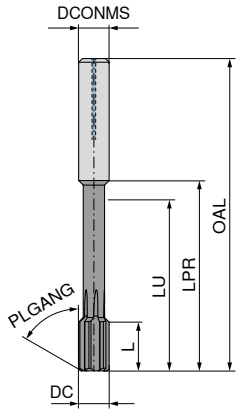
For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 487 08820)!
All other diameters and tolerance classes (e.g., Ø 8.82 + 0.025 or 8.82 N7) as well as other variants (combination of ASG and grade) are available on request.

Continued on next page

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
4,99	12	35	40	76	6	4	04990	04990 1)		04990 1)	04990 1)
4,99	12	35	40	76	6	6			04990 1)		
5,00	12	35	40	76	6	4	05000	05000 1)		05000 1)	05000 1)
5,00	12	35	40	76	6	6			05000 1)		
5,01	12	35	40	76	6	4	05010	05010 1)		05010 1)	05010 1)
5,01	12	35	40	76	6	6			05010 1)		
5,02	12	35	40	76	6	4	05020	05020 1)		05020 1)	05020 1)
5,02	12	35	40	76	6	6			05020 1)		
5,03	12	35	40	76	6	4	05030	05030 1)		05030 1)	05030 1)
5,03	12	35	40	76	6	6			05030 1)		
5,04 - 5,96	12	35	40	76	6	4	xxxxx 1)	xxxxx 1)		xxxxx 1)	xxxxx 1)
5,04 - 5,96	12	35	40	76	6	6			xxxxx 1)		
5,97	12	35	40	76	6	4	05970	05970 1)		05970 1)	05970 1)
5,97	12	35	40	76	6	6			05970 1)		
5,98	12	35	40	76	6	4	05980	05980 1)		05980 1)	05980 1)
5,98	12	35	40	76	6	6			05980 1)		
5,99	12	35	40	76	6	4	05990	05990 1)		05990 1)	05990 1)
5,99	12	35	40	76	6	6			05990 1)		
6,00	12	35	40	76	6	4	06000	06000 1)		06000 1)	06000 1)
6,00	12	35	40	76	6	6			06000 1)		
6,01	12	35	40	76	6	4	06010	06010 1)		06010 1)	06010 1)
6,01	12	35	40	76	6	6			06010 1)		
6,02	12	35	40	76	6	4	06020	06020 1)		06020 1)	06020 1)
6,02	12	35	40	76	6	6			06020 1)		

P	●	●			
M	●	●			
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S	○				
H	○				●
O				○	

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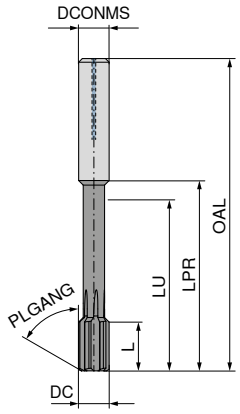
For xxxxx please indicate requested Ø in the order (e.g., Ø 8.82 mm → article no. 40 487 08820)!
All other diameters and tolerance classes (e.g., Ø 8.82 + 0.025 or 8.82 N7) as well as other variants (combination of ASG and grade) are available on request.

Continued on next page

Reamax – High-performance machine reamers, long

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometries and coatings
- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm





Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
6,03	12	35	40	76	6	4	06030	06030 [1]		06030 [1]	06030 [1]
6,03	12	35	40	76	6	6			06030 [1]		
6,04 - 6,05	12	35	40	76	6	4	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
6,04 - 6,05	12	35	40	76	6	6			xxxxx [1]		
6,06 - 7,96	16	60	65	101	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
6,06 - 7,96	16	60	65	101	8	8			xxxxx [1]		
7,97	16	60	65	101	8	6	07970	07970 [1]		07970 [1]	07970 [1]
7,97	16	60	65	101	8	8			07970 [1]		
7,98	16	60	65	101	8	6	07980	07980 [1]		07980 [1]	07980 [1]
7,98	16	60	65	101	8	8			07980 [1]		
7,99	16	60	65	101	8	6	07990	07990 [1]		07990 [1]	07990 [1]
7,99	16	60	65	101	8	8			07990 [1]		
8,00	16	60	65	101	8	6	08000	08000 [1]		08000 [1]	08000 [1]
8,00	16	60	65	101	8	8			08000 [1]		
8,01	16	60	65	101	8	6	08010	08010 [1]		08010 [1]	08010 [1]
8,01	16	60	65	101	8	8			08010 [1]		
8,02	16	60	65	101	8	6	08020	08020 [1]		08020 [1]	08020 [1]
8,02	16	60	65	101	8	8			08020 [1]		
8,03	16	60	65	101	8	6	08030	08030 [1]		08030 [1]	08030 [1]
8,03	16	60	65	101	8	8			08030 [1]		
8,04 - 8,05	16	60	65	101	8	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
8,04 - 8,05	16	60	65	101	8	8			xxxxx [1]		
8,06 - 9,96	16	63	68	108	10	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
8,06 - 9,96	16	63	68	108	10	8			xxxxx [1]		

P	●	●			
M	●	●			
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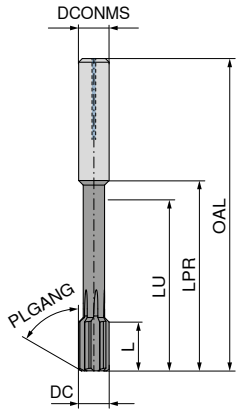
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Continued on next page

Reamax – High-performance machine reamers, long

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- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm





Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
9,97	16	63	68	108	10	6	09970	09970 [1]		09970 [1]	09970 [1]
9,97	16	63	68	108	10	8			09970 [1]		
9,98	16	63	68	108	10	6	09980	09980 [1]		09980 [1]	09980 [1]
9,98	16	63	68	108	10	8			09980 [1]		
9,99	16	63	68	108	10	6	09990	09990 [1]		09990 [1]	09990 [1]
9,99	16	63	68	108	10	8			09990 [1]		
10,00	16	63	68	108	10	6	10000	10000 [1]		10000 [1]	10000 [1]
10,00	16	63	68	108	10	8			10000 [1]		
10,01	16	63	68	108	10	6	10010	10010 [1]		10010 [1]	10010 [1]
10,01	16	63	68	108	10	8			10010 [1]		
10,02	16	63	68	108	10	6	10020	10020 [1]		10020 [1]	10020 [1]
10,02	16	63	68	108	10	8			10020 [1]		
10,03	16	63	68	108	10	6	10030	10030 [1]		10030 [1]	10030 [1]
10,03	16	63	68	108	10	8			10030 [1]		
10,04 - 10,05	16	63	68	108	10	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
10,04 - 10,05	16	63	68	108	10	8			xxxxx [1]		
10,06 - 11,96	20	80	85	130	12	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
10,06 - 11,96	20	80	85	130	12	8			xxxxx [1]		
11,97	20	80	85	130	12	6	11970	11970 [1]		11970 [1]	11970 [1]
11,97	20	80	85	130	12	8			11970 [1]		
11,98	20	80	85	130	12	6	11980	11980 [1]		11980 [1]	11980 [1]
11,98	20	80	85	130	12	8			11980 [1]		
11,99	20	80	85	130	12	6	11990	11990 [1]		11990 [1]	11990 [1]
11,99	20	80	85	130	12	8			11990 [1]		

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H	○				●
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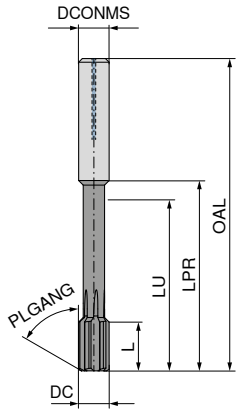
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Continued on next page

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 mm	L mm	LU mm	LPR mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
12,00	20	80	85	130	12	6	12000	12000 [1]		12000 [1]	12000 [1]
12,00	20	80	85	130	12	8			12000 [1]		
12,01	20	80	85	130	12	6	12010	12010 [1]		12010 [1]	12010 [1]
12,01	20	80	85	130	12	8			12010 [1]		
12,02	20	80	85	130	12	6	12020	12020 [1]		12020 [1]	12020 [1]
12,02	20	80	85	130	12	8			12020 [1]		
12,03	20	80	85	130	12	6	12030	12030 [1]		12030 [1]	12030 [1]
12,03	20	80	85	130	12	8			12030 [1]		
12,04 - 12,05	20	80	85	130	12	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
12,04 - 12,05	20	80	85	130	12	8			xxxxx [1]		
12,06 - 14,05	20	80	85	130	14	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
12,06 - 14,05	20	80	85	130	14	8			xxxxx [1]		
14,06 - 16,05	20	97	102	150	16	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
14,06 - 16,05	20	97	102	150	16	8			xxxxx [1]		
16,06 - 18,05	20	97	102	150	18	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
16,06 - 18,05	20	97	102	150	18	8			xxxxx [1]		
18,06 - 20,05	20	105	110	160	20	6	xxxxx [1]	xxxxx [1]		xxxxx [1]	xxxxx [1]
18,06 - 20,05	20	105	110	160	20	8			xxxxx [1]		

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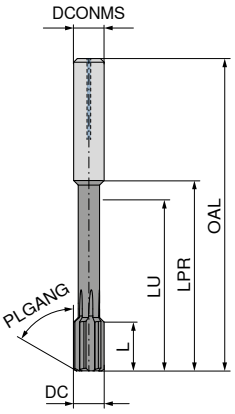
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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1165 - 0.1559	0.472	1.102	1.260	2.362	0.157	4	6			**xxxxx** [1]		
0.1563	0.472	1.102	1.260	2.362	0.157	4	4	**03970**	**03970** [1]		**03970** [1]	**03970** [1]
0.1563	0.472	1.102	1.260	2.362	0.157	4	6			**03970** [1]		
0.1567	0.472	1.102	1.260	2.362	0.157	4	4	**03980**	**03980** [1]		**03980** [1]	**03980** [1]
0.1567	0.472	1.102	1.260	2.362	0.157	4	6			**03980** [1]		
0.1571	0.472	1.102	1.260	2.362	0.157	4	4	**03990**	**03990** [1]		**03990** [1]	**03990** [1]
0.1571	0.472	1.102	1.260	2.362	0.157	4	6			**03990** [1]		
0.1575	0.472	1.102	1.260	2.362	0.157	4	4	**04000**	**04000** [1]		**04000** [1]	**04000** [1]
0.1575	0.472	1.102	1.260	2.362	0.157	4	6			**04000** [1]		
0.1579	0.472	1.102	1.260	2.362	0.157	4	4	**04010**	**04010** [1]		**04010** [1]	**04010** [1]
0.1579	0.472	1.102	1.260	2.362	0.157	4	6			**04010** [1]		
0.1583	0.472	1.102	1.260	2.362	0.157	4	4	**04020**	**04020** [1]		**04020** [1]	**04020** [1]
0.1583	0.472	1.102	1.260	2.362	0.157	4	6			**04020** [1]		
0.1587	0.472	1.102	1.260	2.362	0.157	4	4	**04030**	**04030** [1]		**04030** [1]	**04030** [1]
0.1587	0.472	1.102	1.260	2.362	0.157	4	6			**04030** [1]		
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1591 - 0.1594	0.472	1.102	1.260	2.362	0.157	4	6			**xxxxx** [1]		
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1598 - 0.1953	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx** [1]		
0.1957	0.472	1.378	1.575	2.992	0.236	6	4	**04970**	**04970** [1]		**04970** [1]	**04970** [1]
0.1957	0.472	1.378	1.575	2.992	0.236	6	6			**04970** [1]		
0.1961	0.472	1.378	1.575	2.992	0.236	6	4	**04980**	**04980** [1]		**04980** [1]	**04980** [1]
0.1961	0.472	1.378	1.575	2.992	0.236	6	6			**04980** [1]		

P	●	●			
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K	●		●		
N	○			●	
S	○				
H	○				●
O				○	

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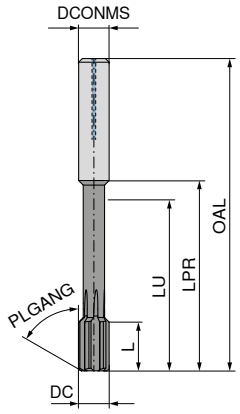
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
0.1965	0.472	1.378	1.575	2.992	0.236	6	4	**04990**	**04990** [1]		**04990** [1]	**04990** [1]
0.1965	0.472	1.378	1.575	2.992	0.236	6	6			**04990** [1]		
0.1969	0.472	1.378	1.575	2.992	0.236	6	4	**05000**	**05000** [1]		**05000** [1]	**05000** [1]
0.1969	0.472	1.378	1.575	2.992	0.236	6	6			**05000** [1]		
0.1972	0.472	1.378	1.575	2.992	0.236	6	4	**05010**	**05010** [1]		**05010** [1]	**05010** [1]
0.1972	0.472	1.378	1.575	2.992	0.236	6	6			**05010** [1]		
0.1976	0.472	1.378	1.575	2.992	0.236	6	4	**05020**	**05020** [1]		**05020** [1]	**05020** [1]
0.1976	0.472	1.378	1.575	2.992	0.236	6	6			**05020** [1]		
0.1980	0.472	1.378	1.575	2.992	0.236	6	4	**05030**	**05030** [1]		**05030** [1]	**05030** [1]
0.1980	0.472	1.378	1.575	2.992	0.236	6	6			**05030** [1]		
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.1984 - 0.2346	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx** [1]		
0.2350	0.472	1.378	1.575	2.992	0.236	6	4	**05970**	**05970** [1]		**05970** [1]	**05970** [1]
0.2350	0.472	1.378	1.575	2.992	0.236	6	6			**05970** [1]		
0.2354	0.472	1.378	1.575	2.992	0.236	6	4	**05980**	**05980** [1]		**05980** [1]	**05980** [1]
0.2354	0.472	1.378	1.575	2.992	0.236	6	6			**05980** [1]		
0.2358	0.472	1.378	1.575	2.992	0.236	6	4	**05990**	**05990** [1]		**05990** [1]	**05990** [1]
0.2358	0.472	1.378	1.575	2.992	0.236	6	6			**05990** [1]		
0.2362	0.472	1.378	1.575	2.992	0.236	6	4	**06000**	**06000** [1]		**06000** [1]	**06000** [1]
0.2362	0.472	1.378	1.575	2.992	0.236	6	6			**06000** [1]		
0.2366	0.472	1.378	1.575	2.992	0.236	6	4	**06010**	**06010** [1]		**06010** [1]	**06010** [1]
0.2366	0.472	1.378	1.575	2.992	0.236	6	6			**06010** [1]		
0.2370	0.472	1.378	1.575	2.992	0.236	6	4	**06020**	**06020** [1]		**06020** [1]	**06020** [1]
0.2370	0.472	1.378	1.575	2.992	0.236	6	6			**06020** [1]		

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→ Find the cutting data standard values here.
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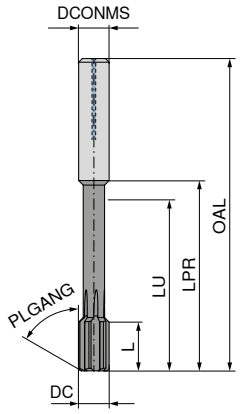
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Reamax – High-performance machine reamers, long

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialized geometries and coatings
- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm





Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
0.2374	0.472	1.378	1.575	2.992	0.236	6	4	**06030**	**06030** [1]		**06030** [1]	**06030** [1]
0.2374	0.472	1.378	1.575	2.992	0.236	6	6			**06030** [1]		
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	4	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.2378 - 0.2382	0.472	1.378	1.575	2.992	0.236	6	6			**xxxxx** [1]		
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.2386 - 0.3134	0.630	2.362	2.559	3.976	0.315	8	8			**xxxxx** [1]		
0.3138	0.630	2.362	2.559	3.976	0.315	8	6	**07970**	**07970** [1]		**07970** [1]	**07970** [1]
0.3138	0.630	2.362	2.559	3.976	0.315	8	8			**07970** [1]		
0.3142	0.630	2.362	2.559	3.976	0.315	8	6	**07980**	**07980** [1]		**07980** [1]	**07980** [1]
0.3142	0.630	2.362	2.559	3.976	0.315	8	8			**07980** [1]		
0.3146	0.630	2.362	2.559	3.976	0.315	8	6	**07990**	**07990** [1]		**07990** [1]	**07990** [1]
0.3146	0.630	2.362	2.559	3.976	0.315	8	8			**07990** [1]		
0.3150	0.630	2.362	2.559	3.976	0.315	8	6	**08000**	**08000** [1]		**08000** [1]	**08000** [1]
0.3150	0.630	2.362	2.559	3.976	0.315	8	8			**08000** [1]		
0.3154	0.630	2.362	2.559	3.976	0.315	8	6	**08010**	**08010** [1]		**08010** [1]	**08010** [1]
0.3154	0.630	2.362	2.559	3.976	0.315	8	8			**08010** [1]		
0.3157	0.630	2.362	2.559	3.976	0.315	8	6	**08020**	**08020** [1]		**08020** [1]	**08020** [1]
0.3157	0.630	2.362	2.559	3.976	0.315	8	8			**08020** [1]		
0.3161	0.630	2.362	2.559	3.976	0.315	8	6	**08030**	**08030** [1]		**08030** [1]	**08030** [1]
0.3161	0.630	2.362	2.559	3.976	0.315	8	8			**08030** [1]		
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3165 - 0.3169	0.630	2.362	2.559	3.976	0.315	8	8			**xxxxx** [1]		
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3173 - 0.3921	0.630	2.480	2.677	4.252	0.394	10	8			**xxxxx** [1]		
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→ You can find further information on the cutting geometries (ASG) here.

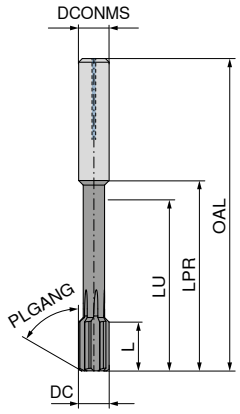
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Reamax – High-performance machine reamers, long

- ▲ extremely irregular pitch
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- ▲ tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- ▲ tolerance: Ø 5.97 – 20.05 mm = +0.005 mm





Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
0.3925	0.630	2.480	2.677	4.252	0.394	10	6	**09970**	**09970** [1]		**09970** [1]	**09970** [1]
0.3925	0.630	2.480	2.677	4.252	0.394	10	8			**09970** [1]		
0.3929	0.630	2.480	2.677	4.252	0.394	10	6	**09980**	**09980** [1]		**09980** [1]	**09980** [1]
0.3929	0.630	2.480	2.677	4.252	0.394	10	8			**09980** [1]		
0.3933	0.630	2.480	2.677	4.252	0.394	10	6	**09990**	**09990** [1]		**09990** [1]	**09990** [1]
0.3933	0.630	2.480	2.677	4.252	0.394	10	8			**09990** [1]		
0.3937	0.630	2.480	2.677	4.252	0.394	10	6	**10000**	**10000** [1]		**10000** [1]	**10000** [1]
0.3937	0.630	2.480	2.677	4.252	0.394	10	8			**10000** [1]		
0.3941	0.630	2.480	2.677	4.252	0.394	10	6	**10010**	**10010** [1]		**10010** [1]	**10010** [1]
0.3941	0.630	2.480	2.677	4.252	0.394	10	8			**10010** [1]		
0.3945	0.630	2.480	2.677	4.252	0.394	10	6	**10020**	**10020** [1]		**10020** [1]	**10020** [1]
0.3945	0.630	2.480	2.677	4.252	0.394	10	8			**10020** [1]		
0.3949	0.630	2.480	2.677	4.252	0.394	10	6	**10030**	**10030** [1]		**10030** [1]	**10030** [1]
0.3949	0.630	2.480	2.677	4.252	0.394	10	8			**10030** [1]		
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3953 - 0.3957	0.630	2.480	2.677	4.252	0.394	10	8			**xxxxx** [1]		
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.3961 - 0.4709	0.787	3.150	3.346	5.118	0.472	12	8			**xxxxx** [1]		
0.4713	0.787	3.150	3.346	5.118	0.472	12	6	**11970**	**11970** [1]		**11970** [1]	**11970** [1]
0.4713	0.787	3.150	3.346	5.118	0.472	12	8			**11970** [1]		
0.4717	0.787	3.150	3.346	5.118	0.472	12	6	**11980**	**11980** [1]		**11980** [1]	**11980** [1]
0.4717	0.787	3.150	3.346	5.118	0.472	12	8			**11980** [1]		
0.4720	0.787	3.150	3.346	5.118	0.472	12	6	**11990**	**11990** [1]		**11990** [1]	**11990** [1]
0.4720	0.787	3.150	3.346	5.118	0.472	12	8			**11990** [1]		

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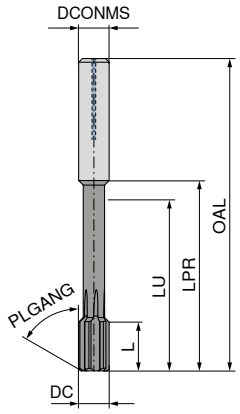
For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

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Reamax – High-performance machine reamers, long

- extremely irregular pitch
- designed for high-speed machining
- specialized geometries and coatings
- tolerance: Ø 2.96 – 5.96 mm = +0.004 mm
- tolerance: Ø 5.97 – 20.05 mm = +0.005 mm





Full UNI	Full VA	Full K	Full ALU	Full H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
				
Straight flute PLGANG 60° ASG2110 Solid carbide Blind hole	Straight flute PLGANG 45° ASG2131 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2350 Solid carbide Blind hole	Straight flute PLGANG 60° ASG2170 Solid carbide Blind hole	Straight flute PLGANG 30° ASG2360 Solid carbide Blind hole

DC +0,004/+0,005 inch	L inch	LU inch	LPR inch	OAL inch	DCONMS h6 inch	DCONMS mm	ZEFP	RT 40 487 ...	RT 40 404 ...	RT 40 478 ...	RT 40 474 ...	RT 40 476 ...
0.4724	0.787	3.150	3.346	5.118	0.472	12	6	**12000**	**12000** [1]		**12000** [1]	**12000** [1]
0.4724	0.787	3.150	3.346	5.118	0.472	12	8			**12000** [1]		
0.4728	0.787	3.150	3.346	5.118	0.472	12	6	**12010**	**12010** [1]		**12010** [1]	**12010** [1]
0.4728	0.787	3.150	3.346	5.118	0.472	12	8			**12010** [1]		
0.4732	0.787	3.150	3.346	5.118	0.472	12	6	**12020**	**12020** [1]		**12020** [1]	**12020** [1]
0.4732	0.787	3.150	3.346	5.118	0.472	12	8			**12020** [1]		
0.4736	0.787	3.150	3.346	5.118	0.472	12	6	**12030**	**12030** [1]		**12030** [1]	**12030** [1]
0.4736	0.787	3.150	3.346	5.118	0.472	12	8			**12030** [1]		
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.4740 - 0.4744	0.787	3.150	3.346	5.118	0.472	12	8			**xxxxx** [1]		
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.4748 - 0.5532	0.787	3.150	3.346	5.118	0.551	14	8			**xxxxx** [1]		
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.5535 - 0.6319	0.787	3.819	4.016	5.906	0.630	16	8			**xxxxx** [1]		
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.6323 - 0.7106	0.787	3.819	4.016	5.906	0.709	18	8			**xxxxx** [1]		
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	6	**xxxxx** [1]	**xxxxx** [1]		**xxxxx** [1]	**xxxxx** [1]
0.7110 - 0.7894	0.787	4.134	4.331	6.299	0.787	20	8			**xxxxx** [1]		

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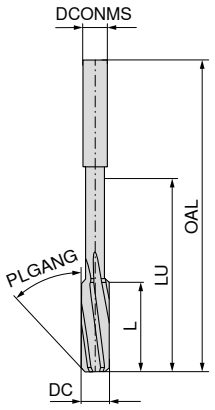
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→ Click here for the tolerances that can be covered with this tool concept.
→ You can find further information on the cutting geometries (ASG) here.

For xxxx please indicate piece part bore diameter and tolerance. (e.g. Ø 0.5000" ±.0005")

CoreLine – NC machine reamers, DIN 8093-2B

- ▲ Extremely irregular pitch
- ▲ Ø 2–3.5 mm with centering tips both ends
- ▲ Ø 4–13 mm with protected centers
- ▲ from Ø 22 mm, similar to DIN 8093-2B
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC



TiAlN





Left-hand helix
Solid carbide
Through hole

uncoated





Left-hand helix
Solid carbide
Through hole

DC H7 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	CX 40 421 ...	CX 40 420 ...
2.0	12	18.5	50	3	4	**020**	**020**
2.5	16	29.0	60	3	4	**025**	**025**
3.0	17	33.0	65	4	6	**030**	**030**
3.2	18	33.0	65	4	6	**032**	**032**
3.5	18	43.0	75	4	6	**035**	**035**
4.0	19	43.0	75	4	6	**040**	**040**
4.5	21	39.0	80	6	6	**045**	**045**
5.0	23	52.0	93	6	6	**050**	**050**
5.5	26	53.0	93	6	6	**055**	**055**
6.0	26	53.0	93	6	6	**060**	**060**
6.5	28	61.0	101	6	6	**065**	**065**
7.0	31	68.0	109	8	6	**070**	**070**
7.5	31	68.0	109	8	6	**075**	**075**
8.0	33	77.0	117	8	6	**080**	**080**
8.5	33	77.0	117	8	6	**085**	**085**
9.0	36	80.0	125	10	6	**090**	**090**
9.5	36	80.0	125	10	6	**095**	**095**
10.0	38	88.0	133	10	6	**100**	**100**
10.5	38	88.0	133	10	6	**105**	**105**
11.0	41	97.0	142	10	6	**110**	**110**
12.0	44	100.0	151	12	6	**120**	**120**
13.0	44	100.0	151	12	6	**130**	**130**
14.0	47	106.0	160	16	6	**140** [1]	**140** [1]
15.0	50	108.0	162	16	6	**150** [1]	**150** [1]
16.0	52	116.0	170	16	6	**160** [1]	**160** [1]
17.0	52	121.0	175	18	6	**170** [1]	**170** [1]
18.0	52	128.0	182	18	6	**180** [1]	**180** [1]
19.0	52	133.0	189	20	6	**190** [1]	**190** [1]
20.0	52	139.0	195	20	6	**200** [1]	**200** [1]
22.0	25	105.0	160	20	6		**220** [1]
24.0	25	125.0	180	20	8		**240** [1]
25.0	25	125.0	180	20	8		**250** [1]
26.0	25	125.0	180	20	8		**260** [1]
28.0	25	119.0	180	25	8		**280** [1]
30.0	25	139.0	200	25	8		**300** [1]

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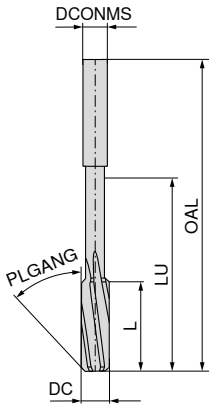
1) With carbide cutting edges

→ Find the cutting data standard values here.

CoreLine – NC machine reamers, DIN 8093-2B

- ▲ 0.01 mm steps
- ▲ Extremely irregular pitch
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°
- ▲ Ø 0.6–0.94 mm similar to DIN 8093-B
- ▲ Ø 0.95–3.75 mm with centering tips both ends
- ▲ Ø 3.76–12.05 mm with protected centers

NC 100



TiAlN





Left-hand helix
Solid carbide
Through hole

uncoated





Left-hand helix
Solid carbide
Through hole

DC +0,004 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 431 ...	RT 40 430 ...
0,59 - 0,64	5	7.5	45	3	4		xxxxx 1)
0,65 - 0,74	5	7.5	45	3	4		xxxxx 1)
0,75 - 0,84	6	8.0	45	3	4		xxxxx 1)
0,85 - 0,95	6	8.0	45	3	4		xxxxx 1)
0,96	6	17.5	50	3	3		00960 1)
0,97	6	17.5	50	3	3		00970 1)
0,98	6	17.5	50	3	3		00980 2)
0,99	6	17.5	50	3	3		00990 2)
1,00	6	17.5	50	3	3	01000 2)	01000 2)
1,01	6	17.5	50	3	3	01010 2)	01010 2)
1,02	6	17.5	50	3	3	01020 2)	01020 2)
1,03	6	17.5	50	3	3	01030 2)	01030 2)
1,04 - 1,06	6	17.5	50	3	3	xxxxx 2)	xxxxx 2)
1,07 - 1,18	9	17.5	50	3	3	xxxxx 2)	xxxxx 2)
1,19 - 1,32	9	17.5	50	3	3	xxxxx 2)	xxxxx 2)
1,33 - 1,50	9	18.0	50	3	3	xxxxx 2)	xxxxx 2)
1,51 - 1,70	10	18.0	50	3	3	xxxxx 2)	xxxxx 2)
1,71 - 1,90	11	18.5	50	3	4	xxxxx 2)	xxxxx 2)
1,91 - 1,97	12	18.5	50	3	4	xxxxx 2)	xxxxx 2)
1,98	12	18.5	50	3	4	01980	01980
1,99	12	18.5	50	3	4	01990	01990
2,00	12	18.5	50	3	4	02000	02000
2,01	12	18.5	50	3	4	02010	02010
2,02	12	18.5	50	3	4	02020	02020
2,03	12	18.5	50	3	4	02030	02030
2,04 - 2,12	12	18.5	50	3	4	xxxxx 2)	xxxxx 2)
2,13 - 2,36	12	18.5	50	3	4	xxxxx 2)	xxxxx 2)
2,37 - 2,47	16	29.0	60	3	4	xxxxx 2)	xxxxx 2)

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N		●
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O		●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 3 units
2) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

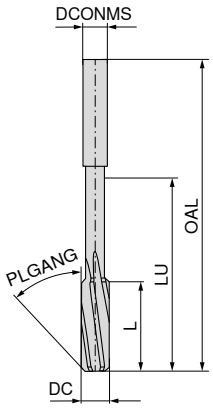
For xxxxx please specify the desired Ø when ordering
(e.g., Ø 8.05 mm → article no. 40 430 08050).

Continued on next page

CoreLine – NC machine reamers, DIN 8093-2B

- ▲ 0.01 mm steps
- ▲ Extremely irregular pitch
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°
- ▲ Ø 0.6–0.94 mm similar to DIN 8093-B
- ▲ Ø 0.95–3.75 mm with centering tips both ends
- ▲ Ø 3.76–12.05 mm with protected centers

NC 100



TiAlN





Left-hand helix
Solid carbide
Through hole

uncoated





Left-hand helix
Solid carbide
Through hole

DC +0,004 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 431 ...	RT 40 430 ...
2,48	16	29.0	60	3	4	02480	02480
2,49	16	29.0	60	3	4	02490	02490
2,50	16	29.0	60	3	4	02500	02500
2,51	16	29.0	60	3	4	02510	02510
2,52	16	29.0	60	3	4	02520	02520
2,53	16	29.0	60	3	4	02530	02530
2,54 - 2,65	16	29.0	60	3	4	xxxxx 2)	xxxxx 2)
2,66 - 2,80	17	33.0	65	4	6	xxxxx 2)	xxxxx 2)
2,81 - 2,96	17	33.0	65	4	6	xxxxx 2)	xxxxx 2)
2,97	17	33.0	65	4	6	02970	02970
2,98	17	33.0	65	4	6	02980	02980
2,99	17	33.0	65	4	6	02990	02990
3,00	17	33.0	65	4	6	03000	03000
3,01	17	33.0	65	4	6	03010	03010
3,02	17	33.0	65	4	6	03020	03020
3,03	17	33.0	65	4	6	03030	03030
3,04 - 3,35	18	33.0	65	4	6	xxxxx 2)	xxxxx 2)
3,36 - 3,75	18	43.0	75	4	6	xxxxx 2)	xxxxx 2)
3,76 - 3,96	19	43.0	75	4	6	xxxxx 2)	xxxxx 2)
3,97	19	43.0	75	4	6	03970	03970
3,98	19	43.0	75	4	6	03980	03980
3,99	19	43.0	75	4	6	03990	03990
4,00	19	43.0	75	4	6	04000	04000
4,01	19	43.0	75	4	6	04010	04010
4,02	19	43.0	75	4	6	04020	04020
4,03	19	43.0	75	4	6	04030	04030
4,04 - 4,25	19	43.0	75	4	6	xxxxx 2)	xxxxx 2)
4,26 - 4,75	21	39.0	80	6	6	xxxxx 2)	xxxxx 2)
P						●	●
M						○	
K						●	○
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H						○	
O							●

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2) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
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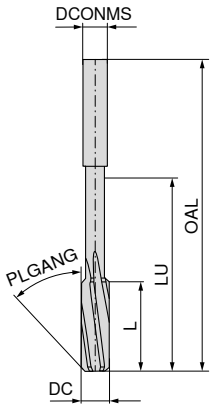
For xxxxx please specify the desired Ø when ordering
(e.g., Ø 8.05 mm → article no. 40 430 08050).

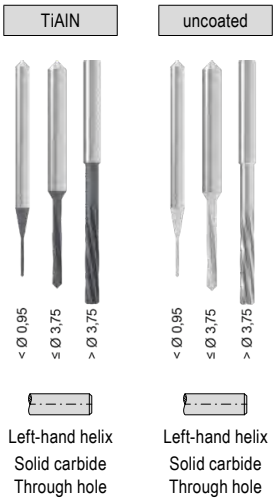
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CoreLine – NC machine reamers, DIN 8093-2B

- ▲ 0.01 mm steps
- ▲ Extremely irregular pitch
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°
- ▲ Ø 0.6–0.94 mm similar to DIN 8093-B
- ▲ Ø 0.95–3.75 mm with centering tips both ends
- ▲ Ø 3.76–12.05 mm with protected centers

NC 100





Left-hand helix
Solid carbide
Through hole

Left-hand helix
Solid carbide
Through hole

DC +0,004 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 431 ...	RT 40 430 ...
4,76 - 4,96	23	52.0	93	6	6	xxxxx 2)	xxxxx 2)
4,97	23	52.0	93	6	6	04970	04970
4,98	23	52.0	93	6	6	04980	04980
4,99	23	52.0	93	6	6	04990	04990
5,00	23	52.0	93	6	6	05000	05000
5,01	23	52.0	93	6	6	05010	05010
5,02	23	52.0	93	6	6	05020	05020
5,03	23	52.0	93	6	6	05030	05030
5,04 - 5,30	23	52.0	93	6	6	xxxxx 2)	xxxxx 2)
5,31 - 5,96	26	53.0	93	6	6	xxxxx 2)	xxxxx 2)
5,97	26	53.0	93	6	6	05970	05970
5,98	26	53.0	93	6	6	05980	05980
5,99	26	53.0	93	6	6	05990	05990
6,00	26	53.0	93	6	6	06000	06000
6,01	26	53.0	93	6	6	06010	06010
6,02	26	53.0	93	6	6	06020	06020
6,03	26	53.0	93	6	6	06030	06030
6,04 - 6,70	28	61.0	101	6	6	xxxxx 2)	xxxxx 2)
6,71 - 7,50	31	68.0	109	8	6	xxxxx 2)	xxxxx 2)
7,51 - 7,96	33	77.0	117	8	6	xxxxx 2)	xxxxx 2)
7,97	33	77.0	117	8	6	07970	07970
7,98	33	77.0	117	8	6	07980	07980
7,99	33	77.0	117	8	6	07990	07990
8,00	33	77.0	117	8	6	08000	08000
8,01	33	77.0	117	8	6	08010	08010
8,02	33	77.0	117	8	6	08020	08020
8,03	33	77.0	117	8	6	08030	08030
8,04	33	77.0	117	8	6	08040	08040

P	●	●
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N		●
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O		●

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2) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

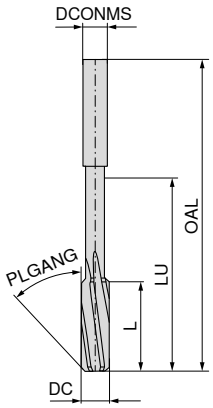
For xxxxx please specify the desired Ø when ordering
(e.g., Ø 8.05 mm → article no. 40 430 08050).

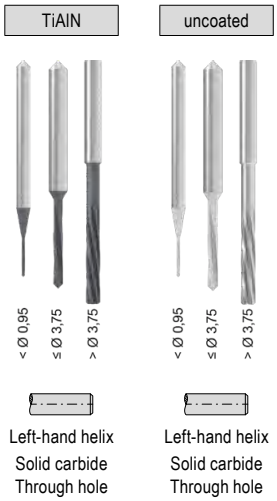
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CoreLine – NC machine reamers, DIN 8093-2B

- ▲ 0.01 mm steps
- ▲ Extremely irregular pitch
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°
- ▲ Ø 0.6–0.94 mm similar to DIN 8093-B
- ▲ Ø 0.95–3.75 mm with centering tips both ends
- ▲ Ø 3.76–12.05 mm with protected centers

NC 100





Left-hand helix
Solid carbide
Through hole

Left-hand helix
Solid carbide
Through hole

DC +0,004 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 431 ...	RT 40 430 ...
8,05 - 8,50	33	77.0	117	8	6	xxxxx 2)	xxxxx 2)
8,51 - 9,04	36	80.0	125	10	6	xxxxx 2)	xxxxx 2)
9,05 - 9,50	36	80.0	125	10	6	xxxxx 2)	xxxxx 2)
9,51 - 9,96	38	88.0	133	10	6	xxxxx 2)	xxxxx 2)
9,97	38	88.0	133	10	6	09970	09970
9,98	38	88.0	133	10	6	09980	09980
9,99	38	88.0	133	10	6	09990	09990
10,00	38	88.0	133	10	6	10000	10000
10,01	38	88.0	133	10	6	10010	10010
10,02	38	88.0	133	10	6	10020	10020
10,03	38	88.0	133	10	6	10030	10030
10,04	38	88.0	133	10	6	10040	10040
10,05	38	88.0	133	10	6	10050	10050
10,06 - 10,60	38	88.0	133	10	6	xxxxx 2)	xxxxx 2)
10,61 - 11,80	41	97.0	142	10	6	xxxxx 2)	xxxxx 2)
11,81 - 11,96	44	100.0	151	12	6	xxxxx 2)	xxxxx 2)
11,97	44	100.0	151	12	6	11970	11970
11,98	44	100.0	151	12	6	11980	11980
11,99	44	100.0	151	12	6	11990	11990
12,00	44	100.0	151	12	6	12000	12000
12,01	44	100.0	151	12	6	12010	12010
12,02	44	100.0	151	12	6	12020	12020
12,03	44	100.0	151	12	6	12030	12030
12,04	44	100.0	151	12	6	12040	12040
12,05	44	100.0	151	12	6	12050	12050

P	●	●
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N		●
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H	○	
O		●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 3 units

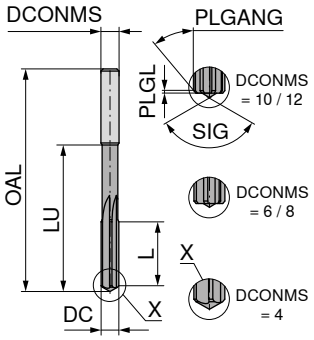
2) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering
(e.g., Ø 8.05 mm → article no. 40 430 08050).

CoreLine – NC machine reamers, sim. DIN 8093-A

NC100
H



TiAlSiN





Straight flute
PLGANG 45°
SIG 120°
Solid carbide
Through hole + blind hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h5}$ mm	PLGL mm	CX 40 435 ...
0.98	6	16	50	4	0.12	**00980**
0.99	6	16	50	4	0.12	**00990**
1.00	6	16	50	4	0.12	**01000**
1.01	6	16	50	4	0.12	**01010**
1.02	6	16	50	4	0.12	**01020**
1.03	6	16	50	4	0.12	**01030**
1.48	9	16	50	4	0.12	**01480**
1.49	9	16	50	4	0.12	**01490**
1.50	9	16	50	4	0.12	**01500**
1.51	9	16	50	4	0.12	**01510**
1.52	9	16	50	4	0.12	**01520**
1.60	10	16	50	4	0.12	**01600**
1.70	10	16	50	4	0.12	**01700**
1.80	11	16	50	4	0.12	**01800**
1.90	11	16	50	4	0.12	**01900**
1.97	12	16	50	4	0.30	**01970**
1.98	12	16	50	4	0.30	**01980**
1.99	12	16	50	4	0.30	**01990**
2.00	12	16	50	4	0.30	**02000**
2.01	12	16	50	4	0.30	**02010**
2.02	12	16	50	4	0.30	**02020**
2.03	12	16	50	4	0.30	**02030**
2.05	12	16	50	4	0.30	**02050**
2.10	12	16	50	4	0.30	**02100**
2.20	13	16	50	4	0.30	**02200**
2.30	13	16	50	4	0.30	**02300**
2.40	16	26	60	4	0.30	**02400**
2.50	16	26	60	4	0.30	**02500**
2.60	16	26	60	4	0.30	**02600**
2.70	17	30	64	4	0.30	**02700**
2.80	17	30	64	4	0.30	**02800**
2.90	17	30	64	4	0.30	**02900**
2.97	17	30	64	4	0.30	**02970**

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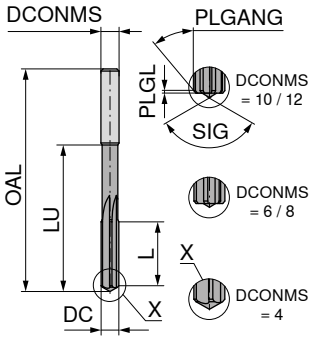
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

Intermediate dimensions available on request.

Continued on next page

CoreLine – NC machine reamers, sim. DIN 8093-A

NC100
H



TiAlSiN





Straight flute
PLGANG 45°
SIG 120°
Solid carbide
Through hole +
blind hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h5}$ mm	PLGL mm	CX 40 435 ...
2.98	17	30	64	4	0.30	**02980**
2.99	17	30	64	4	0.30	**02990**
3.00	17	30	64	4	0.30	**03000**
3.01	17	30	64	4	0.30	**03010**
3.02	17	30	64	4	0.30	**03020**
3.03	17	30	64	4	0.30	**03030**
3.05	18	34	68	4	0.30	**03050**
3.10	18	34	68	4	0.30	**03100**
3.20	18	34	68	4	0.30	**03200**
3.30	18	34	68	4	0.30	**03300**
3.40	20	40	74	4	0.30	**03400**
3.50	20	40	74	4	0.30	**03500**
3.60	20	40	74	4	0.30	**03600**
3.70	20	40	74	4	0.30	**03700**
3.80	21	43	77	4	0.40	**03800**
3.90	21	43	77	4	0.40	**03900**
3.97	21	43	77	4	0.40	**03970**
3.98	21	43	77	4	0.40	**03980**
3.99	21	43	77	4	0.40	**03990**
4.00	21	43	77	4	0.40	**04000**
4.01	21	43	77	4	0.40	**04010**
4.02	21	43	77	4	0.40	**04020**
4.03	21	43	77	4	0.40	**04030**
4.05	21	40	82	6	0.40	**04050**
4.10	21	40	82	6	0.40	**04100**
4.20	21	40	82	6	0.40	**04200**
4.30	23	40	82	6	0.40	**04300**
4.40	23	40	82	6	0.40	**04400**
4.50	23	40	82	6	0.40	**04500**
4.60	23	40	82	6	0.40	**04600**
4.70	23	40	82	6	0.40	**04700**
4.80	26	51	93	6	0.50	**04800**
4.90	26	51	93	6	0.50	**04900**

P	○
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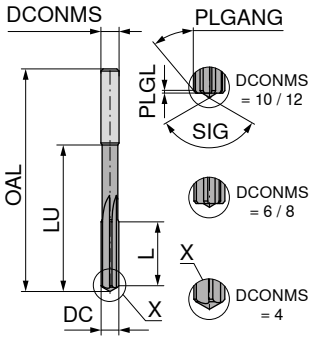
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

Intermediate dimensions available on request.

Continued on next page

CoreLine – NC machine reamers, sim. DIN 8093-A

NC100
H



TiAlSiN





Straight flute
PLGANG 45°
SIG 120°
Solid carbide
Through hole + blind hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h5}$ mm	PLGL mm	CX 40 435 ...
4.97	26	51	93	6	0.50	**04970**
4.98	26	51	93	6	0.50	**04980**
4.99	26	51	93	6	0.50	**04990**
5.00	26	51	93	6	0.50	**05000**
5.01	26	51	93	6	0.50	**05010**
5.02	26	51	93	6	0.50	**05020**
5.03	26	51	93	6	0.50	**05030**
5.05	26	51	93	6	0.50	**05050**
5.10	26	51	93	6	0.50	**05100**
5.20	26	51	93	6	0.50	**05200**
5.30	26	51	93	6	0.50	**05300**
5.40	26	51	93	6	0.50	**05400**
5.50	26	51	93	6	0.50	**05500**
5.60	26	51	93	6	0.50	**05600**
5.70	26	51	93	6	0.50	**05700**
5.80	26	51	93	6	0.50	**05800**
5.90	26	51	93	6	0.50	**05900**
5.97	26	51	93	6	0.50	**05970**
5.98	26	51	93	6	0.50	**05980**
5.99	26	51	93	6	0.50	**05990**
6.00	26	51	93	6	0.50	**06000**
6.01	26	51	93	6	0.50	**06010**
6.02	26	51	93	6	0.50	**06020**
6.03	26	51	93	6	0.50	**06030**
6.05	26	59	101	8	0.50	**06050**
6.10	26	59	101	8	0.50	**06100**
6.20	26	59	101	8	0.50	**06200**
6.30	26	59	101	8	0.50	**06300**
6.40	26	59	101	8	0.50	**06400**
6.50	26	59	101	8	0.50	**06500**
6.60	26	59	101	8	0.50	**06600**
6.70	26	59	101	8	0.50	**06700**
6.80	31	67	109	8	0.60	**06800**

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M	○
K	○
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H	●
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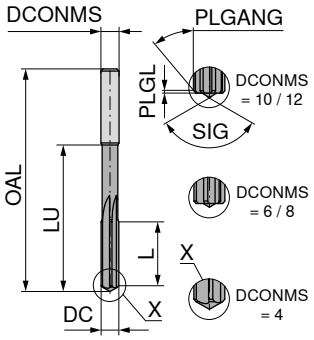
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

Intermediate dimensions available on request.

Continued on next page

CoreLine – NC machine reamers, sim. DIN 8093-A

NC100
H



TiAlSiN





Straight flute
PLGANG 45°
SIG 120°
Solid carbide
Through hole +
blind hole

DC H7	L	LU	OAL	DCONMS h5	PLGL	CX
mm	mm	mm	mm	mm	mm	40 435 ...
6.85	31	67	109	8	0.60	06850
6.90	31	67	109	8	0.60	06900
7.00	31	67	109	8	0.60	07000
7.10	31	67	109	8	0.60	07100
7.20	31	67	109	8	0.60	07200
7.30	31	67	109	8	0.60	07300
7.40	31	67	109	8	0.60	07400
7.50	31	67	109	8	0.60	07500
7.60	31	67	109	8	0.60	07600
7.70	33	75	117	8	0.60	07700
7.80	33	75	117	8	0.60	07800
7.90	33	75	117	8	0.60	07900
7.97	33	75	117	8	0.60	07970
7.98	33	75	117	8	0.60	07980
7.99	33	75	117	8	0.60	07990
8.00	33	75	117	8	0.60	08000
8.01	33	75	117	8	0.70	08010
8.02	33	75	117	8	0.70	08020
8.03	33	75	117	8	0.70	08030
8.05	33	71	117	10	0.70	08050
8.10	33	71	117	10	0.70	08100
8.20	33	71	117	10	0.70	08200
8.30	33	71	117	10	0.70	08300
8.40	33	71	117	10	0.70	08400
8.50	33	71	117	10	0.70	08500
8.60	33	71	117	10	0.70	08600
8.70	36	79	125	10	0.70	08700
8.80	36	79	125	10	0.70	08800
8.90	36	79	125	10	0.70	08900
9.00	36	79	125	10	0.70	09000
9.10	36	79	125	10	0.70	09100
9.20	36	79	125	10	0.70	09200
9.30	36	79	125	10	0.70	09300

P	○
M	○
K	○
N	
S	
H	●
O	

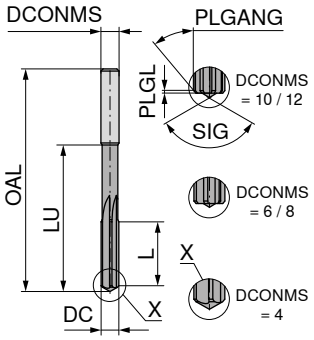
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

Intermediate dimensions available on request.

Continued on next page

CoreLine – NC machine reamers, sim. DIN 8093-A

NC100
H



TiAlSiN





Straight flute
PLGANG 45°
SIG 120°
Solid carbide
Through hole + blind hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h5}$ mm	PLGL mm	CX 40 435 ...
9.40	36	79	125	10	0.70	**09400**
9.50	36	79	125	10	0.70	**09500**
9.60	36	79	125	10	0.70	**09600**
9.70	38	87	133	10	0.70	**09700**
9.80	38	87	133	10	0.70	**09800**
9.90	38	87	133	10	0.70	**09900**
9.97	41	87	133	10	0.70	**09970**
9.98	41	87	133	10	0.70	**09980**
9.99	41	87	133	10	0.70	**09990**
10.00	41	87	133	10	0.70	**10000**
10.01	41	87	133	10	0.70	**10010**
10.02	41	87	133	10	0.80	**10020**
10.03	41	87	133	10	0.80	**10030**
10.04	41	87	133	10	0.80	**10040**
10.05	41	87	133	10	0.80	**10050**
11.17	44	99	150	12	0.80	**11170**
11.97	44	99	150	12	0.80	**11970**
11.98	44	99	150	12	0.80	**11980**
11.99	44	99	150	12	0.80	**11990**
12.00	44	99	150	12	0.80	**12000**
12.01	44	99	150	12	0.80	**12010**
12.02	44	99	150	12	0.80	**12020**
12.03	44	99	150	12	0.80	**12030**
12.04	44	99	150	12	0.80	**12040**
12.05	44	99	150	12	0.80	**12050**

P	○
M	○
K	○
N	
S	
H	●
O	

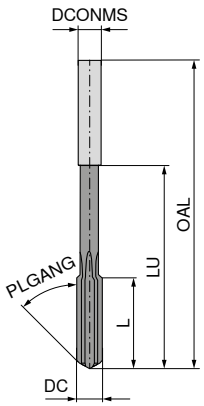
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

Intermediate dimensions available on request.

CoreLine – Machine reamers sim. DIN 8093-A / -B

▲ Extremely irregular pitch

N





Left-hand helix
PLGANG 45°
Solid carbide
Through hole

Straight flute
PLGANG 45°
Solid carbide
Blind hole

DC h7 mm	L mm	LU mm	OAL mm	DCONMS h7 mm	ZEFP	CX 40 415 ...	CX 40 405 ...
2.0	11	31	49	2.0	4	**02000**	**02000**
2.1	11	31	49	2.0	4	**02100**	**02100**
2.2	12	35	53	2.2	4	**02200**	**02200**
2.3	12	35	53	2.2	4	**02300**	**02300**
2.4	14	34	57	2.5	4	**02400**	**02400**
2.5	14	34	57	2.5	4	**02500**	**02500**
2.6	14	34	57	2.5	4	**02600**	**02600**
2.7	15	36	61	3.0	4	**02700**	**02700**
2.8	15	36	61	3.0	4	**02800**	**02800**
2.9	15	36	61	3.0	4	**02900**	**02900**
3.0	15	36	61	3.0	4	**03000**	**03000**
3.1	15	36	61	3.0	4	**03100**	**03100**
3.2	15	36	61	3.0	4	**03200**	**03200**
3.3	18	40	70	3.5	4	**03300**	**03300**
3.4	18	40	70	3.5	4	**03400**	**03400**
3.5	18	40	70	3.5	4	**03500**	**03500**
3.6	18	40	70	3.5	4	**03600**	**03600**
3.7	18	40	70	3.5	4	**03700**	**03700**
3.8	19	43	75	4.0	4	**03800**	**03800**
3.9	19	43	75	4.0	4	**03900**	**03900**
4.0	19	43	75	4.0	4	**04000**	**04000**
4.1	19	43	75	4.0	4	**04100**	**04100**
4.2	19	43	75	4.0	4	**04200**	**04200**
4.3	21	42	75	4.5	4	**04300**	**04300**
4.4	21	42	75	4.5	4	**04400**	**04400**
4.5	21	42	75	4.5	4	**04500**	**04500**
4.6	21	42	75	4.5	4	**04600**	**04600**
4.7	21	42	75	4.5	4	**04700**	**04700**
4.8	23	52	86	5.0	6	**04800**	**04800**
4.9	23	52	86	5.0	6	**04900**	**04900**
5.0	23	52	86	5.0	6	**05000**	**05000**
5.1	23	52	86	5.0	6	**05100**	**05100**
5.2	23	52	86	5.0	6	**05200**	**05200**
5.3	23	52	86	5.0	6	**05300**	**05300**
5.4	26	57	93	5.6	6	**05400**	**05400**
P						●	●
M							
K						○	○
N						●	●
S							
H							
O							

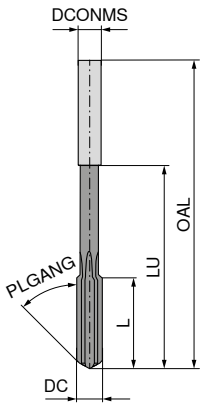
→ Find the cutting data standard values here.

Continued on next page

CoreLine – Machine reamers sim. DIN 8093-A / -B

▲ Extremely irregular pitch

N



uncoated



Left-hand helix
PLGANG 45°
Solid carbide
Through hole

uncoated



Straight flute
PLGANG 45°
Solid carbide
Blind hole

DC h7 mm	L mm	LU mm	OAL mm	DCONMS h7 mm	ZEFP	CX 40 415 ...	CX 40 405 ...
5.5	26	57	93	5.6	6	05500	05500
5.6	26	57	93	5.6	6	05600	05600
5.7	26	57	93	5.6	6	05700	05700
5.8	26	57	93	5.6	6	05800	05800
5.9	26	57	93	5.6	6	05900	05900
6.0	26	57	93	5.6	6	06000	06000
6.1	26	57	93	5.6	6	06100	06100
6.2	26	57	93	5.6	6	06200	06200
6.3	28	63	101	6.3	6	06300	06300
6.4	28	63	101	6.3	6	06400	06400
6.5	28	63	101	6.3	6	06500	06500
6.6	28	63	101	6.3	6	06600	06600
6.7	28	63	101	6.3	6	06700	06700
6.8	31	69	109	7.1	6	06800	06800
6.9	31	69	109	7.1	6	06900	06900
7.0	31	69	109	7.1	6	07000	07000
7.1	31	69	109	7.1	6	07100	07100
7.2	31	69	109	7.1	6	07200	07200
7.3	31	69	109	7.1	6	07300	07300
7.4	31	69	109	7.1	6	07400	07400
7.5	31	69	109	7.1	6	07500	07500
7.6	33	75	117	8.0	6	07600	07600
7.7	33	75	117	8.0	6	07700	07700
7.8	33	75	117	8.0	6	07800	07800
7.9	33	75	117	8.0	6	07900	07900
8.0	33	75	117	8.0	6	08000	08000
8.1	33	75	117	8.0	6	08100	08100
8.2	33	75	117	8.0	6	08200	08200
8.3	33	75	117	8.0	6	08300	08300
8.4	33	75	117	8.0	6	08400	08400
8.5	33	75	117	8.0	6	08500	08500
8.6	36	81	125	9.0	6	08600	08600
8.7	36	81	125	9.0	6	08700	08700
8.8	36	81	125	9.0	6	08800	08800
8.9	36	81	125	9.0	6	08900	08900
P						●	●
M							
K						○	○
N						●	●
S							
H							
O							

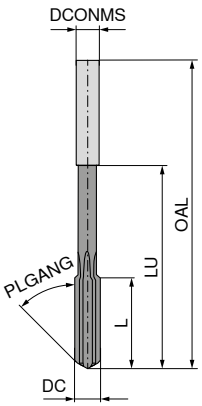
→ Find the cutting data standard values here.

Continued on next page

CoreLine – Machine reamers sim. DIN 8093-A / -B

▲ Extremely irregular pitch

N





Left-hand helix
PLGANG 45°
Solid carbide
Through hole

Straight flute
PLGANG 45°
Solid carbide
Blind hole

DC h7 mm	L mm	LU mm	OAL mm	DCONMS h7 mm	ZEFP	CX 40 415 ...	CX 40 405 ...
9.0	36	81	125	9.0	6	**09000**	**09000**
9.1	36	81	125	9.0	6	**09100**	**09100**
9.2	36	81	125	9.0	6	**09200**	**09200**
9.3	36	81	125	9.0	6	**09300**	**09300**
9.4	36	81	125	9.0	6	**09400**	**09400**
9.5	36	81	125	9.0	6	**09500**	**09500**
9.6	38	87	133	10.0	6	**09600**	**09600**
9.7	38	87	133	10.0	6	**09700**	**09700**
9.8	38	87	133	10.0	6	**09800**	**09800**
9.9	38	87	133	10.0	6	**09900**	**09900**
10.0	38	87	133	10.0	6	**10000**	**10000**
10.1	38	87	133	10.0	6	**10100**	**10100**
10.2	38	87	133	10.0	6	**10200**	**10200**
10.3	38	87	133	10.0	6	**10300**	**10300**
10.4	38	87	133	10.0	6	**10400**	**10400**
10.5	38	87	133	10.0	6	**10500**	**10500**
10.6	38	87	133	10.0	6	**10600**	**10600**
10.7	41	96	142	10.0	6	**10700**	**10700**
10.8	41	96	142	10.0	6	**10800**	**10800**
10.9	41	96	142	10.0	6	**10900**	**10900**
11.0	41	96	142	10.0	6	**11000**	**11000**
11.1	41	96	142	10.0	6	**11100**	**11100**
11.2	41	96	142	10.0	6	**11200**	**11200**
11.3	41	96	142	10.0	6	**11300**	**11300**
11.4	41	96	142	10.0	6	**11400**	**11400**
11.5	41	96	142	10.0	6	**11500**	**11500**
11.6	41	96	142	10.0	6	**11600**	**11600**
11.7	41	96	142	10.0	6	**11700**	**11700**
11.8	41	96	142	10.0	6	**11800**	**11800**
11.9	44	100	151	10.0	6	**11900**	**11900**
12.0	44	100	151	10.0	6	**12000**	**12000**

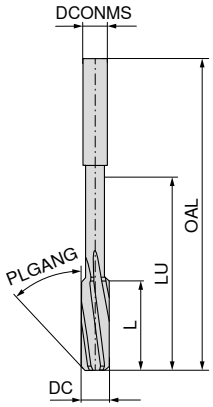
P	●	●
M		
K	○	○
N	●	●
S		
H		
O		

→ Find the cutting data standard values here.

CoreLine – NC machine reamers, DIN 212-3-B

▲ Maximum radial run-out accuracy
▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC



uncoated





Left-hand helix
HSS-E
Through hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	CX 40 110 ...
1.5	8	15.5	40	2	3	015
1.6	9	16.0	43	2	3	016
1.7	9	16.0	43	2	3	017
1.8	10	19.0	46	2	4	018
1.9	10	19.0	46	2	4	019
2.0	11	21.0	49	2	4	020
2.1	11	21.0	49	2	4	021
2.2	12	22.0	53	3	4	022
2.3	12	22.0	53	3	4	023
2.4	14	26.0	57	3	4	024
2.5	14	26.0	57	3	4	025
2.6	14	26.0	57	3	4	026
2.7	15	30.0	61	3	6	027
2.8	15	30.0	61	3	6	028
2.9	15	30.0	61	3	6	029
3.0	15	30.0	61	3	6	030
3.1	16	34.0	65	4	6	031
3.2	16	34.0	65	4	6	032
3.3	16	34.0	65	4	6	033
3.4	18	39.0	70	4	6	034
3.5	18	39.0	70	4	6	035
3.6	18	39.0	70	4	6	036
3.7	18	39.0	70	4	6	037
3.8	19	44.0	75	4	6	038
3.9	19	44.0	75	4	6	039
4.0	19	44.0	75	4	6	040
4.1	19	44.0	75	4	6	041
4.2	19	44.0	75	4	6	042
4.3	21	48.0	80	5	6	043
4.4	21	48.0	80	5	6	044
4.5	21	48.0	80	5	6	045
4.6	21	48.0	80	5	6	046
4.7	21	48.0	80	5	6	047
4.8	23	54.0	86	5	6	048
4.9	23	54.0	86	5	6	049
5.0	23	54.0	86	5	6	050

P	●
M	
K	●
N	●
S	
H	
O	●

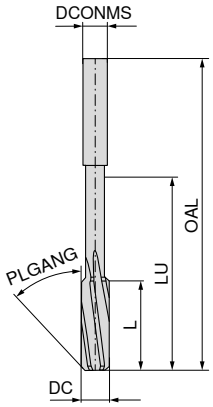
→ Find the cutting data standard values here.

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CoreLine – NC machine reamers, DIN 212-3-B

▲ Maximum radial run-out accuracy
▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC



uncoated





Left-hand helix
HSS-E
Through hole

DC $_{H7}$ mm	L mm	LU mm	OAL mm	DCONMS $_{h6}$ mm	ZEFP	CX 40 110 ...
5.1	23	54.0	86	5	6	051
5.2	23	54.0	86	5	6	052
5.3	23	54.0	86	5	6	053
5.4	26	53.0	93	6	6	054
5.5	26	53.0	93	6	6	055
5.6	26	53.0	93	6	6	056
5.7	26	53.0	93	6	6	057
5.8	26	53.0	93	6	6	058
5.9	26	53.0	93	6	6	059
6.0	26	53.0	93	6	6	060
6.1	28	61.0	101	6	6	061
6.2	28	61.0	101	6	6	062
6.3	28	61.0	101	6	6	063
6.4	28	61.0	101	6	6	064
6.5	28	61.0	101	6	6	065
6.6	28	61.0	101	6	6	066
6.7	28	61.0	101	6	6	067
6.8	31	69.0	109	8	6	068
6.9	31	69.0	109	8	6	069
7.0	31	69.0	109	8	6	070
7.1	31	69.0	109	8	6	071
7.2	31	69.0	109	8	6	072
7.3	31	69.0	109	8	6	073
7.4	31	69.0	109	8	6	074
7.5	31	69.0	109	8	6	075
7.6	33	77.0	117	8	6	076
7.7	33	77.0	117	8	6	077
7.8	33	77.0	117	8	6	078
7.9	33	77.0	117	8	6	079
8.0	33	77.0	117	8	6	080
8.1	33	77.0	117	8	6	081
8.2	33	77.0	117	8	6	082
8.3	33	77.0	117	8	6	083
8.4	33	77.0	117	8	6	084
8.5	33	77.0	117	8	6	085
8.6	36	81.0	125	10	6	086

P	●
M	
K	●
N	●
S	
H	
O	●

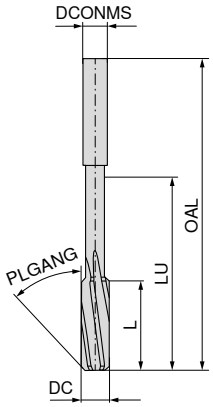
→ Find the cutting data standard values here.

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CoreLine – NC machine reamers, DIN 212-3-B

▲ Maximum radial run-out accuracy
▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC



uncoated





Left-hand helix
HSS-E
Through hole

DC H7 mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	CX 40 110 ...
8.7	36	81.0	125	10	6	**087**
8.8	36	81.0	125	10	6	**088**
8.9	36	81.0	125	10	6	**089**
9.0	36	81.0	125	10	6	**090**
9.1	36	81.0	125	10	6	**091**
9.2	36	81.0	125	10	6	**092**
9.3	36	81.0	125	10	6	**093**
9.4	36	81.0	125	10	6	**094**
9.5	36	81.0	125	10	6	**095**
9.6	38	89.0	133	10	6	**096**
9.7	38	89.0	133	10	6	**097**
9.8	38	89.0	133	10	6	**098**
9.9	38	89.0	133	10	6	**099**
10.0	38	89.0	133	10	6	**100**
11.0	41	98.0	142	10	6	**110**
12.0	44	106.0	151	10	6	**120**
13.0	44	106.0	151	10	6	**130**
14.0	47	110.0	160	14	8	**140**
15.0	50	112.0	162	14	8	**150**
16.0	52	120.0	170	14	8	**160**
17.0	54	125.0	175	14	8	**170**
18.0	56	132.0	182	14	8	**180**
19.0	58	136.0	189	16	8	**190**
20.0	60	142.0	195	16	8	**200**

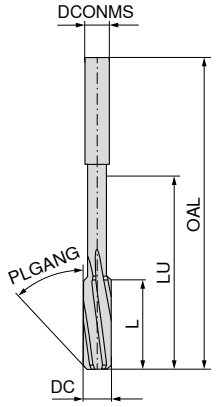
P	●
M	
K	●
N	●
S	
H	
O	●

→ Find the cutting data standard values here.

CoreLine – NC machine reamers, DIN 212-3-B

- ▲ 0.01 mm steps
- ▲ Tolerance: Ø 1.00 – Ø 5.50 mm = +0.004 mm
- ▲ Tolerance: Ø 5.51 – Ø 12.00 mm = +0.005 mm
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC 100



uncoated





Left-hand helix
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 115 ...
0,95 - 0,99	5.5	12.5	34	1	3	xxxxx [1]
1,00	5.5	12.5	34	1	3	01000
1,01	5.5	12.5	34	1	3	01010
1,02	5.5	12.5	34	1	3	01020
1,03 - 1,06	5.5	12.5	34	1	3	xxxxx [1]
1,07 - 1,18	6.5	13.0	36	1	3	xxxxx [1]
1,19 - 1,32	7.5	14.0	38	2	3	xxxxx [1]
1,33 - 1,41	8.0	15.5	40	2	3	xxxxx [1]
1,42 - 1,49	8.0	15.5	40	2	3	xxxxx [1]
1,50	8.0	15.5	40	2	3	01500
1,51	9.0	16.0	43	2	3	01510
1,52	9.0	16.0	43	2	3	01520
1,53 - 1,70	9.0	16.0	43	2	3	xxxxx [1]
1,71 - 1,90	10.0	19.0	46	2	4	xxxxx [1]
1,91 - 1,96	11.0	21.0	49	2	4	xxxxx [1]
1,97	11.0	21.0	49	2	4	01970
1,98	11.0	21.0	49	2	4	01980
1,99	11.0	21.0	49	2	4	01990
2,00	11.0	21.0	49	2	4	02000
2,01	11.0	21.0	49	2	4	02010
2,02	11.0	21.0	49	2	4	02020
2,03 - 2,12	11.0	21.0	49	2	4	xxxxx [1]
2,13 - 2,36	12.0	22.0	53	3	4	xxxxx [1]
2,37 - 2,47	14.0	26.0	57	3	4	xxxxx [1]
2,48	14.0	26.0	57	3	4	02480
2,49	14.0	26.0	57	3	4	02490
2,50	14.0	26.0	57	3	4	02500
2,51	14.0	26.0	57	3	4	02510
2,52	14.0	26.0	57	3	4	02520

P	●
M	
K	●
N	●
S	
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 5 units

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

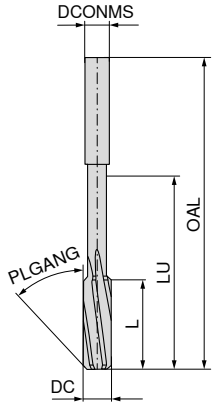
For xxxxx please specify the desired Ø when ordering (e.g., Ø 8.03 mm → article no. 40 115 08030).

Continued on next page

CoreLine – NC machine reamers, DIN 212-3-B

- ▲ 0.01 mm steps
- ▲ Tolerance: Ø 1.00 – Ø 5.50 mm = +0.004 mm
- ▲ Tolerance: Ø 5.51 – Ø 12.00 mm = +0.005 mm
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC 100



uncoated





Left-hand helix
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 115 ...
2,53 - 2,65	14.0	26.0	57	3	4	xxxxx 1)
2,66 - 2,96	15.0	30.0	61	3	6	xxxxx 1)
2,97	15.0	30.0	61	3	6	02970
2,98	15.0	30.0	61	3	6	02980
2,99	15.0	30.0	61	3	6	02990
3,00	15.0	30.0	61	3	6	03000
3,01	15.0	30.0	61	3	6	03010
3,02	15.0	30.0	61	3	6	03020
3,03	15.0	30.0	61	3	6	03030 1)
3,04 - 3,35	16.0	34.0	65	4	6	xxxxx 1)
3,36 - 3,75	18.0	39.0	70	4	6	xxxxx 1)
3,76 - 3,96	19.0	44.0	75	4	6	xxxxx 1)
3,97	19.0	44.0	75	4	6	03970
3,98	19.0	44.0	75	4	6	03980
3,99	19.0	44.0	75	4	6	03990
4,00	19.0	44.0	75	4	6	04000
4,01	19.0	44.0	75	4	6	04010
4,02	19.0	44.0	75	4	6	04020
4,03 - 4,25	19.0	44.0	75	4	6	xxxxx 1)
4,26 - 4,75	21.0	48.0	80	5	6	xxxxx 1)
4,76 - 4,96	23.0	54.0	86	5	6	xxxxx 1)
4,97	23.0	54.0	86	5	6	04970
4,98	23.0	54.0	86	5	6	04980
4,99	23.0	54.0	86	5	6	04990
5,00	23.0	54.0	86	5	6	05000
5,01	23.0	54.0	86	5	6	05010
5,02	23.0	54.0	86	5	6	05020
5,03 - 5,30	23.0	54.0	86	5	6	xxxxx 1)
5,31 - 5,60	26.0	53.0	93	6	6	xxxxx 1)

P	●
M	
K	●
N	●
S	
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 5 units

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

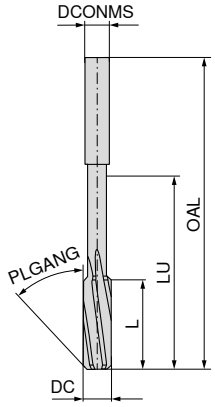
For xxxxx please specify the desired Ø when ordering (e.g., Ø 8.03 mm → article no. 40 115 08030).

Continued on next page

CoreLine – NC machine reamers, DIN 212-3-B

- ▲ 0.01 mm steps
- ▲ Tolerance: Ø 1.00 – Ø 5.50 mm = +0.004 mm
- ▲ Tolerance: Ø 5.51 – Ø 12.00 mm = +0.005 mm
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC 100



uncoated





Left-hand helix
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 115 ...
5,61 - 5,96	26.0	53.0	93	6	6	xxxxx [1]
5,97	26.0	53.0	93	6	6	05970
5,98	26.0	53.0	93	6	6	05980
5,99	26.0	53.0	93	6	6	05990
6,00	26.0	53.0	93	6	6	06000
6,01	26.0	53.0	93	6	6	06010
6,02	26.0	53.0	93	6	6	06020
6,03	26.0	53.0	93	6	6	06030 [1]
6,04 - 6,70	28.0	61.0	101	6	6	xxxxx [1]
6,71 - 7,20	31.0	69.0	109	8	6	xxxxx [1]
7,21 - 7,50	31.0	69.0	109	8	6	xxxxx [1]
7,51 - 7,96	33.0	77.0	117	8	6	xxxxx [1]
7,97	33.0	77.0	117	8	6	07970
7,98	33.0	77.0	117	8	6	07980
7,99	33.0	77.0	117	8	6	07990
8,00	33.0	77.0	117	8	6	08000
8,01	33.0	77.0	117	8	6	08010
8,02	33.0	77.0	117	8	6	08020
8,03 - 8,20	33.0	77.0	117	8	6	xxxxx [1]
8,21 - 8,50	33.0	77.0	117	8	6	xxxxx [1]
8,51 - 8,99	36.0	81.0	125	10	6	xxxxx [1]
9,00	36.0	81.0	125	10	6	09000
9,01	36.0	81.0	125	10	6	09010
9,02	36.0	81.0	125	10	6	09020
9,03 - 9,20	36.0	81.0	125	10	6	xxxxx [1]
9,21 - 9,50	36.0	81.0	125	10	6	xxxxx [1]
9,51 - 9,96	38.0	89.0	133	10	6	xxxxx [1]
9,97	38.0	89.0	133	10	6	09970
9,98	38.0	89.0	133	10	6	09980

P	●
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K	●
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O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 5 units

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

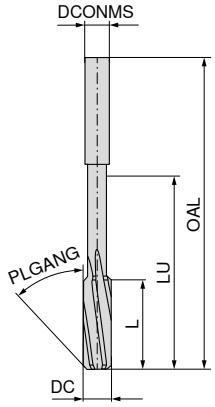
For xxxxx please specify the desired Ø when ordering (e.g., Ø 8.03 mm → article no. 40 115 08030).

Continued on next page

CoreLine – NC machine reamers, DIN 212-3-B

- ▲ 0.01 mm steps
- ▲ Tolerance: Ø 1.00 – Ø 5.50 mm = +0.004 mm
- ▲ Tolerance: Ø 5.51 – Ø 12.00 mm = +0.005 mm
- ▲ PLGANG ≤ Ø 3.75 = 30° / > Ø 3.75 = 45°

NC 100



uncoated



Left-hand helix
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h6 mm	ZEFP	RT 40 115 ...
9,99	38.0	89.0	133	10	6	**09990**
10,00	38.0	89.0	133	10	6	**10000**
10,01	38.0	89.0	133	10	6	**10010**
10,02	38.0	89.0	133	10	6	**10020**
10,03 - 10,20	38.0	89.0	133	10	6	**xxxxx** [1]
10,21 - 10,60	38.0	89.0	133	10	6	**xxxxx** [1]
10,61 - 11,20	41.0	98.0	142	10	6	**xxxxx** [1]
11,21 - 11,80	41.0	98.0	142	10	6	**xxxxx** [1]
11,81 - 11,96	44.0	106.0	151	10	6	**xxxxx** [1]
11,97	44.0	106.0	151	10	6	**11970**
11,98	44.0	106.0	151	10	6	**11980**
11,99	44.0	106.0	151	10	6	**11990**
12,00	44.0	106.0	151	10	6	**12000**
P						●
M						
K						●
N						●
S						
H						
O						●

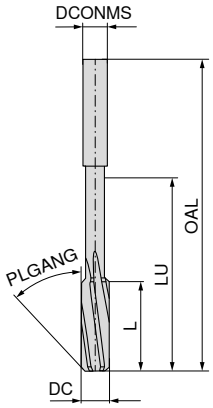
1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request / Minimum order 5 units

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 8.03 mm → article no. 40 115 08030).

CoreLine – Machine reamers, DIN 212-B

N



uncoated





Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC H7 mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	CX 40 150 ...
1.0	5.5	13	34	1.0	3	**010**
1.5	8.0	16	40	1.5	3	**015**
2.0	11.0	22	49	2.0	4	**020**
2.5	14.0	26	57	2.5	4	**025**
3.0	15.0	29	61	3.0	6	**030**
3.5	18.0	38	70	3.5	6	**035**
4.0	19.0	46	75	4.0	6	**040**
4.5	21.0	51	80	4.5	6	**045**
5.0	23.0	57	86	5.0	6	**050**
5.5	26.0	56	93	5.6	6	**055**
6.0	26.0	56	93	5.6	6	**060**
6.5	28.0	64	101	6.3	6	**065**
7.0	31.0	72	109	7.1	6	**070**
7.5	31.0	72	109	7.1	6	**075**
8.0	33.0	80	117	8.0	6	**080**
8.5	33.0	80	117	8.0	6	**085**
9.0	36.0	84	125	9.0	6	**090**
9.5	36.0	84	125	9.0	6	**095**
10.0	38.0	92	133	10.0	6	**100**
11.0	41.0	101	142	10.0	6	**110**
12.0	44.0	110	151	10.0	6	**120**
13.0	44.0	110	151	10.0	6	**130**
14.0	47.0	114	160	12.5	8	**140**
15.0	50.0	116	162	12.5	8	**150**
16.0	52.0	124	170	12.5	8	**160**
17.0	54.0	129	175	14.0	8	**170**
18.0	56.0	136	182	14.0	8	**180**
19.0	58.0	140	189	16.0	8	**190**
20.0	60.0	146	195	16.0	8	**200**

P	●
M	○
K	●
N	●
S	○
H	
O	●

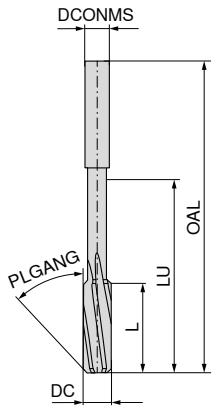
→ Find the cutting data standard values here.

All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Machine reamers, DIN 212-B

▲ 0.01 mm steps
▲ Tolerance: Ø 0.95 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.05 mm = +0.005 mm

N 100



uncoated



Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	RT 40 140 ...
0,95 - 1,06	5.5	13	34	1.0	3	xxxxx 1)
1,07 - 1,18	6.5	14	36	1.1	3	xxxxx 1)
1,19 - 1,32	7.5	15	38	1.2	3	xxxxx 1)
1,33 - 1,41	8.0	16	40	1.4	3	xxxxx 1)
1,48	8.0	16	40	1.5	3	01480
1,49	8.0	16	40	1.5	3	01490
1,50	8.0	16	40	1.5	3	01500
1,51 - 1,70	9.0	18	43	1.6	3	xxxxx 1)
1,71 - 1,90	10.0	20	46	1.8	4	xxxxx 1)
1,91 - 1,97	11.0	22	49	2.0	4	xxxxx 1)
1,98	11.0	22	49	2.0	4	01980
1,99	11.0	22	49	2.0	4	01990
2,00	11.0	22	49	2.0	4	02000
2,01	11.0	22	49	2.0	4	02010
2,02	11.0	22	49	2.0	4	02020
2,03	11.0	22	49	2.0	4	02030
2,04	11.0	22	49	2.0	4	02040
2,05	11.0	22	49	2.0	4	02050
2,06 - 2,09	11.0	22	49	2.0	4	xxxxx 1)
2,10 - 2,12	11.0	22	49	2.0	4	xxxxx 1)
2,13 - 2,36	12.0	24	53	2.2	4	xxxxx 1)
2,37 - 2,49	14.0	26	57	2.5	4	xxxxx 1)
2,50 - 2,59	14.0	26	57	2.5	4	xxxxx 1)
2,60 - 2,65	14.0	26	57	2.5	4	xxxxx 1)
2,66 - 2,80	15.0	30	61	2.8	6	xxxxx 1)
2,81 - 2,94	15.0	29	61	3.0	6	xxxxx 1)
2,95	15.0	29	61	3.0	6	02950 1)
2,96	15.0	29	61	3.0	6	02960 1)
2,97	15.0	29	61	3.0	6	02970
2,98	15.0	29	61	3.0	6	02980
2,99	15.0	29	61	3.0	6	02990
3,00	15.0	29	61	3.0	6	03000

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 140 10060).

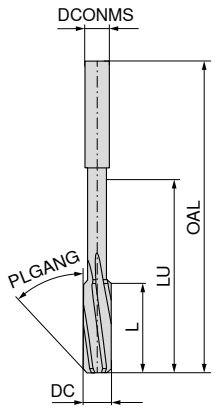
All other diameters, tolerance classes, and chamfers also available on request.

Continued on next page

CoreLine – Machine reamers, DIN 212-B

▲ 0.01 mm steps
▲ Tolerance: Ø 0.95 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.05 mm = +0.005 mm

N
100



uncoated



Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	RT 40 140 ...
3,01	16.0	33	65	3.2	6	03010
3,02	16.0	33	65	3.2	6	03020
3,03	16.0	33	65	3.2	6	03030
3,04	16.0	33	65	3.2	6	03040
3,05	16.0	33	65	3.2	6	03050
3,06	16.0	33	65	3.2	6	03060
3,07	16.0	33	65	3.2	6	03070
3,08 - 3,09	16.0	33	65	3.2	6	xxxxx 1)
3,10 - 3,35	16.0	33	65	3.2	6	xxxxx 1)
3,36 - 3,49	18.0	38	70	3.5	6	xxxxx 1)
3,50 - 3,59	18.0	38	70	3.5	6	xxxxx 1)
3,60 - 3,75	18.0	38	70	3.5	6	xxxxx 1)
3,76 - 3,81	19.0	46	75	4.0	6	xxxxx 1)
3,82 - 3,94	19.0	46	75	4.0	6	xxxxx 1)
3,95	19.0	46	75	4.0	6	03950 1)
3,96	19.0	46	75	4.0	6	03960 1)
3,97	19.0	46	75	4.0	6	03970
3,98	19.0	46	75	4.0	6	03980
3,99	19.0	46	75	4.0	6	03990
4,00	19.0	46	75	4.0	6	04000
4,01	19.0	46	75	4.0	6	04010
4,02	19.0	46	75	4.0	6	04020
4,03	19.0	46	75	4.0	6	04030
4,04	19.0	46	75	4.0	6	04040
4,05	19.0	46	75	4.0	6	04050
4,06	19.0	46	75	4.0	6	04060
4,07	19.0	46	75	4.0	6	04070
4,08	19.0	46	75	4.0	6	04080
4,09 - 4,20	19.0	46	75	4.0	6	xxxxx 1)
4,21 - 4,25	19.0	46	75	4.0	6	xxxxx 1)
4,26 - 4,75	21.0	51	80	4.5	6	xxxxx 1)
4,76 - 4,95	23.0	57	86	5.0	6	xxxxx 1)

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 140 10060).

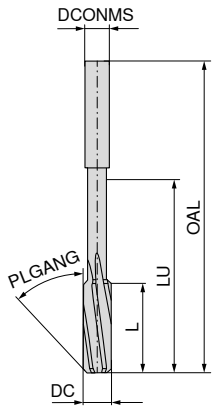
All other diameters, tolerance classes, and chamfers also available on request.

Continued on next page

CoreLine – Machine reamers, DIN 212-B

▲ 0.01 mm steps
▲ Tolerance: Ø 0.95 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.05 mm = +0.005 mm

N
100



uncoated



Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	RT 40 140 ...
4,96	23.0	57	86	5.0	6	**04960** [1]
4,97	23.0	57	86	5.0	6	**04970**
4,98	23.0	57	86	5.0	6	**04980**
4,99	23.0	57	86	5.0	6	**04990**
5,00	23.0	57	86	5.0	6	**05000**
5,01	23.0	57	86	5.0	6	**05010**
5,02	23.0	57	86	5.0	6	**05020**
5,03	23.0	57	86	5.0	6	**05030**
5,04	23.0	57	86	5.0	6	**05040**
5,05	23.0	57	86	5.0	6	**05050**
5,06	23.0	57	86	5.0	6	**05060**
5,07	23.0	57	86	5.0	6	**05070**
5,08 - 5,20	23.0	57	86	5.0	6	**xxxxx** [1]
5,21 - 5,30	23.0	57	86	5.0	6	**xxxxx** [1]
5,31 - 5,94	26.0	56	93	5.6	6	**xxxxx** [1]
5,95	26.0	56	93	5.6	6	**05950** [1]
5,96	26.0	56	93	5.6	6	**05960** [1]
5,97	26.0	56	93	5.6	6	**05970**
5,98	26.0	56	93	5.6	6	**05980**
5,99	26.0	56	93	5.6	6	**05990**
6,00	26.0	56	93	5.6	6	**06000**
6,01	28.0	64	101	6.3	6	**06010**
6,02	28.0	64	101	6.3	6	**06020**
6,03	28.0	64	101	6.3	6	**06030**
6,04	28.0	64	101	6.3	6	**06040**
6,05	28.0	64	101	6.3	6	**06050**
6,06 - 6,11	28.0	64	101	6.3	6	**xxxxx** [1]
6,12 - 6,34	28.0	64	101	6.3	6	**xxxxx** [1]
6,35	28.0	64	101	6.3	6	**06350**
6,36 - 6,70	28.0	64	101	6.3	6	**xxxxx** [1]
6,71 - 6,94	31.0	72	109	7.1	6	**xxxxx** [1]
6,95	31.0	72	109	7.1	6	**06950** [1]

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 140 10060).

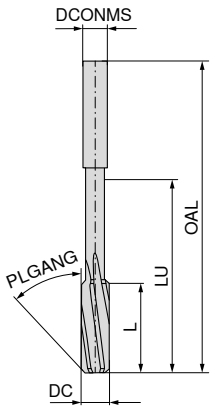
All other diameters, tolerance classes, and chamfers also available on request.

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CoreLine – Machine reamers, DIN 212-B

▲ 0.01 mm steps
▲ Tolerance: Ø 0.95 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.05 mm = +0.005 mm

N 100



uncoated



Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	RT 40 140 ...
6,96	31.0	72	109	7.1	6	**06960** 1)
6,97	31.0	72	109	7.1	6	**06970** 1)
6,98	31.0	72	109	7.1	6	**06980** 1)
6,99	31.0	72	109	7.1	6	**06990** 1)
7,00	31.0	72	109	7.1	6	**07000** 1)
7,01	31.0	72	109	7.1	6	**07010** 1)
7,02	31.0	72	109	7.1	6	**07020** 1)
7,03	31.0	72	109	7.1	6	**07030** 1)
7,04 - 7,50	31.0	72	109	7.1	6	**xxxxx** 1)
7,51 - 7,94	33.0	80	117	8.0	6	**xxxxx** 1)
7,95	33.0	80	117	8.0	6	**07950** 1)
7,96	33.0	80	117	8.0	6	**07960** 1)
7,97	33.0	80	117	8.0	6	**07970**
7,98	33.0	80	117	8.0	6	**07980**
7,99	33.0	80	117	8.0	6	**07990**
8,00	33.0	80	117	8.0	6	**08000**
8,01	33.0	80	117	8.0	6	**08010**
8,02	33.0	80	117	8.0	6	**08020**
8,03	33.0	80	117	8.0	6	**08030**
8,04	33.0	80	117	8.0	6	**08040**
8,05	33.0	80	117	8.0	6	**08050**
8,06 - 8,20	33.0	80	117	8.0	6	**xxxxx** 1)
8,21 - 8,50	33.0	80	117	8.0	6	**xxxxx** 1)
8,51 - 8,63	36.0	84	125	9.0	6	**xxxxx** 1)
8,64 - 8,95	36.0	84	125	9.0	6	**xxxxx** 1)
8,96	36.0	84	125	9.0	6	**08960** 1)
8,97	36.0	84	125	9.0	6	**08970** 1)
8,98	36.0	84	125	9.0	6	**08980** 1)
8,99	36.0	84	125	9.0	6	**08990** 1)
9,00	36.0	84	125	9.0	6	**09000** 1)
9,01	36.0	84	125	9.0	6	**09010** 1)
9,02	36.0	84	125	9.0	6	**09020** 1)

P	●
M	○
K	●
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O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 140 10060).

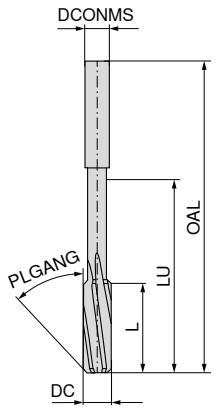
All other diameters, tolerance classes, and chamfers also available on request.

Continued on next page

CoreLine – Machine reamers, DIN 212-B

▲ 0.01 mm steps
▲ Tolerance: Ø 0.95 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.05 mm = +0.005 mm

N
100



uncoated





Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	LU mm	OAL mm	DCONMS h9 mm	ZEFP	RT 40 140 ...
9,03 - 9,50	36.0	84	125	9.0	6	xxxxx 1)
9,51 - 9,63	38.0	92	133	10.0	6	xxxxx 1)
9,64 - 9,95	38.0	92	133	10.0	6	xxxxx 1)
9,96	38.0	92	133	10.0	6	09960 1)
9,97	38.0	92	133	10.0	6	09970
9,98	38.0	92	133	10.0	6	09980
9,99	38.0	92	133	10.0	6	09990
10,00	38.0	92	133	10.0	6	10000
10,01	38.0	92	133	10.0	6	10010
10,02	38.0	92	133	10.0	6	10020
10,03	38.0	92	133	10.0	6	10030
10,04	38.0	92	133	10.0	6	10040
10,05	38.0	92	133	10.0	6	10050
10,06 - 10,09	38.0	92	133	10.0	6	xxxxx 1)
10,10	38.0	92	133	10.0	6	10100
10,11 - 10,19	38.0	92	133	10.0	6	xxxxx 1)
10,20	38.0	92	133	10.0	6	10200
10,21 - 10,60	38.0	92	133	10.0	6	xxxxx 1)
10,61 - 11,20	41.0	101	142	10.0	6	xxxxx 1)
11,21 - 11,80	41.0	101	142	10.0	6	xxxxx 1)
11,81 - 11,95	44.0	110	151	10.0	6	xxxxx 1)
11,96	44.0	110	151	10.0	6	11960 1)
11,97	44.0	110	151	10.0	6	11970
11,98	44.0	110	151	10.0	6	11980
11,99	44.0	110	151	10.0	6	11990
12,00	44.0	110	151	10.0	6	12000
12,01 - 12,05	44.0	110	151	10.0	6	xxxxx 1)

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

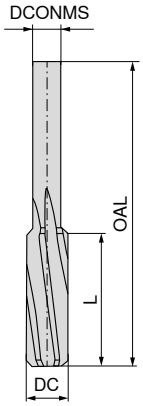
→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 140 10060).

All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Automated reamers, DIN 8089-B

AR



uncoated





Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC H7 mm	L mm	OAL mm	DCONMS h8 mm	ZEFP	CX 40 145 ...
4	20	56	3.55	6	**040**
5	22	63	4.00	6	**050**
6	22	63	5.00	6	**060**
8	25	71	6.30	6	**080**
10	25	71	8.00	6	**100**
12	28	80	10.00	6	**120**
14	32	90	12.50	8	**140**
16	32	90	12.50	8	**160**
18	36	100	16.00	8	**180**
20	36	100	16.00	8	**200**

P	●
M	○
K	●
N	●
S	○
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O	●

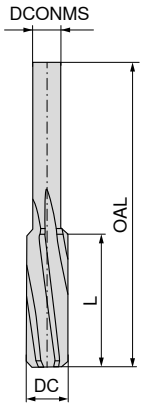
→ Find the cutting data standard values here.

All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Automated reamers, DIN 8089-B

▲ 0.01 mm steps
▲ Tolerance: Ø 3.76 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.00 mm = +0.005 mm

AR 100



uncoated





Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	OAL mm	DCONMS h8 mm	ZEFP	RT 40 139 ...
3,76 - 3,81	20	56	3.55	6	xxxxx 1)
3,82 - 3,94	20	56	3.55	6	xxxxx 1)
3,95	20	56	3.55	6	03950 1)
3,96	20	56	3.55	6	03960 1)
3,97	20	56	3.55	6	03970 1)
3,98	20	56	3.55	6	03980 1)
3,99	20	56	3.55	6	03990 1)
4,00	20	56	3.55	6	04000 1)
4,01	20	56	3.55	6	04010 1)
4,02	20	56	3.55	6	04020 1)
4,03 - 4,20	20	56	3.55	6	xxxxx 1)
4,21 - 4,25	20	56	3.55	6	xxxxx 1)
4,26 - 4,75	22	63	4.00	6	xxxxx 1)
4,76 - 4,94	22	63	4.00	6	xxxxx 1)
4,95	22	63	4.00	6	04950 1)
4,96	22	63	4.00	6	04960 1)
4,97	22	63	4.00	6	04970 1)
4,98	22	63	4.00	6	04980 1)
4,99	22	63	4.00	6	04990 1)
5,00	22	63	4.00	6	05000 1)
5,01	22	63	4.00	6	05010 1)
5,02	22	63	4.00	6	05020 1)
5,03	22	63	4.00	6	05030 1)
5,04	22	63	4.00	6	05040 1)
5,05	22	63	4.00	6	05050 1)
5,06 - 5,20	22	63	4.00	6	xxxxx 1)
5,21 - 5,30	22	63	4.00	6	xxxxx 1)
5,31 - 5,70	22	63	5.00	6	xxxxx 1)
5,71 - 5,94	22	63	5.00	6	xxxxx 1)
5,95	22	63	5.00	6	05950 1)
5,96	22	63	5.00	6	05960 1)
5,97	22	63	5.00	6	05970 1)

P	●
M	○
K	●
N	●
S	○
H	
O	●

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→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 139 10060).

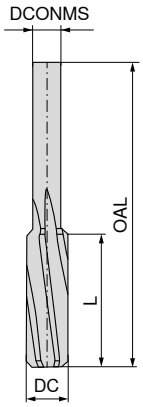
All other diameters, tolerance classes, and chamfers also available on request.

Continued on next page

CoreLine – Automated reamers, DIN 8089-B

▲ 0.01 mm steps
▲ Tolerance: Ø 3.76 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.00 mm = +0.005 mm

AR 100



uncoated



Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	OAL mm	DCONMS h8 mm	ZEFP	RT 40 139 ...
5,98	22	63	5.00	6	05980 1)
5,99	22	63	5.00	6	05990 1)
6,00	22	63	5.00	6	06000 1)
6,01	22	63	5.00	6	06010 1)
6,02	22	63	5.00	6	06020 1)
6,03 - 6,11	22	63	5.00	6	xxxxx 1)
6,12 - 6,70	22	63	5.00	6	xxxxx 1)
6,71 - 6,94	25	71	6.30	6	xxxxx 1)
6,95	25	71	6.30	6	06950 1)
6,96	25	71	6.30	6	06960 1)
6,97	25	71	6.30	6	06970 1)
6,98	25	71	6.30	6	06980 1)
6,99	25	71	6.30	6	06990 1)
7,00	25	71	6.30	6	07000 1)
7,01	25	71	6.30	6	07010 1)
7,02	25	71	6.30	6	07020 1)
7,03 - 7,25	25	71	6.30	6	xxxxx 1)
7,26 - 7,94	25	71	6.30	6	xxxxx 1)
7,95	25	71	6.30	6	07950 1)
7,96	25	71	6.30	6	07960 1)
7,97	25	71	6.30	6	07970 1)
7,98	25	71	6.30	6	07980 1)
7,99	25	71	6.30	6	07990 1)
8,00	25	71	6.30	6	08000 1)
8,01	25	71	6.30	6	08010 1)
8,02	25	71	6.30	6	08020 1)
8,03	25	71	6.30	6	08030 1)
8,04	25	71	6.30	6	08040 1)
8,05 - 8,20	25	71	6.30	6	xxxxx 1)
8,21 - 8,50	25	71	6.30	6	xxxxx 1)
8,51 - 8,94	25	71	8.00	6	xxxxx 1)
8,95	25	71	8.00	6	08950 1)

P	●
M	○
K	●
N	●
S	○
H	
O	●

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→ Click here for the tolerances that can be covered with this tool concept.

For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 139 10060).

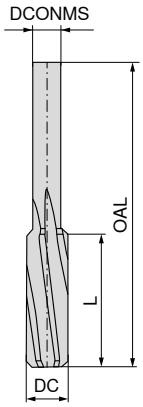
All other diameters, tolerance classes, and chamfers also available on request.

Continued on next page

CoreLine – Automated reamers, DIN 8089-B

▲ 0.01 mm steps
▲ Tolerance: Ø 3.76 – 5.50 mm = +0.004 mm
▲ Tolerance: Ø 5.51 – 12.00 mm = +0.005 mm

AR 100



uncoated





Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC mm	L mm	OAL mm	DCONMS h8 mm	ZEFP	RT 40 139 ...
8,96	25	71	8.00	6	08960 [1]
8,97	25	71	8.00	6	08970 [1]
8,98	25	71	8.00	6	08980 [1]
8,99	25	71	8.00	6	08990 [1]
9,00	25	71	8.00	6	09000 [1]
9,01	25	71	8.00	6	09010 [1]
9,02	25	71	8.00	6	09020 [1]
9,03 - 9,25	25	71	8.00	6	xxxxx [1]
9,26 - 9,94	25	71	8.00	6	xxxxx [1]
9,95	25	71	8.00	6	09950 [1]
9,96	25	71	8.00	6	09960 [1]
9,97	25	71	8.00	6	09970 [1]
9,98	25	71	8.00	6	09980 [1]
9,99	25	71	8.00	6	09990 [1]
10,00	25	71	8.00	6	10000 [1]
10,01	25	71	8.00	6	10010 [1]
10,02	25	71	8.00	6	10020 [1]
10,03 - 10,20	25	71	8.00	6	xxxxx [1]
10,21 - 10,60	25	71	8.00	6	xxxxx [1]
10,61 - 11,20	28	80	10.00	6	xxxxx [1]
11,21 - 11,25	28	80	10.00	6	xxxxx [1]
11,26 - 11,94	28	80	10.00	6	xxxxx [1]
11,95	28	80	10.00	6	11950 [1]
11,96	28	80	10.00	6	11960 [1]
11,97	28	80	10.00	6	11970 [1]
11,98	28	80	10.00	6	11980 [1]
11,99	28	80	10.00	6	11990 [1]
12,00	28	80	10.00	6	12000 [1]

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Not available from stock, articles are non-returnable and cannot be exchanged / Delivery time on request

→ Find the cutting data standard values here.
→ Click here for the tolerances that can be covered with this tool concept.

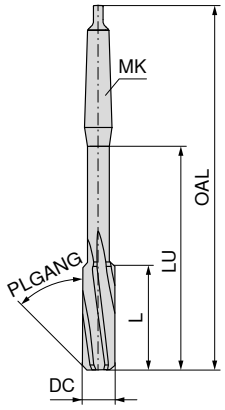
For xxxxx please specify the desired Ø when ordering (e.g., Ø 10.06 mm → article no. 40 139 10060).

All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Machine reamers HSS-E DIN 208-B

▲ The circular land on the cutting edge burnishes the hole and guides the reamer

N







Left-hand helix
PLGANG 45°
HSS-E
Through hole

DC H7 mm	L mm	LU mm	OAL mm	MK	ZEFP	CX 40 160 ...
16	52	127	210	2	8	**160**
17	54	132	214	2	8	**170**
18	56	137	219	2	8	**180**
19	58	142	223	2	8	**190**
20	60	147	228	2	8	**200**
21	62	151	232	2	8	**210**
22	64	156	237	2	8	**220**
23	66	160	241	2	8	**230**
24	68	167	268	3	8	**240**
25	68	167	268	3	8	**250**
26	70	172	273	3	8	**260**
27	71	177	277	3	10	**270**
28	71	177	277	3	10	**280**
29	73	181	281	3	10	**290**
30	73	181	281	3	10	**300**
32	77	190	317	4	10	**320**
34	78	194	321	4	10	**340**
35	78	195	321	4	10	**350**
36	79	200	325	4	10	**360**
38	81	204	329	4	10	**380**
40	81	204	329	4	10	**400**
42	82	211	333	4	12	**420**
44	83	215	336	4	12	**440**
50	86	224	344	4	12	**500**

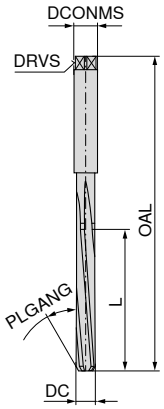
P	●
M	○
K	●
N	●
S	○
H	
O	●

→ Find the cutting data standard values here.

All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Hand reamers, DIN 206-B

▲ PLGANG ≤ Ø 3,5 = 30°; > Ø 3,5 = 45°/30°





Left-hand helix
HSS
Through hole

DC H7 mm	L mm	OAL mm	DRVS mm	DCONMS mm	ZEFP	CX 40 100 ...
3.0	31	62	2.24	3.0	6	**030**
3.2	33	66	2.50	3.2	6	**032**
3.5	35	71	2.80	3.5	6	**035**
4.0	38	76	3.15	4.0	6	**040**
4.5	41	81	3.55	4.5	6	**045**
5.0	44	87	4.00	5.0	6	**050**
5.5	47	93	4.50	5.5	6	**055**
6.0	47	93	4.50	6.0	6	**060**
7.0	54	107	5.60	7.0	6	**070**
8.0	58	115	6.30	8.0	6	**080**
9.0	62	124	7.10	9.0	6	**090**
10.0	66	133	8.00	10.0	6	**100**
11.0	71	142	9.00	11.0	6	**110**
12.0	76	152	10.00	12.0	6	**120**
13.0	76	152	10.00	13.0	6	**130**
14.0	81	163	11.20	14.0	8	**140**
15.0	81	163	11.20	15.0	8	**150**
16.0	87	175	12.50	16.0	8	**160**
17.0	87	175	14.00	17.0	8	**170**
18.0	93	188	14.00	18.0	8	**180**
19.0	93	188	14.00	19.0	8	**190**
20.0	100	201	16.00	20.0	8	**200**
22.0	107	215	18.00	22.0	8	**220**
24.0	115	231	20.00	24.0	8	**240**
25.0	115	231	20.00	25.0	8	**250**
26.0	115	231	20.00	26.0	8	**260**
28.0	124	247	22.40	28.0	10	**280**
30.0	124	247	22.40	30.0	10	**300**

P	●
M	○
K	●
N	●
S	○
H	
O	●

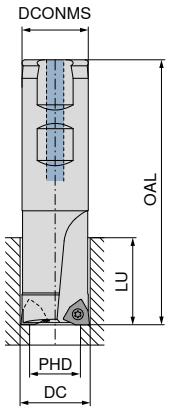
All other diameters, tolerance classes, and chamfers also available on request.

CoreLine – Insert countersink 180°

Scope of supply:
Insert countersink incl. clamping screws

WPS









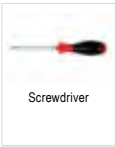
SIG 180°

DC mm	PHD mm	ZEFP	ZNF	DCONMS mm	LU mm	OAL mm	Indexable insert	TO 30 198 ...
10	5.3	1	1	16	10	80	WOEX 030204	**01000** [1]
11	6.4	1	1	16	11	80	WOEX 030204	**01100** [1]
15	8.4	1	1	16	15	80	WOEX 05T304	**01500**
18	10.4	1	1	16	18	80	WOEX 05T304	**01800**
20	13.0	1	1	25	20	100	WOEX 05T304	**02000**
24	15.0	2	2	25	24	100	WOEX 05T304	**02400**
26	17.0	2	2	25	26	100	WOEX 05T304	**02600**
30	19.0	2	2	25	30	100	WOEX 06T304	**03000**
33	21.0	2	2	25	33	100	WOEX 080404	**03300**
36	21.0	2	2	25	36	100	WOEX 080404	**03600**
40	25.0	2	2	25	40	100	WOEX 080404	**04000**
48	28.0	2	2	32	48	120	WOEX 100504	**04800**

1) Without through coolant supply



→ Find suitable indexable inserts here.



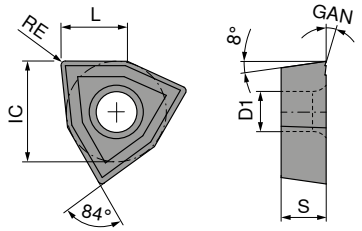
Screwdriver

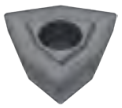


Clamping screw

Spare parts DC		AS 80 950 ...		AS 10 950 ...
10 - 11	T06 - IP	**116**	M2,0x4,3 - 06IP	**10000**
15 - 26	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
30	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
33 - 48	T15 - IP	**120**	M4,5x9 - 15IP	**12700**

CoreLine – HM indexable insert



-01 K10	-01 BK8425
	
WOEX	WOEX
IH	IH
10 821 ...	10 821 ...

Designation	L mm	D1 mm	S mm	IC mm	GAN	RE mm		
WOEX 030204EN	3.2	2.30	2.3	5	12°	0.4	**35301**	**30301**
WOEX 05T304SN	5.3	2.85	3.8	8	12°	0.4	**35501**	**30501**
WOEX 06T304SN	6.6	4.05	3.8	10	12°	0.4	**35601**	**30601**
WOEX 080404SN	7.9	4.90	4.8	12	12°	0.4	**35801**	**30801**
WOEX 100504SN	9.9	4.90	5.3	15	12°	0.4	**36001**	**31001**
P								●
M								●
K							●	●
N								
S								
H								
O								

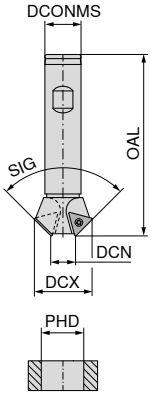
→ Find the cutting data standard values here.

Here you will find further indexable inserts → Core drilling and fine boring tools

CoreLine – Insert countersink 90°

Scope of supply:
Insert countersink incl. clamping screws

WPS







SIG 90°

DCX mm	DCN mm	PHD mm	ZEFP	ZNF	DCONMS mm	OAL mm	Indexable insert	TO 30 196 ...
19	7	9.5	2	2	16	100	TOHX 090204	**19000**
23	11	12.0	2	2	16	100	TOHX 090204	**23000**
26	11	12.0	1	2	16	100	TOHX 090204	**26000**
30	12	13.0	2	2	20	100	TOHX 140305	**30000**
34	16	17.0	2	2	20	100	TOHX 140305	**34000**
37	19	20.0	2	2	20	100	TOHX 140305	**37000**

→ Find suitable indexable inserts here.



TORX® screw



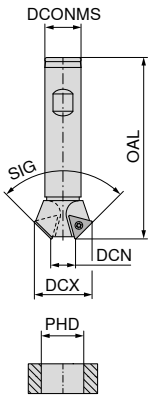
Screwdriver

Spare parts DCX		FI 62 950 ...		AS 80 950 ...
19 - 26	M2,6x6,2 - 08IP	**09900**	T08 - IP	**039**
30 - 37	M3,5x7,3 - 10IP	**12600**	T10 - IP	**119**

CoreLine – Insert countersink 90°

Scope of supply:
Insert countersink incl. clamping screws

WPS







SIG 90°

DCX inch	DCN inch	PHD inch	ZEFP	ZNF	DCONMS inch	OAL inch	Indexable insert	TO 58 196 ...
0.748	0.276	0.374	2	2	0.625	3.940	TOHX 090204	**19000**
0.906	0.433	0.472	2	2	0.625	3.940	TOHX 090204	**23000**
1.024	0.433	0.472	1	2	0.625	3.940	TOHX 090204	**26000**
1.181	0.472	0.472	2	2	0.750	3.940	TOHX 140305	**30000**
1.339	0.630	0.669	2	2	0.750	3.940	TOHX 140305	**34000**
1.457	0.748	0.787	2	2	0.750	3.940	TOHX 140305	**37000**

→ Find suitable indexable inserts here.



TORX® screw



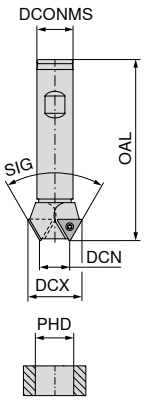
Screwdriver

Spare parts DCX		FI 62 950 ...		AS 80 950 ...
0.748 - 1.024	M2,6x6,2 - 08IP	**09900**	T08 - IP	**039**
1.181 - 1.457	M3,5x7,3 - 10IP	**12600**	T10 - IP	**119**

CoreLine – Insert countersink 60°

Scope of supply:
Insert countersink incl. clamping screws

WPS







SIG 60°

DCX mm	DCN mm	PHD mm	ZEFP	ZNF	DCONMS mm	OAL mm	Indexable insert	TO 30 197 ...
16.5	8.1	8.5	1	1	16	100	TOHX 090204	**16500**
20.0	11.6	12.0	2	2	16	100	TOHX 090204	**20000**
22.0	13.6	14.0	2	2	16	100	TOHX 090204	**22000**
23.5	15.1	15.5	2	2	16	100	TOHX 090204	**23500**
25.5	17.1	17.5	2	2	16	100	TOHX 090204	**25500**

→ Find suitable indexable inserts here.



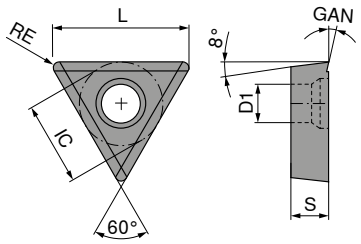
TORX® screw



Screwdriver

Spare parts DCX		FI 62 950 ...		AS 80 950 ...
16,5 - 22	M2,6x5,2 - 08IP	**12000**	T08 - IP	**039**
23,5 - 25,5	M2,6x6,2 - 08IP	**09900**	T08 - IP	**039**

CoreLine – HM indexable insert



Designation	L mm	D1 mm	S mm	IC mm	GAN	RE mm
TOHX 090204EN	9.12	2.8	2.5	5.6	6°	0.4
TOHX 090204EN	9.12	2.8	2.5	5.6	12°	0.4
TOHX 090204FN	9.12	2.8	2.5	5.6	12°	0.4
TOHX 140305EN	13.48	3.8	3.0	8.2	6°	0.5
TOHX 140305FN	13.48	3.8	3.0	8.2	12°	0.5

-U877 K10	-G12 K10	-G06 BK8425	-U877 BK8425	-G12 BK8425
				
F TOHX	**F** TOHX	**F** TOHX	**F** TOHX	**F** TOHX
IH	IH	IH	IH	IH
62 604 ...	**62 603 ...**	**62 602 ...**	**62 604 ...**	**62 603 ...**
51400			**31400**	
				31400
	51600			
		33000		
	52800			
P		●	●	●
M		●	●	●
K		●	●	●
N	●	●	○	○	○
S	●	●	●	●	●
H			○	○	○
O	●	●			

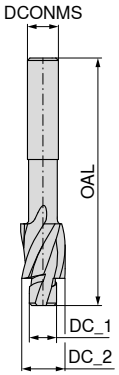
→ Find the cutting data standard values here.

Here you will find further indexable inserts → Core drilling and fine boring tools

CoreLine – Counterbore, DIN 373

▲ With fixed pilot
▲ With 3 cutting edges, right-hand flutes for countersinking according to DIN 74
▲ For countersinking of hexagon socket screws according to DIN 912, DIN 6912, DIN 7984, and cylindrical screws according to DIN 84

N





Fine



SIG 180°
HSS



Medium



SIG 180°
HSS

Thread	DC_2 z9 mm	DCONMS h9 mm	OAL mm	DC_1 e8 mm	CX 30 190 ...	CX 30 191 ...
M3	6	5.0	71	3.2	030 1)	
M3	6	5.0	71	3.4		030 1)
M4	8	5.0	71	4.3	040 1)	
M4	8	5.0	71	4.5		040 1)
M5	10	8.0	80	5.3	050 1)	
M5	10	8.0	80	5.5		050 1)
M6	11	8.0	80	6.4	060 1)	
M6	11	8.0	80	6.6		060 1)
M8	15	12.5	100	8.4	080 1)	
M8	15	12.5	100	9.0		080 1)
M10	18	12.5	100	10.5	100 1)	
M10	18	12.5	100	11.0		100 1)
M12	20	12.5	100	13.0	120	
M12	20	12.5	100	13.5		120
P					●	●
M					●	●
K					●	●
N					●	●
S					○	○
H						
O					●	●

1) Included in the set

→ Find the cutting data standard values here.

CoreLine – Counterbore, DIN 373 – set

Scope of supply:
Counterbores M3; M4; M5; M6; M8; M10 in storage case

N

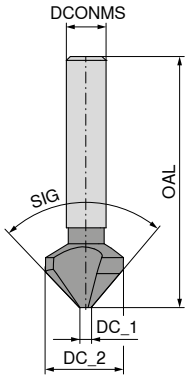


	Fine	Medium
	CX	CX
	30 190 ...	30 191 ...
	999	999

CoreLine – Countersink 90° with irregular pitch, DIN 335-C

- All sizes with 3 cutting edges and extremely irregular pitch, resulting in quiet running, excellent roundness, and chatter-free countersinking giving the highest surface quality
- Special HPC-TiN coating
- For a very long tool life in almost all materials
- Greatly reduced axial and radial forces
- For countersunk screws to DIN 7991

N



HPC-TiN





SIG 90°
Solid carbide

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	DIN 7991	CX 30 117 ...
6.3	1.5	5	45	M3	**06300**
8.3	2.0	6	50	M4	**08300**
10.4	2.5	6	50	M5	**10400** [1]
12.4	2.8	8	56	M6	**12400**
16.5	3.2	10	60	M8	**16500** [1]
20.5	3.5	10	60	M10	**20500**
25.0	3.8	10	67	M12	**25000** [1]
31.0	4.2	12	71	M16	**31000**

P	●
M	○
K	●
N	●
S	○
H	○
O	○

1) Included in the set

→ Find the cutting data standard values here.

CoreLine – Countersink 90° with irregular pitch, DIN 335-C – Set

Scope of supply:
Countersinks Ø 10.4 / 16.5 / 25.0 mm in storage case



N

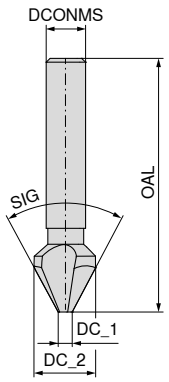
HPC-TiN

CX 30 117 ...
99900

CoreLine – Countersink 60°, factory standard-C

▲ With 3 cutting edges for countersinking and deburring in high-tensile steels, gray cast iron, aluminum alloys containing silicon, and stainless steels

N



uncoated



SIG 60°
Solid carbide

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	CX 30 160 ...
12.5	3.2	8	56	**125**
16.0	4.0	10	63	**160**
20.0	5.0	10	67	**200**
25.0	6.3	10	71	**250**

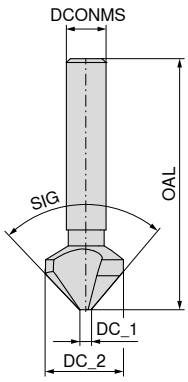
P	●
M	○
K	●
N	●
S	○
H	○
O	

→ Find the cutting data standard values here.

CoreLine – Countersink 90°, factory standard-C

▲ With 3 cutting edges for countersinking and deburring in high-tensile steels, gray cast iron, aluminum alloys containing silicon, and stainless steels

N



uncoated



SIG 90°
Solid carbide

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	DIN ISO 7721	DIN 7991	CX 30 115 ...
10.4	2.5	8	46	M5		**100**
12.4	2.8	8	56		M6	**124**
15.0	3.2	10	60	M8		**150**
16.5	3.2	10	60		M8	**165**
20.5	3.5	10	63		M10	**205**
25.0	3.8	10	67		M12	**250**
31.0	4.2	12	71		M16	**310**

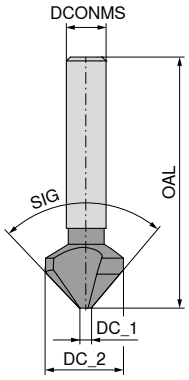
P	●
M	○
K	●
N	●
S	○
H	○
O	

→ Find the cutting data standard values here.

CoreLine – 90° countersink with irregular pitch, DIN 335-C

- All sizes with 3 cutting edges and extremely irregular pitch, resulting in quiet running, excellent roundness, and chatter-free countersinking giving the highest surface quality
- For a very long tool life in almost all materials
- Greatly reduced axial and radial forces
- For DIN ISO 7721 and DIN 7991 countersunk head screws

N



TiN



SIG 90°
HSS

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	DIN ISO 7721	DIN 7991	CX 30 141 ...
4.3	1.3	4	40	M2		**04300**
6.0	1.5	5	45	M3		**06000**
6.3	1.5	5	45		M3	**06300**
8.0	2.0	6	50	M4		**08000**
8.3	2.0	6	50		M4	**08300**
10.0	2.5	6	50	M5		**10000**
10.4	2.5	6	50		M5	**10400** [1]
11.5	2.8	8	56	M6		**11500**
12.4	2.8	8	56		M6	**12400**
15.0	3.2	10	60	M8		**15000**
16.5	3.2	10	60		M8	**16500** [1]
19.0	3.5	10	63	M10		**19000**
20.5	3.5	10	63		M10	**20500**
23.0	3.8	10	67	M12		**23000**
25.0	3.8	10	67		M12	**25000** [1]
31.0	4.2	12	71		M16	**31000**

P	●
M	○
K	●
N	●
S	○
H	○
O	○

1) Included in the set

→ Find the cutting data standard values here.

CoreLine – Countersink 90° with irregular pitch, DIN 335-C – Set

Scope of supply:
Countersinks Ø 10.4 / 16.5 / 25.0 mm in storage case



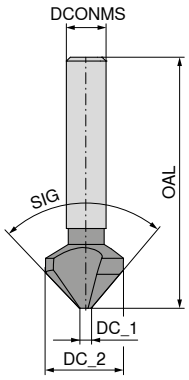
N

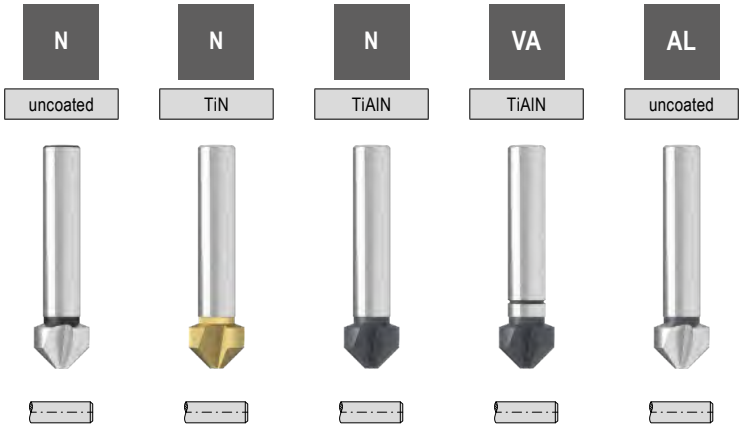
TiN

CX 30 141 ...
99900

CoreLine – Countersink 90°, DIN 335-C

- With 3 cutting edges to avoid burrs and chatter marks when countersinking and deburring in virtually all materials. Particularly suitable for DIN screws according to DIN ISO 7721 and 7991, as the countersink diameters are matched to the heads of these screws.
- The TiN version makes high cutting rates possible; very long service life and very good friction resistance properties in order to avoid material sticking.
- TiAlN version shows considerably improved performance compared to TiN version. Particularly suitable for abrasive materials (cast iron, AlSi) and/or at high temperature.





DC_2 z9 mm	DC_1 mm	DCONMS mm	OAL mm	DIN ISO 7721	DIN 7991	CX 30 100 ...	CX 30 110 ...	CX 30 130 ...	CX 30 132 ...	CX 30 102 ...
4.3	1.3	4	40	M2		043				
5.0	1.5	4	40	M2,5		050	050	050		
6.0	1.5	5	45	M3		060				
6.3	1.5	5	45		M3	063 [1)]	063 [1)]	063	063	063
7.0	1.8	6	50	M3,5		070				
8.0	2.0	6	50	M4		080	080	080		
8.3	2.0	6	50		M4	083 [1)]	083 [1)]	083	083	083
9.4	2.2	6	50			094				
10.0	2.5	6	50	M5		100	100	100		
10.4	2.5	6	50		M5	104 [1)]	104 [1)]	104	104	104
11.5	2.8	8	56	M6		115				
12.4	2.8	8	56		M6	124 [1)]	124 [1)]	124	124	124
13.4	2.9	8	56			134				
15.0	3.2	10	60	M8		150	150	150	150	150
16.5	3.2	10	60		M8	165 [1)]	165 [1)]	165	165	165
19.0	3.5	10	63	M10		190				
20.5	3.5	10	63		M10	205 [1)]	205 [1)]	205	205	205
23.0	3.8	10	67	M12		230				
25.0	3.8	10	67		M12	250	250	250	250	250
31.0	4.2	12	71		M16	310	310	310	310	
31.0	4.2	12	67		M16					310
P						●	●	●	○	○
M						○	○	○	●	○
K						●	●	●	○	○
N						●	●	●	○	●
S						○	○	○	○	○
H							○	○	○	
O						●	●	●	●	●

1) Included in the set

→ Find the cutting data standard values here.

CoreLine – Countersink 90°, DIN 335-C – Set

Scope of supply:
Countersinks Ø 6.3; 8.3; 10.4; 12.4; 16.5; 20.5 in storage case



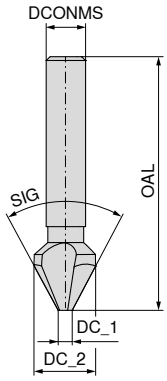
N

uncoated	TiN
CX	CX
30 100 ...	**30 110 ...**
999	**999**

CoreLine – Countersink 60°, DIN 334-C

▲ 3 cutting edges for countersinking and deburring in virtually all materials

N



uncoated





SIG 60°
HSS

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	CX 30 150 ...
6.3	1.6	5	45	**063** 1)
8.0	2.0	6	50	**080** 1)
10.0	2.5	6	52	**100** 1)
12.5	3.2	8	56	**125** 1)
16.0	4.0	10	63	**160** 1)
20.0	5.0	10	67	**200** 1)
25.0	6.3	10	71	**250**

P	●
M	○
K	●
N	●
S	○
H	
O	●

1) Included in the set

→ Find the cutting data standard values here.

CoreLine – Countersink 60°, DIN 334-C – Set

Scope of supply:
Countersinks Ø 6.3; 8.0; 10.0; 12.5; 16.0; 20.0 in storage case



N

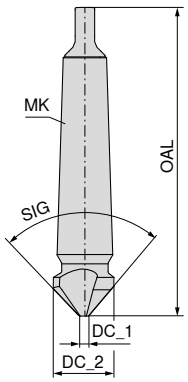
uncoated

CX 30 150 ...
999

CoreLine – Countersink 90°, DIN 335-D

▲ With 3 cutting edges to avoid burrs and chatter marks when countersinking and deburring in virtually all materials. Particularly suitable for DIN screws according to DIN ISO 7721 and 7991, as the countersink diameters are matched to the heads of these screws.

N



uncoated





SIG 90°
HSS

DC_2 z9 mm	DC_1 mm	OAL mm	MK	CX 30 105 ...
30	4.2	112	2	**300**
31	4.2	112	2	**310**
34	4.5	118	2	**340**
37	4.8	118	2	**370**
40	10.0	140	3	**400**
50	14.0	150	3	**500**
63	16.0	180	4	**630**
80	22.0	190	4	**800**

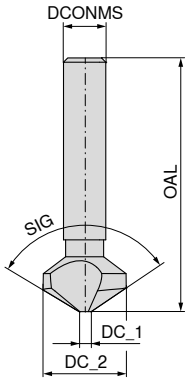
P	●
M	○
K	●
N	●
S	○
H	
O	●

→ Find the cutting data standard values here.

CoreLine – Countersink 120°, factory standard-C

▲ 3 cutting edges for countersinking and deburring in virtually all materials

N



uncoated



SIG 120°
HSS

DC_2 z9 mm	DC_1 mm	DCONMS h9 mm	OAL mm	CX 30 170 ...
6.3	1.5	5	45	**063**
8.3	2.0	6	50	**083**
10.4	2.5	6	50	**104**
12.4	2.8	8	56	**124**
16.5	3.2	10	60	**165**
20.5	3.5	10	60	**205**
25.0	3.8	10	63	**250**

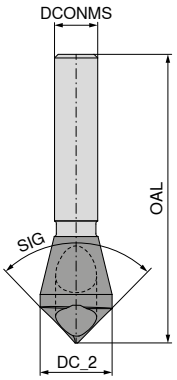
P	●
M	○
K	●
N	●
S	○
H	
O	●

→ Find the cutting data standard values here.

CoreLine – Deburring countersink 90°, factory standard-A

▲ With angled hole to avoid burrs and chatter marks when countersinking and deburring in soft, long-chipping materials, e.g., aluminum, plastics etc.

N





DC_2 mm	PHD mm	DCONMS h9 mm	OAL mm	CX 30 120 ...	CX 30 121 ...
6.3	1 - 4	6.3	45	**040** [1]	**040** [1]
10.0	2 - 5	6.0	45	**050**	**050**
14.0	5 - 10	8.0	48	**101**	**101**
21.0	10 - 15	10.0	65	**150**	**150**
28.0	15 - 20	12.0	85	**200**	**200**

P	●	●
M	○	○
K	●	●
N	●	●
S	○	○
H		○
O	●	●

1) Double sided

→ Find the cutting data standard values here.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Reamax TS – Cutting data standard values

Index	40 577 …, 40 585 … 75J.65, 75H.65 – ASG3000 / HM-DBG-P						40 521 …, 40 571 … 75J.65, 75H.65 – ASG0106 / HM-DBG-P					
	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.1.2	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.1.3	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.1.4	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.1.5	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.2.1	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.2.2	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.2.3	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.2.4	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
P.3.1							**30** (25–50)	**30** (25–40)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
P.3.2							**30** (25–50)	**30** (25–40)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
P.3.3							**30** (25–50)	**30** (25–40)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
P.4.1							**45** (35–60)	**40** (35–50)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
P.4.2							**45** (35–60)	**40** (35–50)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
M.1.1							**45** (35–60)	**40** (30–50)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
M.2.1							**45** (35–60)	**40** (30–50)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
M.3.1							**30** (25–50)	**30** (25–40)	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
K.1.1	**150** (130–220)	**120** (100–150)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
K.1.2	**150** (130–220)	**120** (100–150)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
K.2.1	**175** (150–300)	**150** (130–180)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
K.2.2	**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
K.3.1	**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
K.3.2	**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	40 526 …, 40 580 … 75J.17, 75H.17 – ASG0706 / HM-DBC						40 539 … 75H.93 – ASG3000 / DST					
	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.2							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.3							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.4							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.5							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.1							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.2							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.3							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.4							**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1							**175** (150–300)	**150** (130–180)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.2.2							**120** (100–150)	**100** (80–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
K.3.1							**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
K.3.2							**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
N.1.1	**150** (130–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
N.1.2	**150** (130–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
N.2.1	**200** (180–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
N.2.2	**200** (180–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
N.2.3	**200** (180–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
N.3.1							150 (130–320)	150 (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
N.3.2							150 (130–320)	150 (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
N.3.3												
N.4.1	**150** (180–300)	**150** (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1	250 (220–270)	250 (220–270)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	40 544 …						40 597 …					
	75J.93 – ASG3000 / DST						75J.93 – ASG4000 / DST					
	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.1.2	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.1.3	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.1.4	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.1.5	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.2.1	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.2.2	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.2.3	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.2.4	**150** (130–200)	**120** (100–160)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150** (130–200)	**120** (100–160)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**175** (150–300)	**150** (130–180)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40	**225** (200–300)	**180** (160–240)	1,20–1,60	1,50–2,00	2,00–2,70	2,90–4,10
K.2.2	**120** (100–150)	**100** (80–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**120** (100–150)	**100** (80–120)	1,20–1,60	1,50–2,00	2,00–2,70	2,90–4,10
K.3.1	**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
K.3.2	**120** (100–180)	**120** (100–150)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**120** (100–180)	**120** (100–150)	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	150 (130–320)	150 (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
N.3.2	150 (130–320)	150 (130–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	40 535 …					
	75H.71 – ASG3000 / HM-TiN					
	Nominal Ø (mm) ▸		18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø ▸		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth ▸		6	6	8	10
	3xD	5xD				
	v_c (m/min)		f (mm/rev)			
P.1.1	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.2	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.3	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.4	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.1.5	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.1	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.2	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.3	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.2.4	100 (80–140)	80 (60–120)	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
P.3.1						
P.3.2						
P.3.3						
P.4.1						
P.4.2						
M.1.1						
M.2.1						
M.3.1						
K.1.1	**80** (60–130)	**80** (60–120)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.1.2	**80** (60–130)	**80** (60–120)	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
K.2.1						
K.2.2						
K.3.1						
K.3.2						
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1	**120** (100–200)	**120** (100–200)	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
N.3.2	**80** (60–150)	**80** (60–120)	0,70–1,10	0,90–1,40	1,20–1,90	1,70–2,60
N.3.3	**120** (100–200)	**120** (100–150)	0,70–1,10	0,90–1,40	1,20–1,90	1,70–2,60
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	49 586 …, 49 585 …						49 521 …, 49 571 …					
	75J.65, 75H.65 – ASG3000 / HM-DBG-P						75J.65, 75H.65 – ASG0106 / HM-DBG-P					
	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.1.5	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.2.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110						
P.3.1							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.3.2							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.3.3							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
P.4.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
P.4.2							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.1.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.2.1							**150** (110–200)	**130** (110–160)	.024–.035	.031–.043	.043–.059	.059–.091
M.3.1							**100** (80–160)	**100** (80–130)	.024–.035	.031–.043	.043–.059	.059–.091
K.1.1	**490** (430–720)	**390** (330–490)	.035–.051	.047–.067	.063–.091	.091–.134						
K.1.2	**490** (430–720)	**390** (330–490)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.1	**570** (490–980)	**490** (430–590)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.1	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	49 534 …, 49 535 …						49 596 …					
	75J.71, 75H.71 – ASG3000 / TiN						75J.71 – ASG4000 / TiN					
	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.2	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.3	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.4	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.5	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110	**330** (260–460)	**260** (200–390)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.1	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.2	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.3	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.2.4	330 (260–460)	260 (200–390)	.031–.004	.039–.055	.051–.075	.075–.110						
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	260 (200–430)	260 (200–390)	.035–.051	.047–.067	.063–.091	.091–.134						
K.1.2	260 (200–430)	260 (200–390)	.035–.051	.047–.067	.063–.091	.091–.134						
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	**390** (330–660)	**390** (330–660)	.035–.051	.043–.067	.059–.091	.091–.134						
N.3.2	**260** (200–490)	**260** (200–390)	.028–.043	.035–.055	.047–.075	.067–.102						
N.3.3	**390** (330–660)	**390** (330–490)	.028–.043	.035–.055	.047–.075	.067–.102						
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	49 520 …, 49 527 … 75J.71, 75H.71 – ASG0106 / TiN						49 526 …, 49 580 … 75J.17, 75H.17 – ASG0706 / DBC					
Nominal Ø (inch) ▸			.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590			.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
Reaming allowance Ø ▸			.008 – .012	.008 – .012	.012 – .016	.012 – .016			.008 – .012	.008 – .012	.012 – .016	.012 – .016
Number of teeth ▸			6	6	8	10			6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.3.2	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.3.3	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
P.4.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
P.4.2	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.1.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.2.1	100 (70–130)	90 (70–110)	.024–.035	.031–.043	.043–.059	.059–.091						
M.3.1	70 (50–110)	70 (50–90)	.024–.035	.031–.043	.043–.059	.059–.091						
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.1.2							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.1							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.2							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.2.3							**660** (590–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
N.3.1												
N.3.2												
N.3.3												
N.4.1							**490** (430–980)	**490** (430–660)	.035–.051	.043–.067	.059–.091	.087–.134
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1							820 (720–890)	820 (720–890)	.035–.051	.043–.067	.059–.091	.087–.134



The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	49 544 …, 49 539 …						49 597 …					
	75J.93, 75H.93 – ASG3000 / DST						75J.93 – ASG4000 / DST					
	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of teeth ▸		6	6	8	10	Number of teeth ▸		6	6	8	10
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.1.5	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.1	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.2	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.3	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.2.4	**490** (430–660)	**390** (330–520)	.031–.043	.039–.055	.051–.075	.075–.110	**490** (430–660)	**390** (330–520)	.039–.051	.047–.067	.067–.091	.094–.134
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**570** (490–980)	**490** (430–590)	.035–.051	.047–.067	.063–.091	.091–.134	**740** (660–980)	**590** (520–790)	.047–.063	.059–.079	.079–.106	.114–.161
K.2.2	**380** (330–490)	**330** (260–390)	.031–.043	.039–.055	.051–.075	.075–.110	**390** (330–490)	**330** (260–390)	.047–.063	.059–.079	.079–.106	.114–.161
K.3.1	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110						
K.3.2	**390** (330–590)	**390** (330–490)	.031–.043	.039–.055	.051–.075	.075–.110	**390** (330–590)	**390** (330–490)	.039–.051	.047–.067	.067–.091	.094–.134
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	490 (430–1050)	490 (430–660)	.035–.051	.043–.067	.059–.091	.083–.122						
N.3.2	490 (430–1050)	490 (430–660)	.035–.051	.043–.067	.059–.091	.083–.122						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax TS – Cutting data standard values

Index	49 531 …, 49 530 …					
	75J.21, 75H.21 – ASG03 / K10					
	Nominal Ø (inch) ▸		.7086–.8660	.8661–1.2519	1.2520–2.0471	2.0472–2.5590
	Reaming allowance Ø ▸		.008 – .012	.008 – .012	.012 – .016	.012 – .016
	Number of teeth ▸		6	6	8	10
	3xD	5xD				
	v_c (ft/min)		f (inch/rev)			
P.1.1						
P.1.2						
P.1.3						
P.1.4						
P.1.5						
P.2.1						
P.2.2						
P.2.3						
P.2.4						
P.3.1						
P.3.2						
P.3.3						
P.4.1						
P.4.2						
M.1.1						
M.2.1						
M.3.1						
K.1.1						
K.1.2						
K.2.1						
K.2.2						
K.3.1						
K.3.2						
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
S.3.2	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
S.3.3	**30** (20–40)	**30** (20–40)	.024–.035	.031–.047	.043–.063	.063–.094
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	40 817 … 300.25 – ASG3000 / HM					40 818 … 300.25 – ASG02 / HM				
Nominal Ø (mm) ▸			60,6–79,59	79,6–100,59	> 100,6			60,6–79,59	79,6–100,59	> 100,6
Reaming allowance Ø ▸			0,3–0,5	0,3–0,5	0,3–0,5			0,3–0,5	0,3–0,5	0,3–0,5
Number of teeth ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.2	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.3	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.4	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.5	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.1	30 (25–45)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.2	8 (6–10)	8 (6–10)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.3	8 (7–9)	8 (7–9)	0,80–1,20	1,10–1,60	1,30–2,00					
P.2.4	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
P.3.1	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
P.3.2	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
P.3.3	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
P.4.1	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
P.4.2	6 (5–7)	6 (5–7)	0,80–1,20	1,10–1,60	1,30–2,00					
M.1.1										
M.2.1										
M.3.1										
K.1.1	20 (15–25)	20 (15–25)	1,40–2,00	1,90–2,70	2,30–3,40					
K.1.2	20 (15–25)	20 (15–25)	1,40–2,00	1,90–2,70	2,30–3,40					
K.2.1	12 (12–15)	12 (12–15)	1,10–1,70	1,50–2,30	1,90–2,80					
K.2.2	12 (12–15)	12 (12–15)	1,10–1,70	1,50–2,30	1,90–2,80					
K.3.1	12 (12–15)	12 (12–15)	1,40–2,00	1,90–2,70	2,30–3,40					
K.3.2	12 (12–15)	12 12–15)	1,10–1,70	1,50–2,30	1,90–2,80					
N.1.1	25 (15–30)	25 (15–30)	1,20–1,90	1,70–2,50	2,10–3,10	**25** (15–30)	**25** (15–30)	1,30–2,00	1,70–2,70	2,20–3,40
N.1.2	25 (15–30)	25 (15–30)	1,20–1,90	1,70–2,50	2,10–3,10	**25** (15–30)	**25** (15–30)	1,30–2,00	1,70–2,70	2,20–3,40
N.2.1	14 (12–16)	14 (12–16)	1,30–2,00	1,70–2,70	2,20–3,40	**14** (12–16)	**14** (12–16)	1,30–2,00	1,70–2,70	2,20–3,40
N.2.2	14 (12–16)	14 (12–16)	1,30–2,00	1,70–2,70	2,20–3,40	**14** (12–16)	**14** (12–16)	1,30–2,00	1,70–2,70	2,20–3,40
N.2.3	14 (12–16)	14 (12–16)	1,30–2,00	1,70–2,70	2,20–3,40	**14** (12–16)	**14** (12–16)	1,30–2,00	1,70–2,70	2,20–3,40
N.3.1	25 (15–30)	25 (15–30)	1,00–1,50	1,40–2,10	1,70–2,60	**25** (15–30)	**25** (15–30)	1,20–1,90	1,70–2,50	2,10–3,10
N.3.2	14 (12–20)	14 (12–20)	1,00–1,50	1,40–2,10	1,70–2,60	**14** (12–20)	**14** (12–20)	1,00–1,50	1,40–2,10	1,70–2,60
N.3.3	14 (12–20)	14 (12–20)	1,00–1,50	1,40–2,10	1,70–2,60	**14** (12–20)	**14** (12–20)	1,00–1,50	1,40–2,10	1,70–2,60
N.4.1	20 (15–30)	20 (15–30)	1,30–2,00	1,70–2,50	2,20–3,40	**20** (15–30)	**20** (15–30)	1,30–2,00	1,70–2,70	2,20–3,40
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	40 821 …					40 822 …				
	300.05 – ASG3000 / TiN					300.05 – ASG0106 / TiN				
Nominal Ø (mm) ▸			60,6–79,59	79,6–100,59	> 100,6			60,6–79,59	79,6–100,59	> 100,6
Reaming allowance Ø ▸			0,3–0,5	0,3–0,5	0,3–0,5			0,3–0,5	0,3–0,5	0,3–0,5
Number of teeth ▸			6	8	10			6	8	10
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.2	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.3	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.4	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.1.5	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.1	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.2	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.3	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.2.4	100 (80–140)	80 (60–120)	1,10–1,70	1,50–2,30	1,90–2,80					
P.3.1						**30** (25–45)	**30** (25–45)	0,80–1,20	1,10–1,60	1,30–2,00
P.3.2						**30** (25–45)	**30** (25–45)	0,80–1,20	1,10–1,60	1,30–2,00
P.3.3										
P.4.1						**30** (25–45)	**30** (25–45)	0,80–1,20	1,10–1,60	1,30–2,00
P.4.2						**30** (25–45)	**30** (25–45)	0,80–1,20	1,10–1,60	1,30–2,00
M.1.1						**30** (25–45)	**30** (25–40)	0,90–1,30	1,20–1,80	1,50–2,30
M.2.1						**20** (15–35)	**20** (15–35)	0,90–1,30	1,20–1,80	1,50–2,30
M.3.1						**20** (15–35)	**20** (15–35)	0,90–1,30	1,20–1,80	1,50–2,30
K.1.1	80 (60–130)	80 (60–120)	1,40–2,00	1,90–2,00	2,30–3,40					
K.1.2	80 (60–130)	80 (60–120)	1,40–2,00	1,90–2,00	2,30–3,40					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	120 (100–200)	120 (100–200)	1,20–1,90	1,70–2,50	2,10–3,10					
N.3.2	120 (100–200)	120 (100–200)	1,00–1,50	1,40–2,10	1,70–2,60					
N.3.3	80 (60–150)	80 (60–120)	1,00–1,50	1,40–2,10	1,70–2,60					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	40 825 … 300.45 – ASG3000 / DST					40 826 … 300.45 – ASG4000 / DST				
	Nominal Ø (mm) ▸		60,6–79,59	79,6–100,59	> 100,6	Nominal Ø (mm) ▸		60,6–79,59	79,6–100,59	> 100,6
	Reaming allowance Ø ▸		0,3–0,5	0,3–0,5	0,3–0,5	Reaming allowance Ø ▸		0,3–0,5	0,3–0,5	0,3–0,5
	Number of teeth ▸		6	8	10	Number of teeth ▸		6	8	10
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.1.2	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.1.3	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.1.4	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.1.5	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.2.1	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.2.2	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.2.3	**150** (120–200)	**120** (100–160)	1,10–1,70	1,50–2,30	1,90–2,80	**150** (120–200)	**120** (100–160)	1,40–2,00	1,90–2,70	2,40–3,40
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**175** (120–300)	**150** (120–180)	1,40–2,00	1,90–2,70	2,30–3,40					
K.2.2	**150** (120–250)	**120** (80–150)	1,10–1,70	1,50–2,30	1,90–2,80					
K.3.1	**120** (100–180)	**120** (80–150)	1,40–2,00	1,90–2,70	2,30–3,40					
K.3.2	**120** (100–180)	**120** (80–150)	1,10–1,70	1,50–2,30	1,90–2,80					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	150 (120–320)	150 (120–200)	1,20–1,90	1,70–2,50	2,10–3,10					
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	49 836 …					49 835 …				
	300.65 – ASG3000 / DBG-P					300.65 – ASG0106 / DBG-P				
	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of teeth ▸		6	8	10	Number of teeth ▸		6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.2	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.3	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.4	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.1.5	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.1	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.2	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.3	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.2.4	**490** (430–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110					
P.3.1						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.3.2						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.3.3						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
P.4.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
P.4.2						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.1.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.2.1						**150** (110–200)	**130** (110–160)	.035–.051	.047–.071	.059–.091
M.3.1						**100** (80–160)	**100** (80–130)	.035–.051	.047–.071	.059–.091
K.1.1	**490** (430–720)	**390** (330–490)	.085–.080	.073–.107	.091–.134					
K.1.2	**490** (430–720)	**390** (330–490)	.085–.080	.073–.107	.091–.134					
K.2.1	**570** (490–980)	**490** (430–590)	.085–.080	.073–.107	.091–.134					
K.2.2	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
K.3.1	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
K.3.2	**390** (330–590)	**390** (330–490)	.045–.066	.060–.088	.075–.110					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	49 823 … 300.05 – ASG3000 / TiN					49 824 … 300.05 – ASG0106 / TiN				
	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of teeth ▸		6	8	10	Number of teeth ▸		6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.2	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.3	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.4	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.1.5	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.1	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.2	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.3	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.2.4	330 (260–460)	260 (200–390)	.043–.067	.059–.091	.075–.110					
P.3.1						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.3.2						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.3.3										
P.4.1						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
P.4.2						**100** (80–150)	**100** (80–150)	.031–.047	.043–.063	.051–.079
M.1.1						**100** (80–150)	**100** (80–130)	.035–.051	.047–.071	.059–.091
M.2.1						**70** (50–110)	**70** (50–110)	.035–.051	.047–.071	.059–.091
M.3.1						**70** (50–110)	**70** (50–110)	.035–.051	.047–.071	.059–.091
K.1.1	260 (200–430)	260 (200–390)	.055–.079	.075–.079	.091–.134					
K.1.2	260 (200–430)	260 (200–390)	.055–.079	.075–.079	.091–.134					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	390 (330–660)	390 (330–660)	.047–.075	.067–.098	.083–.122					
N.3.2	390 (330–660)	390 (330–660)	.039–.059	.055–.083	.067–.102					
N.3.3	260 (200–490)	260 (200–390)	.039–.059	.055–.083	.067–.102					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	49 831 …					49 839 …				
	300.05 – ASG4000 / TiN					300.17 – ASG0706 / DBC				
	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of teeth ▸		6	8	10	Number of teeth ▸		6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.2	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.3	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.4	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.1.5	**330** (260–460)	**260** (200–390)	.055–.079	.012–.020	.012–.020					
P.2.1										
P.2.2										
P.2.3										
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.1.2						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.1						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.2						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.2.3						**660** (590–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
N.3.1	390 (330–660)	390 (330–660)	.047–.075	.067–.098	.083–.122					
N.3.2	390 (330–660)	390 (330–660)	.039–.059	.055–.083	.067–.102					
N.3.3	260 (200–490)	260 (200–390)	.039–.059	.055–.083	.067–.102					
N.4.1						**490** (430–980)	**490** (430–660)	.052–.080	.070–.107	.087–.134
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	49 827 …					49 828 …				
	300.45 – ASG3000 / DST					300.45 – ASG4000 / DST				
	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of teeth ▸		6	8	10	Number of teeth ▸		6	8	10
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.2	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.3	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.4	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.1.5	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.1	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.2	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.3	**490** (390–660)	**390** (330–520)	.043–.067	.059–.091	.075–.110	**490** (390–660)	**390** (330–520)	.055–.079	.075–.106	.094–.134
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (390–980)	**490** (390–590)	.055–.079	.075–.106	.091–.134					
K.2.2	**490** (390–820)	**390** (260–490)	.043–.067	.059–.091	.075–.110					
K.3.1	**390** (330–590)	**390** (260–490)	.055–.079	.075–.106	.091–.134					
K.3.2	**390** (330–590)	**390** (260–490)	.043–.067	.059–.091	.075–.110					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	**490** (390–1050)	**490** (390–660)	.047–.075	.067–.098	.083–.122					
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting ring – Cutting data standard values

Index	49 832 …				
	300.25 – ASG03 / K10				
	Nominal Ø (inch) ▸		2.3858–3.1338	3.1339–3.9605	3.9606–4.3543
	Reaming allowance Ø ▸		.012 – .020	.012 – .020	.012 – .020
	Number of teeth ▸		6	8	10
	3xD	5xD			
	v_c (ft/min)		f (inch/rev)		
P.1.1					
P.1.2					
P.1.3					
P.1.4					
P.1.5					
P.2.1					
P.2.2					
P.2.3					
P.2.4					
P.3.1					
P.3.2					
P.3.3					
P.4.1					
P.4.2					
M.1.1					
M.2.1					
M.3.1					
K.1.1					
K.1.2					
K.2.1					
K.2.2					
K.3.1					
K.3.2					
N.1.1					
N.1.2					
N.2.1					
N.2.2					
N.2.3					
N.3.1					
N.3.2					
N.3.3					
N.4.1					
S.1.1					
S.1.2					
S.2.1					
S.2.2					
S.2.3					
S.3.1	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
S.3.2	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
S.3.3	**30** (20–40)	**30** (20–40)	.031–.043	.041–.057	.052–.072
H.1.1					
H.1.2					
H.1.3					
H.1.4					
H.2.1					
H.3.1					
O.1.1					
O.1.2					
O.2.1					
O.2.2					
O.3.1					

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Free – Cutting data standard values

Index	40 303 …									
	71G.93 / 71H.93 – ASG3000 / DST									
	Number of teeth ▸		6		8		10		12	
	3xD	5xD								
	v_c (m/min)		f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.2	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.3	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.4	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.5	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.1	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.2	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.3	**150** (120–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**175** (120–300)	**150** (120–180)	1,40–2,00	0,3–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
K.2.2	**150** (120–250)	**120** (80–150)	1,10–1,70	0,3–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
K.3.1	**120** (100–180)	**120** (80–150)	1,40–2,00	0,3–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
K.3.2	**120** (100–180)	**120** (80–150)	1,10–1,70	0,3–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	**150** (130–320)	**120** (100–180)	1,20–1,90	0,3–0,5	1,70–2,50	0,3–0,5	2,00–3,20	0,3–0,5	2,40–3,80	0,3–0,5
N.3.2	**150** (130–320)	**120** (100–180)	1,20–1,90	0,3–0,5	1,70–2,50	0,3–0,5	2,00–3,20	0,3–0,5	2,40–3,80	0,3–0,5
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Free – Cutting data standard values

Index	40 304 …									
	71G.93 / 71H.93 – ASG4000 / DST									
	Number of teeth ▸		6		8		10		12	
	3xD	5xD								
	v_c (m/min)		f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.2	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.3	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.4	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.5	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.1	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.2	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.3	**150** (120–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Free – Cutting data standard values

Index	40 301 …									
	71G.65 / 71H.65 – ASG3000 / DBG-P									
	Number of teeth ▸		6		8		10		12	
	3xD	5xD								
	v_c (m/min)		f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.2	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.3	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.4	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.1.5	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.1	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.2	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.3	150 (120–200)	120 (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.2.4	**150** (130–200)	**120** (100–160)	1,10–1,70	0,2–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	**80** (60–130)	**80** (60–120)	1,40–2,00	0,3–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
K.1.2	**80** (60–130)	**80** (60–120)	1,10–1,70	0,3–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
K.2.1	175 (120–300)	150 (120–180)	1,40–2,00	0,3–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
K.2.2	150 (120–250)	120 (80–150)	1,10–1,70	0,3–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
K.3.1	120 (100–180)	120 (80–150)	1,40–2,00	0,3–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
K.3.2	120 (100–180)	120 (80–150)	1,10–1,70	0,3–0,5	1,50–2,30	0,3–0,5	1,80–2,80	0,3–0,5	2,20–3,40	0,3–0,5
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	150 (130–320)	120 (100–180)	1,20–1,90	0,3–0,5	1,70–2,50	0,3–0,5	2,00–3,20	0,3–0,5	2,40–3,80	0,3–0,5
N.3.2	150 (130–320)	120 (100–180)	1,20–1,90	0,3–0,5	1,70–2,50	0,3–0,5	2,00–3,20	0,3–0,5	2,40–3,80	0,3–0,5
N.3.3	**100** (80–150)	**100** (80–150)	1,00–1,50	0,3–0,5	1,40–2,10	0,3–0,5	1,70–2,50	0,3–0,5	2,00–3,00	0,3–0,5
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Free – Cutting data standard values

Index	40 302 …									
	71G.65 / 71H.65 – ASG4000 / DBG-P									
	Number of teeth ▸		6		8		10		12	
	3xD	5xD								
	v_c (m/min)		f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.2	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.3	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.4	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.1.5	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.1	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.2	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.3	150 (120–200)	120 (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.2.4	**150** (130–200)	**120** (100–160)	1,40–2,00	0,2–0,5	1,90–2,70	0,3–0,5	2,30–3,30	0,3–0,5	2,80–4,00	0,3–0,5
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 560 … 640.65 – ASG3000 / HM-DBG-P					40 551 … 640.65 – ASG0106 / HM-DBG-P				
	Nominal Ø (mm) ▸		12–21,999	22–32,000	32,001–40	Nominal Ø (mm) ▸		12–21,999	22–32,000	32,001–40
	Reaming allowance Ø ▸		0,10–0,30	0,20–0,40	0,20–0,40	Reaming allowance Ø ▸		0,10–0,30	0,20–0,40	0,20–0,40
	Number of teeth ▸		6	8	8	Number of teeth ▸		6	8	8
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.2	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.3	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.4	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.5	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.1	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.2	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.3	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.4	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00
P.3.1						**30** (25–50)	**30** (25–40)	0,70–0,90	1,20–1,60	1,20–1,60
P.3.2						**30** (25–50)	**30** (25–40)	0,70–0,90	1,20–1,60	1,20–1,60
P.3.3						**30** (25–50)	**30** (25–40)	0,70–0,90	1,20–1,60	1,20–1,60
P.4.1						**45** (35–60)	**40** (35–50)	0,70–0,90	1,20–1,60	1,20–1,60
P.4.2						**45** (35–60)	**40** (35–50)	0,70–0,90	1,20–1,60	1,20–1,60
M.1.1						**45** (35–60)	**40** (35–50)	0,70–0,90	1,20–1,60	1,20–1,60
M.2.1						**30** (25–50)	**30** (25–40)	0,70–0,90	1,20–1,60	1,20–1,60
M.3.1						**30** (25–50)	**30** (25–40)	0,70–0,90	1,20–1,60	1,20–1,60
K.1.1	**200** (180–250)	**160** (140–200)	1,00–1,40	1,30–1,90	1,30–1,90					
K.1.2	**200** (180–250)	**160** (140–200)	1,00–1,40	1,30–1,90	1,30–1,90					
K.2.1	**225** (200–300)	**180** (160–240)	1,00–1,40	1,30–1,90	1,30–1,90					
K.2.2	**120** (100–150)	**100** (80–120)	0,90–1,20	1,20–1,60	1,20–1,60					
K.3.1	**150** (130–250)	**120** (100–200)	0,90–1,20	1,20–1,60	1,20–1,60					
K.3.2	**120** (100–150)	**100** (80–120)	0,90–1,20	1,20–1,60	1,20–1,60					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1						**40** (35–60)	**40** (35–60)	0,40–0,80	0,60–1,00	0,60–1,00
H.1.2						**40** (35–60)	**40** (35–60)	0,40–0,80	0,60–1,00	0,60–1,00
H.1.3						**30** (25–50)	**30** (25–50)	0,40–0,80	0,60–1,00	0,60–1,00
H.1.4										
H.2.1						**40** (35–60)	**40** (35–60)	0,40–0,80	0,60–1,00	0,60–1,00
H.3.1						**40** (35–60)	**40** (35–60)	0,40–0,80	0,60–1,00	0,60–1,00
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 505 …					40 570 …				
	640.71 – ASG3000 / HM-TiN					640.27 – ASG0706 / HM-DBC				
	Nominal Ø (mm) ▸		12–21,999	22–32,000	32,001–40	Nominal Ø (mm) ▸		12–21,999	22–32,000	32,001–40
	Reaming allowance Ø ▸		0,10–0,30	0,20–0,40	0,20–0,40	Reaming allowance Ø ▸		0,10–0,30	0,20–0,40	0,20–0,40
	Number of teeth ▸		6	8	8	Number of teeth ▸		6	8	8
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.2	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.3	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.4	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.1.5	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.1	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.2	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.3	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.2.4	100 (80–140)	80 (60–120)	0,90–1,20	1,50–2,00	1,50–2,00					
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	80 (60–130)	80 (60–120)	1,00–1,40	1,80–2,40	1,80–2,40					
K.1.2	80 (60–130)	80 (60–120)	1,00–1,40	1,80–2,40	1,80–2,40					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1						**150** (130–300)	**150** (130–200)	1,00–1,40	1,70–2,40	1,70–2,40
N.1.2						**200** (180–300)	**150** (130–200)	1,00–1,40	1,70–2,40	1,70–2,40
N.2.1						**200** (180–300)	**150** (130–200)	1,00–1,40	1,70–2,40	1,70–2,40
N.2.2						**200** (180–300)	**150** (130–200)	1,00–1,40	1,70–2,40	1,70–2,40
N.2.3										
N.3.1	**120** (100–200)	**120** (100–150)	1,00–1,40	1,70–2,40	1,70–2,40					
N.3.2	**120** (100–200)	**120** (100–150)	1,00–1,40	1,70–2,40	1,70–2,40					
N.3.3	**80** (60–150)	**80** (60–120)	0,80–1,20	1,40–2,00	1,40–2,00					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1						250 (220–270)	250 (220–270)	1,00–1,40	1,70–2,40	1,70–2,40

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 525 … 640.93 – ASG3000 / DST					40 536 … 640.93 – ASG4000 / DST				
Nominal Ø (mm) ▸			12–21,999	22–32,000	32,001–40			12–21,999	22–32,000	32,001–40
Reaming allowance Ø ▸			0,10–0,30	0,20–0,40	0,20–0,40			0,10–0,30	0,20–0,40	0,20–0,40
Number of teeth ▸			6	8	8			6	8	8
	3xD	5xD				3xD	5xD			
	v_c (m/min)		f (mm/rev)			v_c (m/min)		f (mm/rev)		
P.1.1	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.1.2	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.1.3	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.1.4	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.1.5	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.2.1	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.2.2	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.2.3	**150** (130–200)	**120** (100–160)	0,90–1,20	1,50–2,00	1,50–2,00	**150** (130–200)	**120** (100–160)	1,10–1,40	1,80–2,40	1,80–2,40
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**175** (150–300)	**150** (130–180)	1,00–1,40	1,80–2,40	1,80–2,40	175 (150–300)	150 (130–180)	1,20–1,60	1,50–2,00	2,00–2,70
K.2.2	**150** (130–250)	**120** (100–160)	1,00–1,40	1,80–2,40	1,80–2,40	120 (100–180)	120 (100–150)	1,20–1,60	1,50–2,00	2,00–2,70
K.3.1	**150** (130–250)	**120** (100–160)	1,00–1,40	1,80–2,40	1,80–2,40					
K.3.2	**120** (100–180)	**120** (100–150)	0,90–1,20	1,50–2,00	1,50–2,00	120 (100–180)	120 (100–150)	1,00–1,30	1,20–1,70	1,70–2,30
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	150 (130–300)	150 (130–200)	1,00–1,40	1,70–2,40	1,70–2,40					
N.3.2	150 (130–300)	150 (130–200)	1,00–1,40	1,70–2,40	1,70–2,40					
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 560 … 640.65 – ASG3000 / HM-DBG-P					40 551 … 640.65 – ASG0106 / HM-DBG-P				
	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		6	8	8	Number of teeth ▸		6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.2	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.3	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.4	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.1.5	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.1	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.2	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.3	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079					
P.2.4	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079
P.3.1						**100** (80–160)	**100** (80–130)	.028–.035	.047–.063	.047–.063
P.3.2						**100** (80–160)	**100** (80–130)	.028–.035	.047–.063	.047–.063
P.3.3						**100** (80–160)	**100** (80–130)	.028–.035	.047–.063	.047–.063
P.4.1						**150** (110–200)	**130** (110–160)	.028–.035	.047–.063	.047–.063
P.4.2						**150** (110–200)	**130** (110–160)	.028–.035	.047–.063	.047–.063
M.1.1						**150** (110–200)	**130** (110–160)	.028–.035	.047–.063	.047–.063
M.2.1						**100** (80–160)	**100** (80–130)	.028–.035	.047–.063	.047–.063
M.3.1						**100** (80–160)	**100** (80–130)	.028–.035	.047–.063	.047–.063
K.1.1	**660** (590–820)	**520** (460–660)	.039–.055	.051–.075	.051–.075					
K.1.2	**660** (590–820)	**520** (460–660)	.039–.055	.051–.075	.051–.075					
K.2.1	**740** (660–980)	**590** (520–790)	.039–.055	.051–.075	.051–.075					
K.2.2	**380** (330–490)	**330** (260–390)	.035–.047	.047–.063	.047–.063					
K.3.1	**490** (430–820)	**390** (330–660)	.035–.047	.047–.063	.047–.063					
K.3.2	**390** (330–490)	**330** (260–390)	.035–.047	.047–.063	.047–.063					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.1.2						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.1.3						**100** (80–160)	**100** (80–160)	.016–.031	.024–.039	.024–.039
H.1.4										
H.2.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
H.3.1						**130** (110–200)	**130** (110–200)	.016–.031	.024–.039	.024–.039
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 505 … 640.71 – ASG3000 / HM-TiN					40 570 … 640.27 – ASG0706 / HM-DBC				
	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		6	8	8	Number of teeth ▸		6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.2	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.3	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.4	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.1.5	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.1	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.2	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.3	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.2.4	330 (260–460)	260 (200–750)	.035–.047	.059–.079	.059–.079					
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	260 (200–430)	260 (200–750)	.039–.055	.071–.094	.071–.094					
K.1.2	260 (200–430)	260 (200–750)	.039–.055	.071–.094	.071–.094					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1						**490** (430–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.1.2						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.1						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.2						**660** (590–980)	**490** (430–660)	.039–.055	.067–.094	.067–.094
N.2.3										
N.3.1	**390** (330–660)	**390** (330–490)	.039–.055	.067–.094	.067–.094					
N.3.2	**390** (330–660)	**390** (330–490)	.039–.055	.067–.094	.067–.094					
N.3.3	**260** (200–490)	**260** (200–390)	.031–.047	.055–.079	.055–.079					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1						820 (720–890)	250 (220–270)	.039–.055	.067–.094	.067–.094

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax – Cutting data standard values

Index	40 525 …					40 536 …				
	640.93 – ASG3000 / DST					640.93 – ASG4000 / DST				
	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748	Nominal Ø (inch) ▸		.4724 – .8661	.8661 – 1.2598	1.2599 – 1.5748
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		6	8	8	Number of teeth ▸		6	8	8
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.2	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.3	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.4	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.1.5	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.1	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.2	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.3	**490** (460–660)	**390** (330–520)	.035–.047	.059–.079	.059–.079	**490** (430–660)	**390** (330–520)	.043–.055	.071–.094	.071–.094
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (490–980)	**490** (430–590)	.039–.055	.071–.094	.071–.094	570 (490–980)	490 (430–590)	.047–.063	.059–.079	.079–.106
K.2.2	**490** (430–820)	**390** (330–520)	.039–.055	.071–.094	.071–.094	390 (330–590)	390 (330–490)	.047–.063	.059–.079	.079–.106
K.3.1	**490** (430–820)	**390** (330–520)	.039–.055	.071–.094	.071–.094					
K.3.2	**390** (330–590)	**390** (330–520)	.035–.047	.059–.079	.059–.079	390 (330–590)	390 (330–490)	.039–.051	.047–.067	.067–.091
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	490 (430–980)	490 (430–660)	.039–.055	.067–.094	.067–.094					
N.3.2	490 (430–980)	490 (430–660)	.039–.055	.067–.094	.067–.094					
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Rapid Set Head – Cutting data standard values

Index	49 817 … 340.65 – ASG3000 / DBG-P					49 816 … 340.65 – ASG0106 / DBG-P				
	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		4	6	6	Number of teeth ▸		4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.2.4	**490** (430–660)	**390** (330–520)	.012–.020	.035–.051	.043–.059					
P.3.1						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.3.2						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.3.3						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
P.4.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
P.4.2						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.1.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.2.1						**150** (110–200)	**130** (110–160)	.012–.016	.028–.039	.035–.047
M.3.1						**100** (80–160)	**100** (80–130)	.012–.016	.028–.039	.035–.047
K.1.1	**490** (430–720)	**390** (330–490)	.016–.024	.043–.059	.051–.075					
K.1.2	**490** (430–720)	**390** (330–490)	.016–.024	.043–.059	.051–.075					
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.043–.059	.051–.075					
K.2.2	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
K.3.1	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.035–.051	.043–.059					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Rapid Set Head – Cutting data standard values

Index	49 813 …					49 812 …				
	340.93 – ASG3000 / DST					340.92 – ASG05 / DST				
	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		4	6	6	Number of teeth ▸		4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.2	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.3	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.4	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.1.5	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.1	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.2	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.3	**490** (390–660)	**490** (390–520)	.012–.020	.035–.051	.043–.059	**490** (390–660)	**490** (390–520)	.024–.031	.047–.059	.055–.075
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1										
K.1.2										
K.2.1	**570** (490–980)	**570** (490–980)	.016–.024	.043–.024	.051–.075					
K.2.2	**490** (390–820)	**490** (390–820)	.016–.024	.043–.024	.051–.075					
K.3.1	**390** (330–590)	**390** (330–590)	.016–.024	.043–.024	.051–.075					
K.3.2	**390** (330–590)	**390** (330–590)	.016–.024	.043–.024	.051–.075					
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	**490** (390–1050)	**490** (390–1050)	.016–.024	.043–.059	.047–.067					
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Rapid Set Head – Cutting data standard values

Index	49 808 …					49 805 …				
	340.71 – ASG3000 / TiN					340.70 – ASG05 / TiN				
	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		4	6	6	Number of teeth ▸		4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.2	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.3	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.4	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.1.5	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.1	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.2	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.3	330 (260–460)	260 (200–390)	.012–.020	.035–.051	.043–.059	330 (260–460)	260 (200–390)	.024–.031	.047–.059	.055–.075
P.2.4	**330** (260–460)	**260** (200–390)	.012–.020	.035–.051	.043–.059	**330** (260–460)	**260** (200–390)	.024–.031	.047–.059	.055–.075
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	**260** (200–430)	**260** (200–390)	.016–.024	.043–.059	.051–.075					
K.1.2	**260** (200–430)	**260** (200–390)	.016–.024	.043–.059	.051–.075					
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1	390 (330–660)	390 (330–660)	.016–.024	.043–.059	.047–.067					
N.3.2	260 (200–490)	260 (200–490)	.012–.020	.035–.051	.039–.055					
N.3.3	260 (200–490)	260 (200–490)	.012–.020	.035–.051	.039–.055					
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Rapid Set Head – Cutting data standard values

Index	49 809 …					49 800 …				
	340.71 – ASG0106 / TiN					340.21 – ASG03 / K10				
	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		4	6	6	Number of teeth ▸		4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1										
P.1.2										
P.1.3										
P.1.4										
P.1.5										
P.2.1										
P.2.2										
P.2.3										
P.2.4										
P.3.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.3.2	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.3.3	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.4.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
P.4.2	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
M.1.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
M.2.1	**70** (50–110)	**70** (50–110)	.012–.016	.028–.039	.035–.047					
M.3.1	**100** (70–130)	**100** (70–130)	.012–.016	.028–.039	.035–.047					
K.1.1										
K.1.2										
K.2.1										
K.2.2										
K.3.1										
K.3.2										
N.1.1										
N.1.2										
N.2.1										
N.2.2										
N.2.3										
N.3.1										
N.3.2										
N.3.3										
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
S.3.2						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
S.3.3						**30** (20–40)	**30** (20–40)	.012–.016	.031–.043	.035–.051
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Rapid Set Head – Cutting data standard values

Index	49 804 …					49 801 …				
	340.21 – ASG02 / K10					340.21 – ASG3000 / K10				
	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622	Nominal Ø (inch) ▸		.3779 – .6138	.6139 – 1.1850	1.1851 – 2.3622
	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016	Reaming allowance Ø ▸		.004 – .012	.008 – .016	.008 – .016
	Number of teeth ▸		4	6	6	Number of teeth ▸		4	6	6
	3xD	5xD				3xD	5xD			
	v_c (ft/min)		f (inch/rev)			v_c (ft/min)		f (inch/rev)		
P.1.1						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.2						100 (50–150)	100 (50–150)	.012–.020	.035–.051	.043–.059
P.1.3						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.4						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.1.5						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.1						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.2						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.3						30 (20–30)	30 (20–30)	.012–.020	.035–.051	.043–.059
P.2.4										
P.3.1										
P.3.2										
P.3.3										
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1						50 (40–80)	50 (40–80)	.016–.024	.043–.059	.051–.075
K.1.2						50 (40–80)	50 (40–80)	.016–.024	.043–.059	.051–.075
K.2.1						40 (30–60)	40 (30–60)	.016–.024	.043–.059	.051–.075
K.2.2						40 (30–50)	40 (30–50)	.012–.020	.035–.051	.043–.059
K.3.1						40 (30–60)	40 (30–60)	.012–.020	.035–.051	.043–.059
K.3.2						40 (30–60)	40 (30–60)	.012–.020	.035–.051	.043–.059
N.1.1	**50** (30–100)	**50** (30–100)	.012–.020	.035–.051	.043–.059	50 (40–100)	50 (40–100)	.012–.020	.035–.051	.043–.059
N.1.2	**50** (30–100)	**50** (30–100)	.012–.020	.035–.051	.043–.059	50 (40–100)	50 (40–100)	.012–.020	.035–.051	.043–.059
N.2.1	**40** (30–70)	**12** (10–20)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
N.2.2	**40** (30–70)	**40** (30–70)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
N.2.3	**40** (30–70)	**40** (30–70)	.016–.024	.043–.059	.047–.075	40 (30–70)	40 (30–70)	.016–.024	.043–.059	.047–.075
N.3.1	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.067
N.3.2	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	40 (30–70)	40 (30–70)	.012–.020	.035–.051	.039–.055
N.3.3	**40** (30–70)	**40** (30–70)	.012–.020	.035–.051	.039–.055	40 (30–70)	40 (30–70)	.012–.020	.035–.051	.039–.055
N.4.1	**50** (30–100)	**50** (30–100)	.016–.024	.043–.059	.047–.075	50 (40–100)	50 (40–100)	.016–.024	.043–.059	.047–.075
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting data standard values for MultiChange exchange head reamers

Index	40 210 ..., 40 211 ...				40 220 ..., 40 221 ...				40 240 ..., 40 241 ...				40 245 ..., 40 246 ...			
	CWC10				TiAlN				K10				PDC			
Nominal Ø (mm) ▸		8,0 – 12,59	12,6 – 29,99	30,0 – 32,00		8,0 – 12,59	12,6 – 29,99	30,0 – 32,00		8,0 – 12,59	12,6 – 29,99	30,0 – 32,00		8,0 – 12,59	12,6 – 29,99	30,0 – 32,00
Reaming allowance Ø ▸		0,15–0,3	0,2–0,4	0,2–0,4		0,15–0,3	0,15–0,3	0,15–0,3		0,15–0,5	0,15–0,5	0,15–0,5		0,15–0,5	0,15–0,5	0,15–0,5
Number of teeth ▸		4 / 6	6	8		4 / 6	6	8		4 / 6	6	8		4 / 6	6	8
	v_c (m/min)	f (mm/rev)			v_c (m/min)	f (mm/rev)			v_c (m/min)	f (mm/rev)			v_c (m/min)	f (mm/rev)		
P.1.1	140	0,6	0,8	1,0												
P.1.2	140	0,6	0,8	1,0												
P.1.3	90	0,6	0,8	1,0												
P.1.4	90	0,6	0,8	1,0												
P.1.5	90	0,6	0,8	1,0												
P.2.1	140	0,6	0,8	1,0												
P.2.2	140	0,6	0,8	1,0												
P.2.3	90	0,6	0,8	1,0												
P.2.4	90	0,6	0,8	1,0												
P.3.1	120	0,6	0,8	1,0												
P.3.2	90	0,6	0,8	1,0												
P.3.3	90	0,6	0,8	1,0												
P.4.1					40	0,3	0,4	0,5								
P.4.2					40	0,3	0,4	0,5								
M.1.1					40	0,3	0,4	0,5								
M.2.1					40	0,3	0,4	0,5								
M.3.1					30	0,3	0,4	0,5								
K.1.1																
K.1.2																
K.2.1	120	0,7	1,2	1,6												
K.2.2	90	0,7	1,2	1,6												
K.3.1	90	0,7	1,2	1,6												
K.3.2	90	0,7	1,2	1,6												
N.1.1									30	0,4	0,5	0,6	200	0,6	1,5	1,5
N.1.2									30	0,4	0,5	0,6	200	0,6	1,5	1,5
N.2.1									30	0,4	0,5	0,6	200	0,6	1,5	1,5
N.2.2									30	0,4	0,5	0,6	200	0,6	1,5	1,5
N.2.3									30	0,4	0,5	0,6	200	0,6	1,5	1,5
N.3.1									30	0,4	0,5	0,6				
N.3.2									30	0,4	0,5	0,6				
N.3.3									30	0,4	0,5	0,6				
N.4.1																
S.1.1																
S.1.2																
S.2.1																
S.2.2																
S.2.3																
S.3.1																
S.3.2																
S.3.3																
H.1.1																
H.1.2																
H.1.3																
H.1.4																
H.2.1																
H.3.1																
O.1.1																
O.1.2																
O.2.1																
O.2.2																
O.3.1																

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Reamax Mono – Cutting data standard values

Index	40 656 …, 40 666 …, 40 657 …, 40 665 …						40 652 …, 40 653 …					
	56J.65, 56R.65, 56H.65, 56Q.65 – ASG3000 / HM-DBG-P						56J.65, 56R.65 – ASG0106 / HM-DBG-P					
	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899
	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.1.2	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.1.3	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.1.4	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.1.5	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.2.1	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.2.2	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.2.3	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
P.2.4	**60** (50–100)	**60** (50–100)	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	**60** (50–100)	**60** (50–100)	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
P.3.1							**40** (35–60)	**40** (35–60)	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
P.3.2							**40** (35–60)	**40** (35–60)	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
P.3.3							**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
P.4.1							**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
P.4.2							**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
M.1.1							**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
M.2.1							**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
M.3.1							**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
K.1.1	**150** (130–220)	**120** (100–150)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
K.1.2	**150** (130–220)	**120** (100–150)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
K.2.1	**175** (150–300)	**150** (130–180)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
K.2.2	**120** (100–180)	**120** (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
K.3.1	**150** (130–250)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
K.3.2	**120** (100–180)	**120** (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	40 644 ..., 40 645 ...						40 605 ..., 40 606 ...					
	56H.65, 56Q.65 – ASG0106 / HM-DBG-P						56J.71, 56R.71 – ASG3000 / HM-TiN					
	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899
	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.2							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.3							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.4							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.1.5							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.1							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.2							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.3							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.2.4							100 (80–140)	80 (60–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
P.3.1	**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
P.3.2	**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
P.3.3	**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
P.4.1	**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
P.4.2	**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
M.1.1	**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
M.2.1	**45** (35–60)	**40** (35–50)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
M.3.1	**30** (25–50)	**30** (25–40)	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
K.1.1							80 (60–130)	80 (60–120)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.1.2							80 (60–130)	80 (60–120)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1							**120** (–200)	**120** (–200)	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
N.3.2							**120** (–200)	**120** (–200)	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
N.3.3							**80** (–150)	**80** (–120)	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	40 625 …, 40 626 … 56J.93, 56R.93 – ASG3000 / DST						40 635 … , 40 636 … 56J.93, 56R.93 – ASG4000 / DST					
Nominal Ø (mm) ▸			5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899			5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899
Reaming allowance Ø ▸			0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40			0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
Number of teeth ▸			4	6	6	6			4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.1.2	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.1.3	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.1.4	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.1.5	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.2.1	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.2.2	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.2.3	**150** (130–200)	**120** (100–160)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	**150** (130–200)	**120** (100–160)	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**175** (150–300)	**150** (130–180)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50	175 (150–300)	150 (130–180)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
K.2.2	**120** (100–150)	**100** (80–120)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	120 (100–180)	120 (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
K.3.1	**150** (130–250)	**120** (100–200)	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50	120 (100–180)	120 (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
K.3.2	**120** (100–180)	**120** (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	120 (100–180)	120 (100–150)	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	150 (130–300)	150 (130–200)	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
N.3.2	150 (130–300)	150 (130–200)	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	40 648 …, 40 649 … 56J.17, 56R.17 – ASG0706 / DBC						40 640 …, 40 641 … 56H.17, 56Q.17 – ASG0706 / DBC					
	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899	Nominal Ø (mm) ▸		5,6–8,899	8,9–12,00	12,01–22,00	22,01–25,899
	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	Reaming allowance Ø ▸		0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (m/min)		f (mm/rev)				v_c (m/min)		f (mm/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1	**150** (130–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	**150** (130–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50
N.1.2	**150** (130–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	**150** (130–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50
N.2.1	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50
N.2.2	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50
N.2.3	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	**200** (180–300)	**150** (130–200)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1	250 (220–270)	250 (220–270)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50	250 (220–270)	250 (220–270)	0,40–0,60	0,40–0,60	0,80–1,20	0,80–1,50

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	49 676 …, 49 677 …, 49 657 …, 49 665 …						49 652 …, 49 653…					
	56J.65, 56R.65, 56H.65, 56Q.65 – ASG3000 / DBG-P						56J.65, 56R.65 – ASG0106 / DBG-P					
	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	0.90–1.30						
P.2.4	**200** (160–330)	**200** (160–330)	.008–.012	.016–.020	.020–.028	0.60–0.90	**200** (160–330)	**200** (160–330)	.008–.012	.016–.020	.020–.028	.024–.035
P.3.1							**130** (110–200)	**130** (110–200)	.008–.012	.016–.020	.020–.028	.024–.035
P.3.2							**130** (110–200)	**130** (110–200)	.008–.012	.016–.020	.020–.028	.024–.035
P.3.3							**100** (80–160)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
P.4.1							**150** (110–200)	**130** (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
P.4.2							**150** (110–200)	**130** (110–160)	.012–.016	.016–.024	.024–.031	.028–.039
M.1.1							**100** (80–160)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
M.2.1							**100** (80–160)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
M.3.1							**100** (80–160)	**100** (80–130)	.012–.016	.016–.024	.024–.031	.028–.039
K.1.1	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059						
K.1.2	**490** (430–720)	**390** (330–490)	.016–.024	.028–.035	.035–.047	.043–.059						
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.028–.035	.035–.047	.043–.059						
K.2.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051						
K.3.1	**490** (430–820)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.043–.059						
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051						
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	49 625 ..., 49 626 ..., 49 680 ..., 49 681 ...						49 635 ..., 49 636 ...					
	56J.93, 56R.93, 56H.93, 56Q.93 – ASG3000 / DST						56J.93, 56R.93 – ASG4000 / DST					
	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.4	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.5	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.1	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.2	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.3	**490** (430–660)	**390** (330–520)	.012–.020	.020–.028	.028–.039	.035–.051	**490** (430–660)	**390** (330–520)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1												
K.1.2												
K.2.1	**570** (490–980)	**490** (430–590)	.016–.024	.028–.035	.035–.047	.043–.059	570 (490–980)	490 (430–590)	.016–.024	.028–.035	.035–.047	.043–.059
K.2.2	**390** (330–490)	**330** (260–390)	.012–.020	.020–.028	.028–.039	.035–.051	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
K.3.1	**490** (430–820	**390** (330–660)	.016–.024	.028–.035	.035–.047	.043–.059	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
K.3.2	**390** (330–590)	**390** (330–490)	.012–.020	.020–.028	.028–.039	.035–.051	390 (330–590)	390 (330–490)	.012–.020	.020–.028	.028–.039	.035–.051
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	490 (430–980)	490 (430–660)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.2	490 (430–980)	490 (430–660)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	49 605 ..., 49 606 ..., 49 684 ..., 49 685 ...						49 688 ..., 49 689 ...					
	56J.71, 56R.71, 56H.71, 56Q.71 – ASG3000 / TiN						56J.71, 56R.71 – ASG4000 / TiN					
	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.2	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.3	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.4	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.1.5	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051	**330** (260–460)	**260** (200–390)	.016–.024	.028–.035	.035–.047	.047–.059
P.2.1	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.2	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.3	330 (260–460)	260 (200–390)	.012–.020	.020–.028	.028–.039	.035–.051						
P.2.4												
P.3.1												
P.3.2												
P.3.3												
P.4.1												
P.4.2												
M.1.1												
M.2.1												
M.3.1												
K.1.1	260 (200–430)	260 (200–390)	.016–.024	.028–.035	.035–.047	.043–.059						
K.1.2	260 (200–430)	260 (200–390)	.016–.024	.028–.035	.035–.047	.043–.059						
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1	**390** (330–660)	**390** (330–490)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.2	**390** (330–660)	**390** (330–490)	.016–.024	.024–.035	.031–.047	.043–.059						
N.3.3	**260** (200–490)	**260** (200–390)	.016–.024	.024–.035	.031–.047	.043–.059						
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1												
S.3.2												
S.3.3												
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	49 656 …, 49 661 …, 49 660 …, 49 664 …						49 672 …, 49 673 …, 49 668 …, 49 669 …					
	56J.71, 56R.71, 56H.71, 56Q.71 – ASG0106 / TiN						56J.21, 56Q.21, 56H.21, 56R.21 – ASG03 / K10					
	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196	Nominal Ø (inch) ▸		.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016	Reaming allowance Ø ▸		.004 – .008	.004 – .012	.008 – .012	.008 –. 016
	Number of teeth ▸		4	6	6	6	Number of teeth ▸		4	6	6	6
	3xD	5xD					3xD	5xD				
	v_c (ft/min)		f (inch/rev)				v_c (ft/min)		f (inch/rev)			
P.1.1												
P.1.2												
P.1.3												
P.1.4												
P.1.5												
P.2.1												
P.2.2												
P.2.3												
P.2.4												
P.3.1	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.3.2	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.3.3	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
P.4.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
P.4.2	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.1.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.2.1	150 (110–200)	130 (110–160)	.012–.016	.016–.024	.024–.031	.028–.039						
M.3.1	100 (80–160)	100 (80–130)	.012–.016	.016–.024	.024–.031	.028–.039						
K.1.1												
K.1.2												
K.2.1												
K.2.2												
K.3.1												
K.3.2												
N.1.1												
N.1.2												
N.2.1												
N.2.2												
N.2.3												
N.3.1												
N.3.2												
N.3.3												
N.4.1												
S.1.1												
S.1.2												
S.2.1												
S.2.2												
S.2.3												
S.3.1							**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
S.3.2							**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
S.3.3							**30** (20–40)	**30** (20–40)	.012–.016	.016–.024	.024–.031	.031–.043
H.1.1												
H.1.2												
H.1.3												
H.1.4												
H.2.1												
H.3.1												
O.1.1												
O.1.2												
O.2.1												
O.2.2												
O.3.1												

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Mono – Cutting data standard values

Index	49 648 ..., 49 649 ..., 49 640 ..., 49 641 ...					
	56J.17, 56R.17, 56H.17, 56Q.17 – ASG0706 / DBC					
Nominal Ø (inch) ▸			.2205–.3503	.3504–.4727	.4728–.8664	.8665–1.0196
Reaming allowance Ø ▸			.004 – .008	.004 – .012	.008 – .012	.008 –. 016
Number of teeth ▸			4	6	6	6
	3xD	5xD				
	v_c (ft/min)		f (inch/rev)			
P.1.1						
P.1.2						
P.1.3						
P.1.4						
P.1.5						
P.2.1						
P.2.2						
P.2.3						
P.2.4						
P.3.1						
P.3.2						
P.3.3						
P.4.1						
P.4.2						
M.1.1						
M.2.1						
M.3.1						
K.1.1						
K.1.2						
K.2.1						
K.2.2						
K.3.1						
K.3.2						
N.1.1	**490** (430–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.1.2	**490** (430–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.1	**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.2	**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.2.3	**660** (590–980)	**490** (430–660)	.016–.024	.016–.024	.031–.047	.031–.059
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1	820 (720–890)	820 (720–890)	.016–.024	.016–.024	.031–.047	.031–.059

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full UNI	40 484 …, 40 485 …, 40 486 …, 40 487 … Long version											
	Ø range (mm) ▸	Ø 2,97 – 4,05		Ø 4,06 – 6,05		Ø 6,06 – 7,55		Ø 7,56 – 12,05		Ø 12,06 – 16,05		Ø 16,06 – 20,05	
	Number of teeth ▸	4		4		6		6		6		6	
	v_c (m/min)	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.1.2	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.1.3	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.1.4	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.1.5	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.2.1	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.2.2	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.2.3	**180** (160–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
P.2.4	**80** (70–120)	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
P.3.1	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
P.3.2	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
P.3.3	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
P.4.1	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
P.4.2	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
M.1.1	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
M.2.1	**20** (15–40)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
M.3.1	**15** (10–30)	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
K.1.1	**120** (100–180)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
K.1.2	**120** (100–180)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
K.2.1	**200** (180–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
K.2.2	**120** (100–150)	0,50–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,00–1,30	0,20	1,30–1,60	0,20–0,30	1,50–1,80	0,30
K.3.1	**200** (180–250)	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
K.3.2	**120** (100–150)	0,50–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,00–1,30	0,20	1,30–1,60	0,20–0,30	1,50–1,80	0,30
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	150 (130–250)	0,50–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,40	0,20	1,40–1,70	0,20	1,60–1,90	0,20–0,30	1,90–2,20	0,30
N.3.2	100 (80–150)	0,40–0,60	0,10–0,20	0,60–0,80	0,10–0,20	1,00–1,30	0,20	1,20–1,40	0,20	1,30–1,60	0,20–0,30	1,60–1,80	0,30
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	40 (30–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.2.2	40 (30–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.2.3													
S.3.1	30 (25–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.3.2	30 (25–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.3.3													
H.1.1	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20	1,20–1,80	0,20
H.1.2	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20	1,20–1,80	0,20
H.1.3	30 (25–50)	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20	1,30–2,00	0,20
H.1.4													
H.2.1	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
H.3.1	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full K	40 477 …, 40 478 …					
		Long version					
	Ø range (mm) ▸	Ø 2,97 – 4,05	Ø 4,06 – 6,05	Ø 6,06 – 7,55	Ø 7,56 – 12,05	Ø 12,06 – 16,05	Ø 16,06 – 20,05
	Reaming allowance Ø ▸	0,10–0,20	0,10–0,20	0,20	0,20	0,20–0,30	0,30
	Number of teeth ▸	6	6	8	8	8	8
	v_c (m/min)	f (mm/rev)					
K.1.1	**200** (180–250)	0,80–1,00	0,90–1,20	1,50–1,90	1,50–1,90	1,80–2,30	2,20–2,60
K.1.2	**200** (180–250)	0,80–1,00	0,90–1,20	1,50–1,90	1,50–1,90	1,80–2,30	2,20–2,60
K.2.1	**225** (200–300)	0,80–1,00	0,90–1,20	1,50–1,90	1,50–1,90	1,80–2,30	2,20–2,60
K.2.2	**120** (100–150)	0,60–0,90	0,70–1,00	1,20–1,60	1,20–1,60	1,50–1,90	1,80–2,20
K.3.1	**225** (200–300)	0,80–1,00	0,90–1,20	1,50–1,90	1,50–1,90	1,80–2,30	2,20–2,60
K.3.2	**120** (100–150)	0,60–0,90	0,70–1,00	1,20–1,60	1,20–1,60	1,50–1,90	1,80–2,20

Index	Full VA	40 401 …, 40 402 …, 40 403 …, 40 404 …					
		Long version					
	Ø range (mm) ▸	Ø 2,97 – 4,05	Ø 4,06 – 6,05	Ø 6,06 – 7,55	Ø 7,56 – 12,05	Ø 12,06 – 16,05	Ø 16,06 – 20,05
	Reaming allowance Ø ▸	0,10–0,20	0,10–0,20	0,20	0,20	0,20–0,30	0,30
	Number of teeth ▸	4	4	6	6	6	6
	v_c (m/min)	f (mm/rev)					
P.3.1	20 (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
P.3.2	20 (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
P.3.3	20 (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
P.4.1	**20** (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
P.4.2	**20** (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
M.1.1	**20** (15–40)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
M.2.1	**15** (10–30)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72
M.3.1	**15** (10–30)	0,32–0,50	0,32–0,50	0,48–0,60	0,48–0,60	0,60–0,72	0,60–0,72

Index	Full ALU	40 471 …, 40 472 …, 40 473 …, 40 474 …					
		Long version					
	Ø range (mm) ▸	Ø 2,97 – 4,05	Ø 4,06 – 6,05	Ø 6,06 – 7,55	Ø 7,56 – 12,05	Ø 12,06 – 16,05	Ø 16,06 – 20,05
	Reaming allowance Ø ▸	0,10–0,20	0,10–0,20	0,20	0,20	0,20–0,30	0,30
	Number of teeth ▸	4	4	6	6	6	6
	v_c (m/min)	f (mm/rev)					
N.1.1	**200** (180–300)	0,50–0,60	0,60–0,90	1,10–1,60	1,20–1,60	1,20–1,80	1,20–1,80
N.1.2	**200** (180–300)	0,50–0,60	0,60–0,90	1,10–1,60	1,20–1,60	1,20–1,80	1,20–1,80
N.2.1	**200** (180–250)	0,50–0,70	0,70–1,00	1,20–1,70	1,30–1,70	1,30–2,00	1,30–2,00
N.2.2	**200** (180–300)	0,50–0,70	0,70–1,00	1,20–1,70	1,30–1,70	1,30–2,00	1,30–2,00
N.2.3	**200** (180–250)	0,50–0,70	0,70–1,00	1,20–1,70	1,30–1,70	1,30–2,00	1,30–2,00
O.3.1	250 (220–270)	0,50–0,70	0,70–1,00	1,20–1,70	1,30–1,70	1,30–2,00	1,30–2,00

Index	Full H 	40 475 …, 40 476 …					
		Long version					
	Ø range (mm) ▸	Ø 2,97 – 4,05	Ø 4,06 – 6,05	Ø 6,06 – 7,55	Ø 7,56 – 12,05	Ø 12,06 – 16,05	Ø 16,06 – 20,05
	Reaming allowance Ø ▸	0,10–0,20	0,10–0,20	0,20	0,20	0,20	0,20
	Number of teeth ▸	4	4	6	6	6	6
	v_c (m/min)	f (mm/rev)					
H.1.1	**40** (35–60)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80
H.1.2	**30** (25–50)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80
H.1.3	**30** (25–50)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80
H.1.4	**30** (25–50)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80
H.2.1	**40** (35–60)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80
H.3.1	**40** (35–60)	0,20–0,30	0,20–0,30	0,40–0,60	0,50–0,60	0,50–0,70	0,60–0,80

* Wet machining recommended

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full UNI	40 481 …, 40 483 …, 40 488 …, 40 489 … Short version											
	Ø range (mm) ▸	Ø 2,96 – 4,05		Ø 4,06 – 6,05		Ø 6,06 – 7,55		Ø 7,56 – 12,05		Ø 12,06 – 15,96		Ø 15,97 – 20,05	
	Number of teeth ▸	4		4		6		6		6		8	
	v_c (m/min)	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.1.2	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.1.3	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.1.4	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.1.5	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.2.1	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.2.2	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.2.3	**200** (180–250)	0,65–0,80	0,10–0,20	0,75–0,90	0,10–0,20	1,40–1,60	0,20	1,65–1,80	0,20	1,65–1,90	0,20–0,30	2,56–3,00	0,30
P.2.4	**65** (55–110)	0,45–0,50	0,10–0,20	0,45–0,60	0,10–0,20	1,00–1,10	0,20	1,20–1,30	0,20	1,20–1,40	0,20–0,30	1,90–2,10	0,30
P.3.1	**40** (30–80)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
P.3.2	**40** (30–80)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
P.3.3	**40** (30–80)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
P.4.1	**45** (40–65)	0,45–0,50	0,10–0,20	0,45–0,60	0,10–0,20	1,00–1,10	0,20	1,20–1,30	0,20	1,20–1,40	0,20–0,30	1,90–2,10	0,30
P.4.2	**45** (40–65)	0,45–0,50	0,10–0,20	0,45–0,60	0,10–0,20	1,00–1,10	0,20	1,20–1,30	0,20	1,20–1,40	0,20–0,30	1,90–2,10	0,30
M.1.1	**40** (35–60)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
M.2.1	**40** (35–60)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
M.3.1	**40** (35–60)	0,40–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,10–1,40	0,20	1,20–1,50	0,20–0,30	1,90–2,25	0,30
K.1.1	**200** (180–250)	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,50–2,90	0,30
K.1.2	**200** (180–250)	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,50–2,90	0,30
K.2.1	**225** (200–300)	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,50–2,90	0,30
K.2.2	**120** (100–150)	0,60–0,90	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,60	0,20	1,20–1,60	0,20	1,50–1,90	0,20–0,30	2,00–2,40	0,30
K.3.1	**225** (200–300)	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,00–2,40	0,30
K.3.2	**120** (100–150)	0,60–0,90	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,60	0,20	1,20–1,60	0,20	1,50–1,90	0,20–0,30	2,00–2,40	0,30
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	150 (120–250)	0,50–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,40	0,20	1,40–1,70	0,20	1,60–1,90	0,20–0,30	2,50–2,90	0,30
N.3.2	100 (80–150)	0,40–0,60	0,10–0,20	0,60–0,80	0,10–0,20	1,00–1,30	0,20	1,20–1,40	0,20	1,30–1,60	0,20–0,30	2,10–2,40	0,30
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	40 (30–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.2.2	40 (30–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.2.3													
S.3.1	30 (25–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.3.2	30 (25–60)	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
S.3.3													
H.1.1	40 (35–60)	0,20–0,30	0,10–0,20	0,20–0,30	0,10–0,20	0,40–0,60	0,20	0,50–0,60	0,20	0,50–0,70	0,20	0,80–1,00	0,20
H.1.2	30 (25–50)	0,20–0,30	0,10–0,20	0,20–0,30	0,10–0,20	0,40–0,60	0,20	0,50–0,60	0,20	0,50–0,70	0,20	0,80–1,00	0,20
H.1.3	30 (25–50)	0,20–0,30	0,10–0,20	0,20–0,30	0,10–0,20	0,40–0,60	0,20	0,50–0,60	0,20	0,50–0,70	0,20	0,80–1,00	0,20
H.1.4													
H.2.1	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
H.3.1	40 (35–60)	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full UNI	40 484 …, 40 485 …, 40 486 …, 40 487 … Long version											
	Nominal Ø (inch) ▸	Ø .1169 – .1595		Ø .1596 – .2380		Ø .2381 – .2970		Ø .2971 – .4745		Ø .4746 – .6320		Ø .6321 – .7895	
	Number of teeth ▸	4		4		6		6		6		6	
	v_c (ft/min)	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø
P.1.1	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.2	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.3	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.4	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.1.5	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.1	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.2	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.3	**590** (520–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.055–.071	.008	.059–.075	.008–.012	.071–.087	.012
P.2.4	**260** (230–390)	.016–.020	.004–.008	.016–.024	.004–.008	.035–.043	.008	.039–.047	.008	.039–.051	.008–.012	.051–.059	.012
P.3.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.3.2	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.3.3	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.4.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
P.4.2	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.1.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.2.1	**70** (50–130)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
M.3.1	**50** (30–10)	.013–.020	.004–.008	.013–.020	.004–.008	.019–.024	.008	.019–.024	.008	.024–.028	.008–.012	.024–.028	.012
K.1.1	**390** (330–590)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.1.2	**390** (330–590)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.2.1	**660** (590–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.2.2	**390** (330–490)	.020–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.039–.051	.008	.051–.063	.008–.012	.059–.071	.012
K.3.1	**660** (590–820)	.024–.031	.004–.008	.028–.035	.004–.008	.051–.063	.008	.051–.063	.008	.063–.079	.008–.012	.075–.087	.012
K.3.2	**390** (330–490)	.020–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.039–.051	.008	.051–.063	.008–.012	.059–.071	.012
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	490 (430–820)	.020–.031	.004–.008	.028–.035	.004–.008	.051–.055	.008	.055–.067	.008	.063–.075	.008–.012	.075–.087	.012
N.3.2	330 (260–490)	.016–.024	.004–.008	.024–.031	.004–.008	.039–.051	.008	.047–.055	.008	.051–.063	.008–.012	.063–.071	.012
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.2	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.3													
S.3.1	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.2	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.3													
H.1.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008	.047–.071	.008
H.1.2	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008	.047–.071	.008
H.1.3	100 (80–160)	.020–.028	.004–.008	.028–.039	.004–.008	.047–.067	.008	.051–.067	.008	.051–.079	.008	.051–.079	.008
H.1.4													
H.2.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
H.3.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full K	40 477 …, 40 478 …					
		Long version					
	Nominal Ø (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of teeth ▸	6	6	8	8	8	8
	v_c (ft/min)	f (inch/rev)					
K.1.1	**660** (590–820)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.1.2	**660** (590–820)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.2.1	**740** (660–980)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.2.2	**390** (330–490)	.024–.035	.028–.039	.047–.063	.047–.063	.059–.075	.071–.087
K.3.1	**740** (660–980)	.031–.039	.035–.047	.059–.075	.059–.075	.071–.091	.087–.102
K.3.2	**390** (330–490)	.024–.035	.028–.039	.047–.063	.047–.063	.059–.075	.071–.087

Index	Full VA	40 401 …, 40 402 …, 40 403 …, 40 404 …					
		Long version					
	Nominal Ø (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of teeth ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
P.3.1	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.3.2	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.3.3	70 (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.4.1	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
P.4.2	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.1.1	**70** (50–130)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.2.1	**50** (30–100)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028
M.3.1	**50** (30–100)	.013–.020	.013–.020	.019–.024	.019–.024	.024–.028	.024–.028

Index	Full ALU	40 471 …, 40 472 …, 40 473 …, 40 474 …					
		Long version					
	Nominal Ø (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of teeth ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
N.1.1	**660** (590–980)	.020–.024	.024–.035	.043–.063	.047–.063	.047–.071	.047–.071
N.1.2	**660** (590–980)	.020–.024	.024–.035	.043–.063	.047–.063	.047–.071	.047–.071
N.2.1	**660** (590–820)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
N.2.2	**660** (590–980)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
N.2.3	**660** (590–820)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079
O.3.1	**820** (720–890)	.020–.028	.028–.039	.047–.067	.051–.067	.051–.079	.051–.079

Index	Full H	40 475 …, 40 476 …					
		Long version					
	Nominal Ø (inch) ▸	Ø .1169 – .1595	Ø .1596 – .2385	Ø .2386 – .2975	Ø .2976 – .4745	Ø .4746 – .6320	Ø .6321 – .7895
	Reaming allowance Ø ▸	.004–.008	.004–.008	.008	.008	.008–.012	.012
	Number of teeth ▸	4	4	6	6	6	6
	v_c (ft/min)	f (inch/rev)					
H.1.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.2	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.3	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.1.4	**100** (80–160)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.2.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031
H.3.1	**130** (110–200)	.008–.012	.008–.012	.016–.024	.020–.024	.020–.028	.024–.031

* Wet machining recommended

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Reamax Full – Cutting data standard values

Index	Full UNI	40 481 …, 40 483 …, 40 488 …, 40 489 … Short version											
	Nominal Ø (inch) ▸	Ø .1165 – .1594		Ø .1598 – .2382		Ø .2386 – .2970		Ø .2971 – .4745		Ø .4746 – .6383		Ø .6287 – .7894	
	Number of teeth ▸	4		4		6		6		6		8	
	v_c (ft/min)	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø	f (inch/rev)	Reaming allowance Ø
P.1.1	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.2	**660** (590–820)	.026–.031	.004–.008	.028–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.3	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.4	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.1.5	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.1	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.2	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.3	**660** (590–820)	.026–.031	.004–.008	.030–.035	.004–.008	.055–.063	.008	.065–.071	.008	.065–.075	.008–.012	.101–.118	.012
P.2.4	**210** (180–360)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
P.3.1	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.3.2	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.3.3	**130** (100–260)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
P.4.1	**150** (130–210)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
P.4.2	**150** (130–210)	.018–.020	.004–.008	.018–.024	.004–.008	.039–.043	.008	.047–.051	.008	.047–.055	.008–.012	.075–.083	.012
M.1.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
M.2.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
M.3.1	**130** (110–200)	.016–.024	.004–.008	.020–.028	.004–.008	.039–.051	.008	.043–.055	.008	.047–.059	.008–.012	.075–.089	.012
K.1.1	**660** (590–820)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.1.2	**660** (590–820)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.2.1	**740** (660–980)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.2.2	**390** (330–490)	.024–.035	.004–.008	.028–.039	.004–.008	.047–.063	.008	.047–.063	.008	.059–.075	.008–.012	.079–.094	.012
K.3.1	**740** (660–980)	.031–.039	.004–.008	.035–.047	.004–.008	.059–.075	.008	.059–.075	.008	.071–.091	.008–.012	.098–.114	.012
K.3.2	**390** (330–490)	.024–.035	.004–.008	.028–.039	.004–.008	.047–.063	.008	.047–.063	.008	.059–.075	.008–.012	.079–.094	.012
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1	490 (430–820)	.020–.031	.004–.008	.028–.035	.004–.008	.051–.055	.008	.055–.067	.008	.063–.075	.008–.012	.098–.114	.012
N.3.2	330 (260–490)	.016–.024	.004–.008	.024–.031	.004–.008	.039–.051	.008	.047–.055	.008	.051–.063	.008–.012	.083–.094	.012
N.3.3													
N.4.1													
S.1.1													
S.1.2													
S.2.1	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.2	130 (100–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.2.3													
S.3.1	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.2	100 (80–200)	.012–.016	.004–.008	.016–.020	.004–.008	.028–.035	.008	.031–.043	.008	.035–.043	.008–.012	.043–.051	.012
S.3.3													
H.1.1	130 (110–200)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.2	100 (80–160)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.3	100 (80–160)	.008–.012	.004–.008	.008–.012	.004–.008	.016–.024	.008	.020–.024	.008	.020–.028	.008	.031–.039	.008
H.1.4													
H.2.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
H.3.1	130 (110–200)	.020–.024	.004–.008	.024–.035	.004–.008	.043–.063	.008	.047–.063	.008	.047–.071	.008–.012	.047–.071	.012
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting data standard values for solid carbide reamers

Index	40 420 …, 40 421 …, 40 430 …, 40 431 …																			
			≤ Ø 0,94		Ø 0,95–5		Ø 5,01–8		Ø 8,01–10		Ø 10,01–12		Ø 12,01–15		Ø 15,01–20		Ø 20,01–25		Ø 25,01–30	
	uncoated	TiAlN																		
	v_c (m/min)		f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**20**	**30**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.1.2	**20**	**30**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.1.3	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.1.4	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.1.5	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.2.1	**15**	**25**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.2.2	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.2.3	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.2.4	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.3.1	**15**	**25**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.3.2	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.3.3	**12**	**15**	0,10	0,10	0,10	0,10	0,15	0,15	0,20	0,20	0,20	0,20	0,25	0,20	0,30	0,30	0,30	0,30	0,30	0,30
P.4.1																				
P.4.2																				
M.1.1		15			0,08	0,08	0,10	0,10	0,15	0,10	0,15	0,10	0,20	0,20	0,25	0,20	0,25	0,20	0,25	0,20
M.2.1		15			0,08	0,08	0,10	0,10	0,15	0,10	0,15	0,10	0,20	0,20	0,25	0,20	0,25	0,20	0,25	0,20
M.3.1		10			0,08	0,08	0,10	0,10	0,15	0,10	0,15	0,10	0,20	0,20	0,25	0,20	0,25	0,20	0,25	0,20
K.1.1	18	**30**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
K.1.2	18	**30**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
K.2.1	15	**25**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
K.2.2	10	**20**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
K.3.1	15	**25**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
K.3.2	10	**20**	0,10	0,10	0,10	0,10	0,20	0,15	0,30	0,20	0,30	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.1.1	**40**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.1.2	**40**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.2.1	**25**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.2.2	**25**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.2.3																				
N.3.1	**30**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.3.2	**30**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.3.3	**30**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
N.4.1																				
S.1.1		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.1.2		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.2.1		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.2.2		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.2.3		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.3.1		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.3.2		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
S.3.3		10			0,06	0,05	0,10	0,10	0,12	0,10	0,12	0,10	0,18	0,15–0,20	0,20	0,20	0,20	0,20	0,20	0,20
H.1.1		8			0,05	0,05	0,08	0,05	0,10	0,10	0,10	0,10	0,13	0,10	0,15	0,15	0,15	0,15	0,15	0,15
H.1.2		8			0,05	0,05	0,08	0,05	0,10	0,10	0,10	0,10	0,13	0,10	0,15	0,15	0,15	0,15	0,15	0,15
H.1.3																				
H.1.4																				
H.2.1		8			0,05	0,05	0,08	0,05	0,10	0,10	0,10	0,10	0,13	0,10	0,15	0,15	0,15	0,15	0,15	0,15
H.3.1																				
O.1.1	**40**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
O.1.2	**40**		0,15	0,10	0,15	0,10	0,20	0,15	0,25	0,20	0,25	0,20	0,30	0,20	0,40	0,30	0,40	0,30	0,40	0,30
O.2.1																				
O.2.2																				
O.3.1																				

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for solid carbide reamers – Type H

Index	H	40 435 …							
		Ø 0,98 – 3,99		Ø 4,00 – 8,00		Ø 8,01 – 16,00		Ø 16,01 – 20,00	
	v_c (m/min)	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	16	0,10	0,20	0,20	0,20	0,238	0,30	0,275	0,30
P.1.2	13	0,08	0,20	0,16	0,20	0,195	0,30	0,23	0,30
P.1.3	12	0,075	0,20	0,15	0,20	0,175	0,30	0,20	0,30
P.1.4	12	0,075	0,20	0,15	0,20	0,175	0,30	0,20	0,30
P.1.5	19	0,08	0,20	0,16	0,20	0,195	0,30	0,23	0,30
P.2.1	15	0,08	0,20	0,16	0,20	0,195	0,30	0,23	0,30
P.2.2	14	0,08	0,20	0,16	0,20	0,195	0,30	0,23	0,30
P.2.3	13	0,08	0,20	0,16	0,20	0,195	0,30	0,23	0,30
P.2.4	12	0,075	0,20	0,15	0,20	0,175	0,30	0,20	0,30
P.3.1									
P.3.2	11	0,063	0,20	0,125	0,20	0,15	0,30	0,175	0,30
P.3.3	11	0,063	0,20	0,125	0,20	0,15	0,30	0,175	0,30
P.4.1	11	0,063	0,20	0,125	0,20	0,15	0,30	0,175	0,30
P.4.2	8	0,05	0,20	0,10	0,20	0,113	0,30	0,125	0,30
M.1.1									
M.2.1	9	0,063	0,10	0,125	0,10	0,15	0,20	0,175	0,20
M.3.1	9	0,063	0,10	0,125	0,10	0,15	0,20	0,175	0,20
K.1.1	17	0,125	0,20	0,25	0,20	0,325	0,30	0,40	0,30
K.1.2	14	0,113	0,20	0,225	0,20	0,275	0,30	0,325	0,30
K.2.1	17	0,113	0,20	0,225	0,20	0,275	0,30	0,325	0,30
K.2.2	14	0,10	0,20	0,20	0,20	0,238	0,30	0,275	0,30
K.3.1	17	0,113	0,20	0,225	0,20	0,275	0,30	0,325	0,30
K.3.2	14	0,10	0,20	0,20	0,20	0,238	0,30	0,275	0,30
N.1.1									
N.1.2									
N.2.1									
N.2.2									
N.2.3									
N.3.1									
N.3.2									
N.3.3									
N.4.1									
S.1.1									
S.1.2									
S.2.1									
S.2.2									
S.2.3									
S.3.1									
S.3.2									
S.3.3									
H.1.1	8	0,075	0,10	0,15	0,20	0,175	0,30	0,20	0,30
H.1.2	7	0,063	0,10	0,125	0,20	0,15	0,30	0,175	0,30
H.1.3	5	0,05	0,10	0,10	0,20	0,113	0,30	0,125	0,30
H.1.4									
H.2.1									
H.3.1									
O.1.1									
O.1.2									
O.2.1									
O.2.2									
O.3.1									

* Wet machining preferred/dry machining possible

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for solid carbide reamers

Index	40 405 …, 40 415 …						
	uncoated	≤ Ø 4,80		Ø 4,81 – 8,00		Ø 8,01 – 12,00	
	v_c (m/min)	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.1.2	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.1.3	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.1.4	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.1.5	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.2.1	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.2.2	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.2.3	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.2.4	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.3.1	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.3.2	**15** (10–20)	0,1	0,05–0,1	0,15	0,1–0,15	0,175–0,2	0,1–0,2
P.3.3							
P.4.1							
P.4.2							
M.1.1							
M.2.1							
M.3.1							
K.1.1	15 (10–15)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
K.1.2	15 (10–20)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
K.2.1	15 (10–15)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
K.2.2	10 (5–15)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
K.3.1	15 (10–20)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
K.3.2	10 (5–15)	0,1	0,05–0,1	0,2	0,1–0,15	0,25–0,3	0,1–0,2
N.1.1	**30** (20–40)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.1.2	**30** (20–40)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.2.1	**15** (10–20)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.2.2	**15** (10–20)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.2.3							
N.3.1	**20** (15–25)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.3.2	**20** (15–25)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.3.3	**20** (15–25)	0,1–0,15	0,05–0,1	0,15–0,2	0,1–0,15	0,175–0,25	0,1–0,2
N.4.1							
S.1.1							
S.1.2							
S.2.1							
S.2.2							
S.2.3							
S.3.1							
S.3.2							
S.3.3							
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1							
O.1.2							
O.2.1							
O.2.2							
O.3.1							

The cutting data depend heavily on the external conditions, the material, and the machine type. The specified values represent guideline values that must be increased or reduced, within the range shown in brackets, according to the application conditions.

Cutting data standard values for HSS-E reamers

Index	40 110 …, 40 115 …									
	Nominal Ø in mm ▸	≤ Ø 5	Ø 5,01–8	Ø 8,01–12	Ø 12,01–15	Ø 15,01–20	Ø 20,01–25	Ø 25,01–30	Ø 30,01–40	Ø 40,01–50
	Reaming allowance Ø ▸	0,10	0,15	0,20	0,20	0,30	0,30	0,30	0,30	0,30
	v_c (m/min)	f (mm/rev)								
P.1.1	12	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.1.2	12	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.1.3	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.1.4	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.1.5	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.2.1	12	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.2.2	12	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.2.3	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.2.4	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.3.1	12	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.3.2	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.3.3	10	0,10	0,15	0,20	0,25	0,30	0,30	0,30	0,40	0,40
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	12	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
K.1.2	12	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
K.2.1	10	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
K.2.2	10	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
K.3.1	10	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
K.3.2	10	0,15	0,20	0,25	0,30	0,35	0,35	0,35	0,40	0,40
N.1.1	15	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
N.1.2	15	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
N.2.1										
N.2.2										
N.2.3										
N.3.1	20	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
N.3.2	20	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
N.3.3	20	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
N.4.1										
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	25	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
O.1.2	25	0,15	0,20	0,20	0,25	0,30	0,30	0,30	0,40	0,40
O.2.1										
O.2.2										
O.3.1										

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for HSS-E reamers

Index	40 139 …, 40 140 …, 40 145 …, 40 150 …, 40 160 …																			
		≤ Ø 5		Ø 5,01–8		Ø 8,01–12		Ø 12,01–15		Ø 15,01–20		Ø 20,01–25		Ø 25,01–30		Ø 30,01–40		Ø 40,01–50	
	v_c (m/min)	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø	f (mm/rev)	Reaming allowance Ø
P.1.1	15	0,10	0,10–0,15	0,20	0,15–0,20	0,25	0,20	0,30	0,25	0,35	0,30	0,40	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.1.2	12	0,10	0,10–0,15	0,20	0,15–0,20	0,25	0,20	0,30	0,25	0,35	0,30	0,40	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.1.3	10	0,10	0,10–0,15	0,20	0,15–0,20	0,25	0,20	0,30	0,25	0,35	0,30	0,40	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.1.4	10	0,08	0,10–0,15	0,15	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,40	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.1.5	8	0,08	0,10–0,15	0,15	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.2.1	10	0,10	0,10–0,15	0,20	0,15–0,20	0,25	0,20	0,25	0,25	0,35	0,30	0,40	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.2.2	8	0,08	0,10–0,15	0,15	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.2.3	8	0,08	0,10–0,15	0,15	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.2.4	8	0,08	0,10–0,15	0,15	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,40	0,35	0,40	0,40	0,50	0,50
P.3.1	8	0,08	0,10–0,15	0,12	0,15–0,20	0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,50
P.3.2	6	0,08	0,10–0,15	0,12	0,15–0,20	0,20	0,20	0,20	0,25	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,50
P.3.3	6	0,08	0,10–0,15	0,12	0,15–0,20	0,20	0,20	0,20	0,25	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,50
P.4.1	6	0,08	0,10–0,15	0,12	0,15–0,20	0,20	0,20	0,20	0,25	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,50
P.4.2	6	0,08	0,10–0,15	0,12	0,15–0,20	0,20	0,20	0,20	0,25	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,50
M.1.1	6	0,08	0,10	0,12	0,15	0,20	0,20	0,20	0,20	0,25	0,25	0,30	0,25	0,30	0,30	0,35	0,30	0,40	0,35
M.2.1	4	0,08	0,10	0,12	0,15	0,20	0,20	0,20	0,20	0,25	0,25	0,30	0,25	0,30	0,30	0,35	0,30	0,40	0,35
M.3.1	4	0,08	0,10	0,12	0,15	0,20	0,20	0,20	0,20	0,25	0,25	0,30	0,25	0,30	0,30	0,35	0,30	0,40	0,35
K.1.1	14	0,10	0,10–0,15	0,16	0,20	0,24	0,20	0,28	0,25	0,35	0,30	0,35	0,35	0,35	0,35	0,40	0,40	0,50	0,40
K.1.2	12	0,10	0,10–0,15	0,16	0,20	0,24	0,20	0,28	0,25	0,35	0,30	0,35	0,35	0,35	0,35	0,40	0,40	0,50	0,40
K.2.1	12	0,10	0,10–0,15	0,16	0,15–0,20	0,20	0,20	0,25	0,25	0,35	0,30	0,35	0,35	0,35	0,35	0,40	0,40	0,50	0,40
K.2.2	10	0,10	0,10–0,15	0,16	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,35	0,40	0,40	0,40	0,40
K.3.1	12	0,10	0,10–0,15	0,16	0,20	0,24	0,20	0,28	0,25	0,35	0,30	0,35	0,35	0,35	0,35	0,40	0,40	0,50	0,40
K.3.2	10	0,10	0,10–0,15	0,16	0,15–0,20	0,20	0,20	0,25	0,25	0,30	0,30	0,30	0,35	0,35	0,35	0,40	0,40	0,40	0,40
N.1.1	20	0,10	0,15	0,20	0,20	0,25	0,20	0,30	0,25	0,40	0,30	0,40	0,35	0,50	0,40	0,60	0,45	0,80	0,50
N.1.2	20	0,10	0,15	0,20	0,20	0,25	0,20	0,30	0,25	0,40	0,30	0,40	0,35	0,50	0,40	0,60	0,45	0,80	0,50
N.2.1	18	0,10	0,15	0,20	0,20	0,25	0,20	0,30	0,25	0,40	0,30	0,40	0,35	0,50	0,40	0,60	0,45	0,80	0,50
N.2.2	18	0,10	0,15	0,20	0,20	0,25	0,20	0,30	0,25	0,40	0,30	0,40	0,35	0,50	0,40	0,50	0,45	0,80	0,50
N.2.3																			
N.3.1	18	0,10	0,15	0,18	0,30	0,20	0,30	0,25	0,30	0,30	0,30	0,30	0,40	0,30	0,40	0,40	0,50	0,40	0,50
N.3.2	15	0,10	0,15	0,18	0,30	0,20	0,30	0,25	0,30	0,30	0,30	0,30	0,40	0,30	0,40	0,40	0,50	0,40	0,50
N.3.3	15	0,10	0,15	0,18	0,30	0,20	0,30	0,25	0,30	0,30	0,30	0,30	0,40	0,30	0,40	0,40	0,50	0,40	0,50
N.4.1	18	0,10	0,15	0,18	0,30	0,20	0,30	0,25	0,30	0,30	0,30	0,30	0,40	0,30	0,40	0,40	0,50	0,40	0,50
S.1.1																			
S.1.2																			
S.2.1	4	0,08	0,10	0,12	0,15	0,16	0,20	0,20	0,20	0,25	0,20	0,30	0,25	0,30	0,30	0,35	0,35	0,40	0,35
S.2.2	4	0,08	0,10	0,12	0,15	0,16	0,20	0,20	0,20	0,25	0,20	0,30	0,25	0,30	0,30	0,35	0,35	0,40	0,35
S.2.3																			
S.3.1	6	0,08	0,10	0,12	0,15	0,16	0,20	0,20	0,20	0,25	0,20	0,30	0,25	0,30	0,30	0,35	0,35	0,40	0,35
S.3.2	4	0,08	0,10	0,10	0,15	0,125	0,20	0,20	0,20	0,25	0,20	0,30	0,25	0,30	0,30	0,35	0,35	0,40	0,35
S.3.3																			
H.1.1																			
H.1.2																			
H.1.3																			
H.1.4																			
H.2.1																			
H.3.1																			
O.1.1	15	0,15	0,15	0,20	0,20	0,25	0,20	0,25	0,25	0,30	0,30	0,30	0,30	0,35	0,35	0,40	0,40	0,40	0,50
O.1.2	12	0,12	0,15	0,16	0,20	0,20	0,20	0,20	0,25	0,25	0,30	0,25	0,30	0,30	0,35	0,30	0,40	0,35	0,50
O.2.1																			
O.2.2																			
O.3.1																			

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values indexable insert countersink

Index	30 196 ..., 30 197 ...			30 198 ...					
	Indexable inserts		Tool diameter	Indexable inserts		Tool diameter			
	TOHX.. BK8425	TOHX.. K10	Ø 16,5–37	WOEX.. BK8425	WOEX.. K10	Ø 10–15	Ø 15–20	Ø 20–30	Ø 30–48
	v_c (m/min)		f (mm/rev)	v_c (m/min)		f (mm/rev)			
P.1.1	**260**		0,12–0,16	200-**260**-305		0,06–0,12	0,12–0,20	0,15–0,25	0,20–0,30
P.1.2	**260**		0,20–0,30	200-**260**-305		0,06–0,12	0,12–0,20	0,15–0,25	0,20–0,30
P.1.3	**270**		0,20–0,30	210-**270**-320		0,06–0,12	0,12–0,20	0,25–0,40	0,25–0,40
P.1.4	**240**		0,20–0,30	195-**250**-295		0,06–0,12	0,12–0,20	0,25–0,40	0,25–0,40
P.1.5	**230**		0,17–0,27	210-**270**-320		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.2.1	**270**		0,20–0,30	210-**270**-320		0,06–0,12	0,12–0,20	0,25–0,40	0,25–0,40
P.2.2	**260**		0,20–0,30	200-**260**-305		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.2.3	**180**		0,15–0,20	140-**180**-210		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.2.4	**150**		0,10–0,16	115-**150**-175		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.3.1	**160**		0,10–0,15	125-**160**-190		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.3.2	**130**		0,08–0,13	100-**130**-155		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.3.3	**120**		0,06–0,12	90-**120**-140		0,04–0,08	0,15	0,20–0,30	0,20–0,35
P.4.1	**180**		0,10–0,16	140-**180**-210		0,08	0,15	0,16	0,18
P.4.2	**130**		0,06–0,12	100-**130**-155		0,08	0,15	0,16	0,18
M.1.1	**150**		0,10–0,15	115-**150**-175		0,08	0,15	0,16	0,18
M.2.1	**150**		0,10–0,15	115-**150**-175		0,08	0,15	0,16	0,18
M.3.1	**130**		0,07–0,13	110-**140**-165		0,08	0,15	0,16	0,18
K.1.1	**160**		0,40	125-**160**-190	110-**140**-165	0,15	0,30	0,40	0,60
K.1.2	**120**		0,32	90-**120**-140	85-**110**-130	0,15	0,30	0,40	0,60
K.2.1	**160**		0,30	125-**160**-190	70-**90**-105	0,15	0,25	0,30	0,35
K.2.2	**100**		0,18	75-**100**-120	70-**90**-105	0,12	0,20	0,25	0,35
K.3.1	**120**		0,20	90-**120**-140	55-**70**-85	0,10	0,18	0,25	0,30
K.3.2	**100**		0,18	75-**100**-120	45-**60**-70	0,10	0,18	0,25	0,30
N.1.1	400	**250**	0,20						
N.1.2	400	**250**	0,20						
N.2.1	250	**250**	0,30						
N.2.2	250	**250**	0,30						
N.2.3	230	**250**	0,25						
N.3.1	200	**230**	0,30						
N.3.2	220	**230**	0,32						
N.3.3	330	**230**	0,22						
N.4.1	200	**230**	0,30						
S.1.1	**60**	**20**	0,12						
S.1.2	**50**	**20**	0,10						
S.2.1	**60**	**20**	0,12						
S.2.2	**50**	**20**	0,10						
S.2.3	**30**	**20**	0,06						
S.3.1	**100**	**60**	0,22						
S.3.2	**80**	**30**	0,20						
S.3.3	**50**	**30**	0,12						
H.1.1	100		0,10						
H.1.2	80		0,08						
H.1.3	50		0,05						
H.1.4									
H.2.1	100		0,10						
H.3.1	80		0,08						
O.1.1		**100**	0,10						
O.1.2		**100**	0,10						
O.2.1									
O.2.2		**100**	0,03						
O.3.1		**100**	0,08						

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for solid carbide countersinks

Index	30 115 … Solid carbide 90°						30 160 … Solid carbide 60°			
		Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0		Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0
	v_c (m/min)	f (mm/rev)					v_c (m/min)	f (mm/rev)		
P.1.1	40	0,10	0,12	0,14	0,18	0,22	40	0,12	0,14	0,18
P.1.2	40	0,10	0,12	0,14	0,18	0,22	40	0,12	0,14	0,18
P.1.3	30	0,08	0,10	0,10	0,14	0,18	30	0,10	0,10	0,14
P.1.4	30	0,08	0,10	0,12	0,14	0,18	30	0,10	0,12	0,14
P.1.5	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.2.1	30	0,08	0,10	0,12	0,14	0,18	30	0,10	0,12	0,14
P.2.2	20	0,05	0,06	0,08	0,10	0,12	20	0,06	0,08	0,10
P.2.3	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.2.4	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.3.1	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.3.2	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.3.3	18	0,05	0,06	0,08	0,10	0,12	18	0,06	0,08	0,10
P.4.1										
P.4.2										
M.1.1	15	0,06	0,07	0,08	0,09	0,12	15	0,07	0,08	0,09
M.2.1	15	0,06	0,07	0,08	0,09	0,12	15	0,07	0,08	0,09
M.3.1	15	0,06	0,07	0,08	0,09	0,12	15	0,07	0,08	0,09
K.1.1	24	0,12	0,14	0,18	0,20	0,25	24	0,14	0,18	0,20
K.1.2	24	0,12	0,14	0,18	0,20	0,25	24	0,14	0,18	0,20
K.2.1	18	0,12	0,14	0,18	0,20	0,25	18	0,14	0,18	0,20
K.2.2	18	0,12	0,14	0,18	0,20	0,25	18	0,14	0,18	0,20
K.3.1	24	0,12	0,14	0,18	0,20	0,25	24	0,14	0,18	0,20
K.3.2	18	0,12	0,14	0,18	0,20	0,25	18	0,14	0,18	0,20
N.1.1	58	0,12	0,14	0,18	0,22	0,26	58	0,14	0,18	0,22
N.1.2	58	0,12	0,14	0,18	0,22	0,26	58	0,14	0,18	0,22
N.2.1	45	0,12	0,14	0,18	0,22	0,26	45	0,14	0,18	0,22
N.2.2	45	0,12	0,14	0,18	0,22	0,26	45	0,14	0,18	0,22
N.2.3	50	0,14	0,18	0,20	0,24	0,30	50	0,18	0,20	0,24
N.3.1	50	0,14	0,18	0,20	0,24	0,30	50	0,18	0,20	0,24
N.3.2	50	0,14	0,18	0,20	0,24	0,30	50	0,18	0,20	0,24
N.3.3	50	0,14	0,18	0,20	0,24	0,30	50	0,18	0,20	0,24
N.4.1	50	0,14	0,18	0,20	0,24	0,30	50	0,18	0,20	0,24
S.1.1	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.1.2	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.2.1	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.2.2	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.2.3	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.3.1	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.3.2	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
S.3.3	12	0,05	0,06	0,07	0,08	0,10	12	0,06	0,07	0,08
H.1.1	8	0,06	0,08	0,08	0,10	0,12	8	0,08	0,08	0,10
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for countersinks with irregular pitch

Index	30 117 ... HPC-TiN / Solid carbide							30 141 ... TiN / HSS						
	N	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0	N	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0
	v_c (m/min)	f (mm/rev)						v_c (m/min)	f (mm/rev)					
P.1.1	58	0,08	0,10	0,12	0,14	0,18	0,22	38	0,08	0,10	0,12	0,14	0,18	0,22
P.1.2	58	0,08	0,10	0,12	0,14	0,18	0,22	38	0,08	0,10	0,12	0,14	0,18	0,22
P.1.3	50	0,06	0,08	0,10	0,10	0,14	0,18	30	0,06	0,08	0,10	0,10	0,14	0,18
P.1.4	50	0,06	0,08	0,10	0,12	0,14	0,18	30	0,06	0,08	0,10	0,12	0,14	0,18
P.1.5	50	0,06	0,05	0,06	0,08	0,10	0,12	30	0,06	0,05	0,06	0,08	0,10	0,12
P.2.1	50	0,06	0,08	0,10	0,12	0,14	0,18	30	0,06	0,08	0,10	0,12	0,14	0,18
P.2.2	50	0,06	0,05	0,06	0,08	0,10	0,12	12	0,06	0,05	0,06	0,08	0,10	0,12
P.2.3	40	0,04	0,05	0,06	0,08	0,10	0,12	12	0,04	0,05	0,06	0,08	0,10	0,12
P.2.4	40	0,04	0,05	0,06	0,08	0,10	0,12	12	0,04	0,05	0,06	0,08	0,10	0,12
P.3.1	50	0,06	0,05	0,06	0,08	0,10	0,12	30	0,06	0,05	0,06	0,08	0,10	0,12
P.3.2	40	0,04	0,05	0,06	0,08	0,10	0,12	12	0,04	0,05	0,06	0,08	0,10	0,12
P.3.3	40	0,04	0,05	0,06	0,08	0,10	0,12	12	0,04	0,05	0,06	0,08	0,10	0,12
P.4.1	30	0,05	0,06	0,07	0,08	0,09	0,12	15	0,05	0,06	0,07	0,08	0,09	0,12
P.4.2	30	0,05	0,06	0,07	0,08	0,09	0,12	15	0,05	0,06	0,07	0,08	0,09	0,12
M.1.1	30	0,05	0,06	0,07	0,08	0,09	0,12	15	0,05	0,06	0,07	0,08	0,09	0,12
M.2.1	30	0,05	0,06	0,07	0,08	0,09	0,12	15	0,05	0,06	0,07	0,08	0,09	0,12
M.3.1	25	0,05	0,06	0,07	0,08	0,09	0,12							
K.1.1	50	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
K.1.2	50	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
K.2.1	45	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
K.2.2	45	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
K.3.1	35	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
K.3.2	35	0,10	0,12	0,14	0,18	0,20	0,25	20	0,10	0,12	0,14	0,18	0,20	0,25
N.1.1	80	0,10	0,12	0,14	0,18	0,22	0,26	48	0,10	0,12	0,14	0,18	0,22	0,26
N.1.2	80	0,10	0,12	0,14	0,18	0,22	0,26	48	0,10	0,12	0,14	0,18	0,22	0,26
N.2.1	60	0,10	0,12	0,14	0,18	0,22	0,26	40	0,10	0,12	0,14	0,18	0,22	0,26
N.2.2	60	0,10	0,12	0,14	0,18	0,22	0,26	40	0,10	0,12	0,14	0,18	0,22	0,26
N.2.3	60	0,10	0,14	0,18	0,20	0,24	0,30	40	0,10	0,14	0,18	0,20	0,24	0,30
N.3.1	68	0,12	0,14	0,18	0,20	0,24	0,30	40	0,12	0,14	0,18	0,20	0,24	0,30
N.3.2	68	0,12	0,14	0,18	0,20	0,24	0,30	40	0,12	0,14	0,18	0,20	0,24	0,30
N.3.3	68	0,12	0,14	0,18	0,20	0,24	0,30	40	0,12	0,14	0,18	0,20	0,24	0,30
N.4.1														
S.1.1	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.1.2	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.2.1	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.2.2	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.2.3	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.3.1	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.3.2	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
S.3.3	15	0,05	0,06	0,07	0,08	0,09	0,10	10	0,05	0,06	0,07	0,08	0,09	0,10
H.1.1	12	0,05	0,06	0,07	0,07	0,08		6	0,05	0,06	0,07	0,07	0,08	
H.1.2	8	0,05	0,06	0,07	0,07	0,08								
H.1.3														
H.1.4														
H.2.1	12	0,05	0,06	0,07	0,07	0,08								
H.3.1														
O.1.1	68	0,12	0,14	0,18	0,20	0,24	0,30	38	0,12	0,14	0,18	0,20	0,24	0,30
O.1.2	68	0,12	0,14	0,18	0,20	0,24	0,30	38	0,12	0,14	0,18	0,20	0,24	0,30
O.2.1	25	0,10	0,12	0,14	0,18	0,20	0,25							
O.2.2	25	0,10	0,12	0,14	0,18	0,20	0,25							
O.3.1	25	0,10	0,12	0,14	0,18	0,20	0,25							

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for HSS countersinks

Index	30 100 ... Type N							30 102 ... Type AL						
	N	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0	AL	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0
	v_c (m/min)	f (mm/rev)						v_c (m/min)	f (mm/rev)					
P.1.1	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22
P.1.2	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22
P.1.3	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14
P.1.4	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14
P.1.5	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.1	25	0,04–0,06	0,08	0,10	0,12	0,14	0,18	25	0,04–0,06	0,08	0,10	0,12	0,14	0,18
P.2.2	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.3	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.4	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.1	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.2	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.3	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.4.1														
P.4.2														
M.1.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
M.2.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
M.3.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
K.1.1	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.1.2	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.2.1	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.2.2	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.3.1	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.3.2	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25
N.1.1	35	0,08–0,10	0,12	0,14	0,18	0,22	0,26	39	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.1.2	35	0,08–0,10	0,12	0,14	0,18	0,22	0,26	39	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.1	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	28	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.2	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	28	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.3	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	28	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.3.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	39	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.3.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	39	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.3.3	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	39	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.4.1	60	0,10–0,13	0,16	0,20	0,23	0,26	0,30	66	0,10–0,13	0,16	0,20	0,23	0,26	0,30
S.1.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.1.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.3	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.3	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12
H.1.1														
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1														
O.1.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.1.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.2.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.2.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.3.1														

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for HSS countersinks

Index	30 110 ..., 30 130 ... Type N – TiN / TiAlN							30 132 ... Type VA – TiAlN						
	N	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0	VA	Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0
	v_c (m/min)	f (mm/rev)						v_c (m/min)	f (mm/rev)					
P.1.1	35	0,06–0,08	0,10	0,12	0,14	0,18	0,22	35	0,06–0,08	0,10	0,12	0,14	0,18	0,22
P.1.2	35	0,06–0,08	0,10	0,12	0,14	0,18	0,22	35	0,06–0,08	0,10	0,12	0,14	0,18	0,22
P.1.3	29	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	29	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14
P.1.4	29	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	29	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14
P.1.5	14	0,03–0,04	0,05	0,06	0,08	0,10	0,12	14	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.1	29	0,04–0,06	0,08	0,10	0,12	0,14	0,18	29	0,04–0,06	0,08	0,10	0,12	0,14	0,18
P.2.2	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.3	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.2.4	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.1	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	13	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.2	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	13	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.3.3	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	13	0,03–0,04	0,05	0,06	0,08	0,10	0,12
P.4.1														
P.4.2														
M.1.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	11	0,04–0,05	0,06	0,07	0,08	0,09	0,12
M.2.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	11	0,04–0,05	0,06	0,07	0,08	0,09	0,12
M.3.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	11	0,04–0,05	0,06	0,07	0,08	0,09	0,12
K.1.1	9	0,06–0,10	0,12	0,14	0,18	0,20	0,25	14	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.1.2	9	0,06–0,10	0,12	0,14	0,18	0,20	0,25	14	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.2.1	9	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.2.2	14	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.3.1	14	0,06–0,10	0,12	0,14	0,18	0,20	0,25	14	0,06–0,10	0,12	0,14	0,18	0,20	0,25
K.3.2	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25
N.1.1	40	0,08–0,10	0,12	0,14	0,18	0,22	0,26	40	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.1.2	40	0,08–0,10	0,12	0,14	0,18	0,22	0,26	40	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.1	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.2	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.2.3	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26	29	0,08–0,10	0,12	0,14	0,18	0,22	0,26
N.3.1	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.3.2	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.3.3	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
N.4.1	69	0,10–0,13	0,16	0,20	0,23	0,26	0,30	69	0,10–0,13	0,16	0,20	0,23	0,26	0,30
S.1.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.1.2	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.2	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.2.3	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.1	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.2	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
S.3.3	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12	9	0,04–0,05	0,06	0,07	0,08	0,09	0,12
H.1.1	5	0,04–0,05	0,06	0,07	0,08	0,10	0,12	5	0,04–0,05	0,06	0,07	0,08	0,10	0,12
H.1.2														
H.1.3														
H.1.4														
H.2.1														
H.3.1	5	0,04–0,05	0,06	0,07	0,08	0,10	0,12	5	0,04–0,05	0,06	0,07	0,08	0,10	0,12
O.1.1	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.1.2	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.2.1	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.2.2	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30	40	0,10–0,12	0,14	0,18	0,20	0,24	0,30
O.3.1														

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for HSS countersinks and counterbores

Index	30 105 ..., 30 150 ..., 30 170 .... HSS – 60° / 90° / 120°									30 190 ..., 30 191 ... HSS			
		Ø 4,3–8,0	Ø 8,0–12,4	Ø 12,4–16,5	Ø 16,5–20,5	Ø 20,5–25,0	Ø 25,0–31,0	Ø 31,0–55,0	Ø 55,0–80,0		DC_2 Ø 6,3	DC_2 Ø 10,0	DC_2 Ø 14,0
	v_c (m/min)	f (mm/rev)								v_c (m/min)	f (mm/rev)		
P.1.1	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22	0,22–0,26	0,26–0,36	30	0,07	0,10	0,12
P.1.2	30	0,06–0,08	0,10	0,12	0,14	0,18	0,22	0,22–0,26	0,26–0,36	30	0,07	0,10	0,12
P.1.3	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	0,14–0,22	0,22–0,28	25	0,05	0,07	0,09
P.1.4	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12	0,14	0,14–0,22	0,22–0,28	25	0,05	0,07	0,09
P.1.5	12	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,14	0,14–0,18	12	0,04	0,05	0,07
P.2.1	25	0,04–0,06	0,08	0,10	0,12	0,14	0,18	0,18–0,24	0,24–0,30	25	0,05	0,07	0,09
P.2.2	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.2.3	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.2.4	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.3.1	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.3.2	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.3.3	10	0,03–0,04	0,05	0,06	0,08	0,10	0,12	0,12–0,16	0,16–0,18	10	0,04	0,05	0,06
P.4.1													
P.4.2													
M.1.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12–0,16	0,16–0,18	8	0,04	0,06	0,07
M.2.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12–0,16	0,16–0,18	8	0,04	0,06	0,07
M.3.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12–0,16	0,16–0,18	8	0,04	0,06	0,07
K.1.1	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	12	0,08	0,13	0,16
K.1.2	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	12	0,08	0,13	0,16
K.2.1	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	10	0,08	0,13	0,16
K.2.2	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	10	0,08	0,13	0,16
K.3.1	12	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	12	0,08	0,13	0,16
K.3.2	10	0,06–0,10	0,12	0,14	0,18	0,20	0,25	0,25–0,27	0,27–0,36	10	0,08	0,13	0,16
N.1.1	35	0,08–0,10	0,12	0,14	0,18	0,22	0,26	0,26–0,34	0,34–0,40	35	0,09	0,13	0,16
N.1.2	35	0,08–0,10	0,12	0,14	0,18	0,22	0,26	0,26–0,34	0,34–0,40	35	0,09	0,13	0,16
N.2.1	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	0,26–0,34	0,34–0,40	25	0,09	0,13	0,16
N.2.2	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	0,26–0,34	0,34–0,40	25	0,09	0,13	0,16
N.2.3	25	0,08–0,10	0,12	0,14	0,18	0,22	0,26	0,26–0,34	0,34–0,40	25	0,09	0,13	0,16
N.3.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30–0,42	0,42–0,46	35	0,11	0,16	0,18
N.3.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30–0,42	0,42–0,46	35	0,11	0,16	0,18
N.3.3	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30–0,42	0,42–0,46	35	0,11	0,16	0,18
N.4.1	60	0,10–0,13	0,16	0,20	0,23	0,26	0,30	0,30–0,42	0,42–0,46	60	0,12	0,18	0,21
S.1.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.1.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.2.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.2.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.2.3	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.3.1	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.3.2	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
S.3.3	8	0,04–0,05	0,06	0,07	0,08	0,09	0,12	0,12	0,12	8	0,04	0,06	0,07
H.1.1													
H.1.2													
H.1.3													
H.1.4													
H.2.1													
H.3.1													
O.1.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30	0,30	35	0,11	0,16	0,18
O.1.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30	0,30	35	0,11	0,16	0,18
O.2.1	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30	0,30	35	0,11	0,16	0,18
O.2.2	35	0,10–0,12	0,14	0,18	0,20	0,24	0,30	0,30	0,30	35	0,11	0,16	0,18
O.3.1													

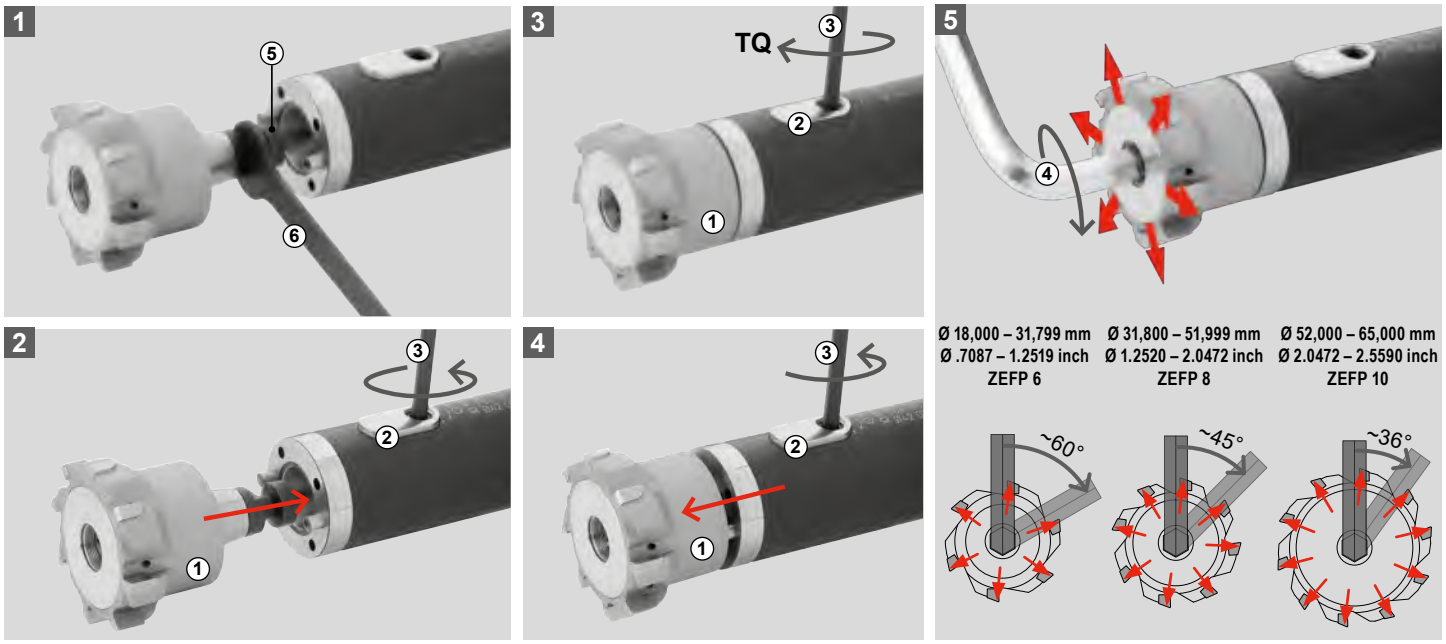
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Cutting data standard values for HSS-E deburring countersinks

Index	30 120 ..., 30 121 ... HSS-E – 90°						
	TiN	uncoated	Ø 6,3	Ø 10,0	Ø 14,0	Ø 21,0	Ø 28,0
	v_c (m/min)		f (mm/rev)				
P.1.1	35	30	0,06–0,08	0,10	0,12	0,14	0,18
P.1.2	35	30	0,06–0,08	0,10	0,12	0,14	0,18
P.1.3	29	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12
P.1.4	29	25	0,04–0,06	0,04–0,06	0,08	0,10	0,12
P.1.5	14	12	0,03–0,04	0,05	0,06	0,08	0,10
P.2.1	29	25	0,04–0,06	0,08	0,10	0,12	0,14
P.2.2	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.2.3	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.2.4	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.3.1	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.3.2	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.3.3	12	10	0,03–0,04	0,05	0,06	0,08	0,10
P.4.1							
P.4.2							
M.1.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
M.2.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
M.3.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
K.1.1	9	12	0,06–0,10	0,12	0,14	0,18	0,20
K.1.2	9	12	0,06–0,10	0,12	0,14	0,18	0,20
K.2.1	9	10	0,06–0,10	0,12	0,14	0,18	0,20
K.2.2	14	10	0,06–0,10	0,12	0,14	0,18	0,20
K.3.1	14	12	0,06–0,10	0,12	0,14	0,18	0,20
K.3.2	12	10	0,06–0,10	0,12	0,14	0,18	0,20
N.1.1	40	35	0,08–0,1	0,12	0,14	0,18	0,22
N.1.2	40	35	0,08–0,1	0,12	0,14	0,18	0,22
N.2.1	29	25	0,08–0,1	0,12	0,14	0,18	0,22
N.2.2	29	25	0,08–0,1	0,12	0,14	0,18	0,22
N.2.3	29	25	0,08–0,1	0,12	0,14	0,18	0,22
N.3.1	40	35	0,1–0,12	0,14	0,18	0,20	0,24
N.3.2	40	35	0,1–0,12	0,14	0,18	0,20	0,24
N.3.3	40	35	0,1–0,12	0,14	0,18	0,20	0,24
N.4.1	69	60	0,1–0,13	0,16	0,20	0,23	0,26
S.1.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.1.2	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.2.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.2.2	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.2.3	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.3.1	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.3.2	9	8	0,04–0,05	0,06	0,07	0,08	0,09
S.3.3	9	8	0,04–0,05	0,06	0,07	0,08	0,09
H.1.1	4		0,04–0,05	0,06	0,07	0,08	0,10
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1	4		0,04–0,05	0,06	0,07	0,08	0,10
O.1.1	40	35	0,1–0,12	0,14	0,18	0,20	0,24
O.1.2	40	35	0,1–0,12	0,14	0,18	0,20	0,24
O.2.1	40	35	0,1–0,12	0,14	0,18	0,20	0,24
O.2.2	40	35	0,1–0,12	0,14	0,18	0,20	0,24
O.3.1							

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approximately **±20%** according to the usage conditions.

Reamax TS – Assembly instructions



1 Clean the Morse taper adapter/face contact → grease-free.
Screw the pull stud (5) into the reaming head and tighten using the open-ended spanner (6).

2 Use key (3) to open jaws (2), but do not fully release, and insert reaming head (1).

3 Use the key (3) to close the jaws (2), observe the recommended tightening torque.
When inserting the reaming head (1), this is pulled into its final position when the jaws (2) are closed.

Diameter range	Tightening torque (TQ)	Diameter range	Tightening torque (TQ)
18,000 – 19,999 mm	1,5 Nm	.7087" – .7873"	13 in-lbs
20,000 – 21,999 mm	2,5 Nm	.7874" – .8661"	22 in-lbs
22,000 – 26,999 mm	4 Nm	.8662" – 1.0629"	35 in-lbs
27,000 – 34,999 mm	5 Nm	1.0630" – 1.3779"	44 in-lbs
35,000 – 41,999 mm	6 Nm	1.3780" – 1.6535"	53 in-lbs
42,000 – 51,999 mm	10 Nm	1.6536" – 2.0472"	89 in-lbs
52,000 – 65,000 mm	13 Nm	2.0473" – 2.5590"	115 in-lbs

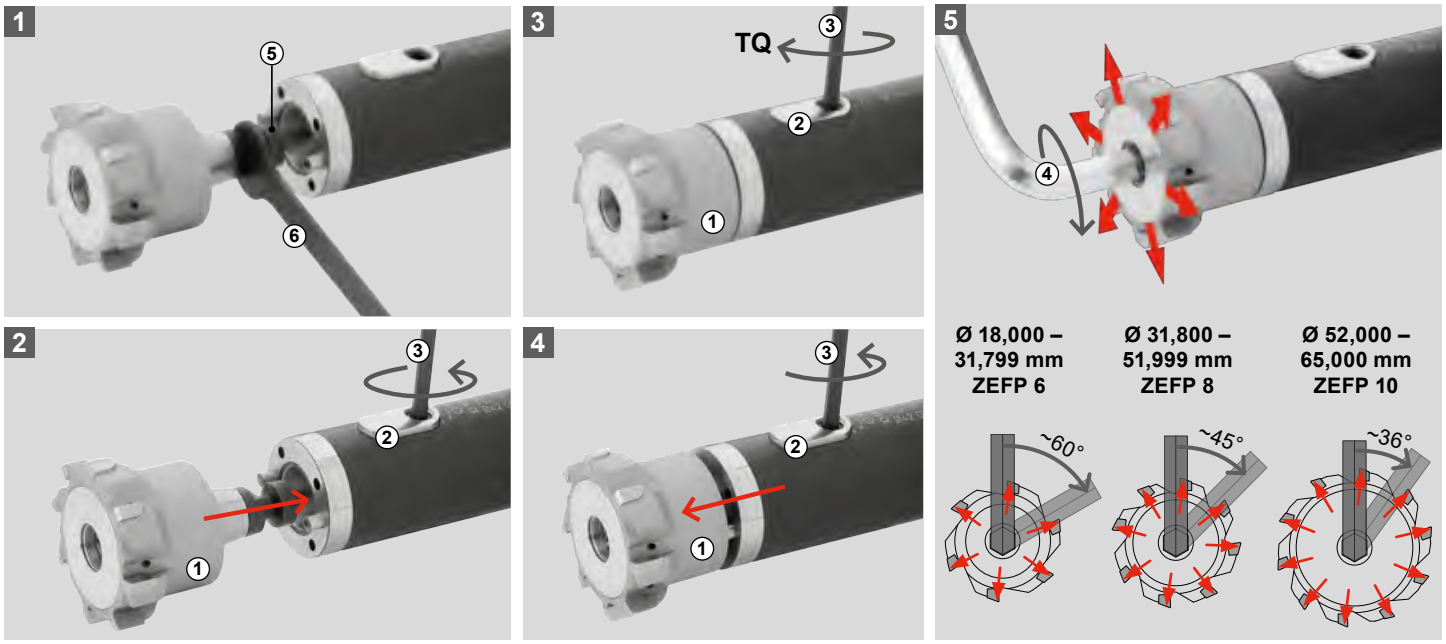
4 When removing the reamer head (1), this is pressed out of its position by the jaws (2) and can thus be easily removed from the holder:
Use key (3) to open the jaws (2) but do not fully release, and remove reamer head (1).

5 Adjustment for wear compensation:
The smallest drilling tolerances up to IT4 can be achieved through adjustment with the hex key (4).

ZEFP = Number of effective cutting edges, around the periphery	**ZEFP 6**		**ZEFP 8**		**ZEFP 10**	
Pitch	~ 60°		~ 45°		~ 36°	
Turning the hex key by ~ ...°, results in an adjustment of ~ ... mm in diameter	~ 15°	~ 0,006 mm / .0002" in Ø	~ 15°	~ 0,003 mm / .0001" in Ø	~ 18°	~ 0,005 mm / .0002" in Ø
	~ 30°	~ 0,012 mm / .0005" in Ø	~ 30°	~ 0,006 mm / .0002" in Ø	~ 36°	~ 0,010 mm / .0004" in Ø
	~ 45°	~ 0,018 mm / .0007" in Ø	~ 45°	~ 0,009 mm / .0004" in Ø		
	~ 60°	~ 0,024 mm / .0009" in Ø				

Caution: For technical reasons, all Reamax TS reaming heads and Reamax Mono reamers have an irregular cutting edge pitch. For this reason, the angles specified above are approximate values, to make handling easier. If the required diameter is over turned, turning back the adjustment screw is not enough! If this occurs, the reaming head/reamer must be fully released and re-set again. This adjustment facility is only intended to compensate for wear. Therefore, an adjustment of 0.015 mm (.0059 inch) in diameter should not normally be exceeded!
The adjustment values given above are recommended values based on empirical values and test results. However, these may vary slightly from case to case.

Reamax TS – Assembly instructions



1 Clean the Morse taper adapter/face contact → grease-free.
Screw the pull stud (5) into the reaming head and tighten using the open-ended spanner (6).

2 Use key (3) to open jaws (2), but do not fully release, and insert reaming head (1).

3 Use the key (3) to close the jaws (2), observe the recommended tightening torque.
When inserting the reaming head (1), this is pulled into its final position when the jaws (2) are closed.

Diameter range	Tightening torque (TQ)
18,000 – 19,999	1,5 Nm
20,000 – 21,999	2,5 Nm
22,000 – 26,999	4 Nm
27,000 – 34,999	5 Nm
35,000 – 41,999	6 Nm
42,000 – 51,999	10 Nm
52,000 – 65,000	13 Nm

4 When removing the reamer head (1), this is pressed out of its position by the jaws (2) and can thus be easily removed from the holder:
Use key (3) to open the jaws (2) but do not fully release, and remove reamer head (1).

5 Adjustment for wear compensation:
The smallest drilling tolerances up to IT4 can be achieved through adjustment with the hex key (4).

ZEFP = Number of effective cutting edges, around the periphery	ZEFP 6		ZEFP 8		ZEFP 10	
Pitch	~ 60°		~ 45°		~ 36°	
Turning the hex key by ~ ...°, results in an adjustment of ~ ... mm in diameter	~ 15°	~ 0,006 mm in Ø	~ 15°	~ 0,003 mm in Ø	~ 18°	~ 0,005 mm in Ø
	~ 30°	~ 0,012 mm in Ø	~ 30°	~ 0,006 mm in Ø	~ 36°	~ 0,010 mm in Ø
	~ 45°	~ 0,018 mm in Ø	~ 45°	~ 0,009 mm in Ø		
	~ 60°	~ 0,024 mm in Ø				

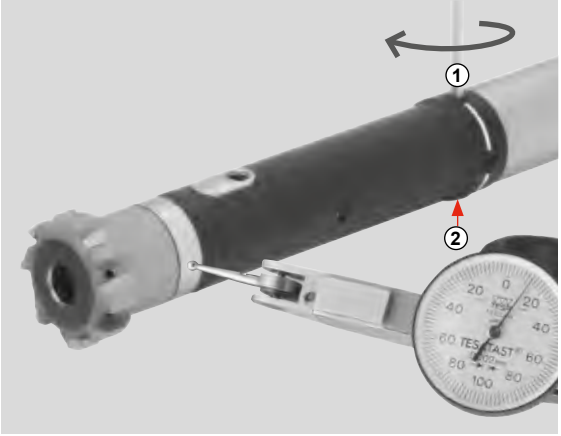
Caution: For technical reasons, all Reamax TS reaming heads and Reamax Mono reamers have an irregular cutting edge pitch. For this reason, the angles specified above are approximate values, to make handling easier. If the required diameter is over turned, turning back the adjustment screw is not enough! If this occurs, the reaming head/reamer must be fully released and re-set again. This adjustment facility is only intended to compensate for wear. Therefore, an adjustment of 0.015 mm (.0059 inch) in diameter should not normally be exceeded!
The adjustment values given above are recommended values based on empirical values and test results. However, these may vary slightly from case to case.

Reamax TS – Operating instructions

Aligning the DAH Zero holder

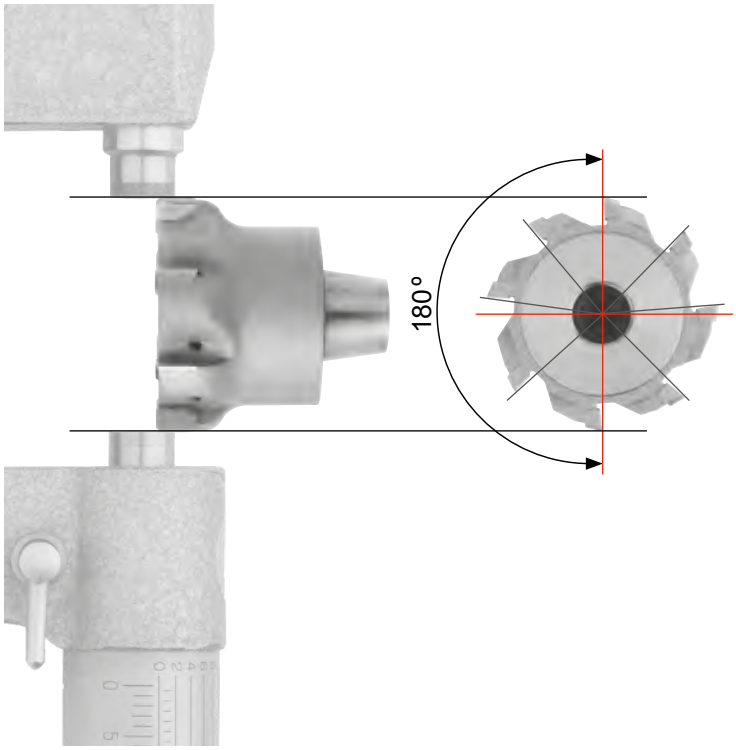
The tool is recommended for radial alignment of max. 20 µm (0.0008").

1. Loosen all adjustment screws and pre-load with 1 Nm (8,85 in-lbs) (new tools are supplied in this condition).
2. Place dial gauge with µm display on the ground bezel diameter.
3. Turn the tool to determine the point with the largest runout error using the dial gauge.
4. Adjust the corresponding adjustment screw with the hex key clockwise (1) until half the runout error has been corrected. In doing so, over-tighten by approx. 5 µm (0.0002").
5. Release the opposite adjustment screw (2) by the over-tightened amount.
6. Adjust all 4 adjustment screws until the runout is < 2 µm (0.0001").

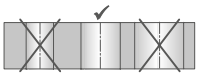


Please note:
- The runout must be checked and if necessary re-aligned after an adapter changeover, change of application, after any adjustment for wear compensation and before every re-commissioning, using adjustment steps 1 to 6
- Adjustment screws must always be tightened during usage with at least 1 Nm (8,85 in-lbs)
- The max. re-adjustment torque is 4.5 Nm (39,83 in-lbs)

Please note:
- Both measurement cutting edges are marked on the reaming head by a dot. Please use only this pair of cutting edges for mechanical measurement. Using other pairs of cutting edges will result in measurement errors.
- Measure the diameter at the front on the cutting edge due to back taper (see diagram)
- Please also avoid damage to the cutting edges during the measurement process.

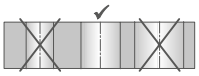


Problems / possible causes / solutions



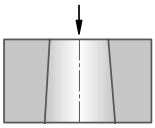
Hole too large

- Runout error for reamer in the spindle → use DAH compensation system and correct runout
- Inaccurate alignment, reamer re-cuts at rear → correct alignment and use DPS floating holder
- Built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- Reamer too large → have reamer adapted



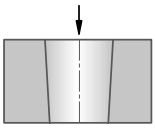
Hole too small

- Worn reamer → have reamer adjusted, replaced, or repaired
- Reaming allowance too small → increase reaming allowance
- Cutting force too high → reduce feed or select other lead geometry (ASG)
- Reamer too small → have reamer adjusted, replaced, or repaired



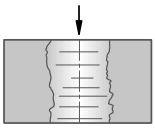
Conical hole, tapered backwards

- Inaccurate alignment → correct alignment and use DPS floating holder
- Misalignment between headstock and turret → correct turret and use DPS floating holder



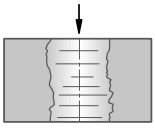
Conical hole, tapered forwards

- Poor alignment, cutting edges push initially → correct alignment and use DPS floating holder



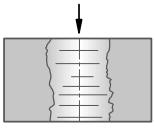
Hole is not round

- Reamer runout error too large → correct the runout with DAH compensation system
- Alignment error → correct alignment error and use DPS floating holder
- Asymmetric initial cutting through angled entry surface → countersink hole
- Workpiece tensioning → correct clamping of the workpieces
- Poor pre-machining → optimize pre-machining
- Feed too high → reduce feed



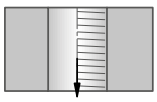
Hole exhibits chatter marks

- Cutting speed v_c too high → reduce cutting speed
- L to D ratio too high→ reduce the speed of entry, guide the hole, or select other chamfer geometry (ASG)



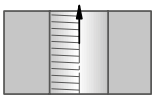
Poor surface quality

- Built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- Cutting edge worn → have cutting edge repaired or replace the tool
- Reamer runout error → correct the runout with DAH compensation system
- No or insufficient cooling, chips are getting trapped → use through coolant supply and increase coolant pressure
- Unsuitable coolant → increase the oil content of the coolant
- Incorrect cutting data→ use data according to catalog recommendation



Grooves in the hole "Feed marks"

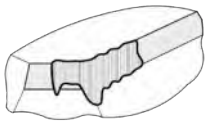
- Faulty cutting edge (fractures) → have reamer replaced or repaired
- Built-up edges → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant



Grooves in the hole "Retraction marks"

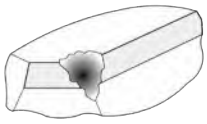
- Cutting edges moved too far out of the hole → move no more than chamfer length + 2 mm out of the hole
- Material springs back → do not retract at high speed but with increased (2-3 times) feed rate

Types of wear



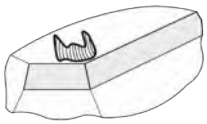
Flank wear

Reduce the cutting speed and select a more wear resistant cutting material or coating.



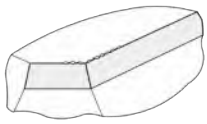
Cutting edge breakage

Reduce feed and reaming allowance. In the case of interrupted holes, use coated carbide instead of DST.



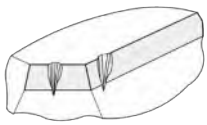
Crater wear

Reduce the cutting speed and use a positive cutting edge geometry.



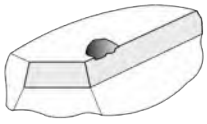
Chipping

Increase the cutting speed and use larger rake angle.



Notch wear

Reduce the cutting speed and select a more wear resistant cutting material or coating.



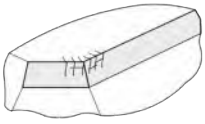
Fatigue fracture

Reduce feed, increase reamer stability.



Built-up edge formation

Use positive cutting edge geometry, increase the oil content of the coolant, reduce the cutting speed v_c with uncoated carbide cutting material, increase it for DST and coated cutting material.



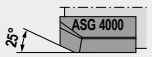
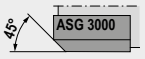
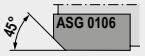
Cracks at right angles to the cutting edge

Use sufficient coolant and through coolant, reduce the cutting speed.

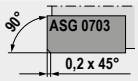
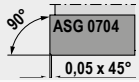
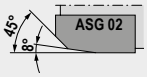
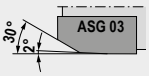
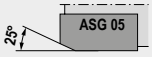
Standard cutting geometries

Reamax / Reamax TS / Reamax Mono

Standard geometries

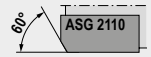
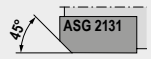
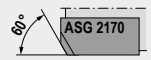
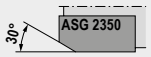
Cutting geometry	Flute type	Chip flow	Lead angle
Through hole			
ASG4000	Straight	←	
Through hole-blind hole			
ASG3000	Straight	↔	
ASG0706	Straight	↔	
ASG0106	Straight	↔	

Special geometries

Cutting geometry	Flute type	Chip flow Comment	Lead angle
ASG0703	Straight	Face cutting	
ASG0704	Straight	Face cutting with increased positional accuracy	
ASG09B	Straight	Chip control < Ø 32 mm	
ASG1402	Straight	Chip control > Ø 32 mm	
ASG02	Straight	↔	
ASG03	Straight	↔	
ASG05	Angled left		

Reamax Full

Standard geometries

Cutting geometry	Flute type	Chip flow	Lead angle
Through hole			
ASG2210	Left-hand helix	←	
ASG2231	Left-hand helix	←	
ASG2270	Straight	←	
Blind hole			
ASG2110	Straight	→	
ASG2131	Straight	→	
ASG2170	Straight	→	
Through hole-blind hole			
ASG2350	Straight	↔	
ASG2360	Straight	↔	

Numerous other cutting geometries, specifically for your application, are available on request. Simply get in touch with our technicians or use the "Semi-Standard solid carbide reamers" form in the download area on our website.

Achievable surface quality

		Roughness categories ▸	N11	N10	N9	N8		N7	N6		N5	N4	N3	N2	N1
		Medium roughness R_a ▸	25	12,5	6,3	3,2		1,6	0,8		0,4	0,2	0,1	0,05	0,025
		Average surface roughness R_z ▸	100	63	40	25	16	10	6,3	4	2,5	1,6	1	0,63	0,25
Material group	P	1.0 – 4.2													
	M	1.1 – 3.1													
	K	1.1 + 2.1 + 3.1													
		1.2 + 2.2 + 3.2													
	N	1.1 – 2.3													
		3.1 – 3.3													
	S	1.1 – 3.3													
	H	1.1 – 1.3													

Achievable ▬ Conditionally achievable

These specifications are based on empirical values and may vary from case to case, depending on the prevailing conditions.
(all other surface values on request)

Tolerance classes covered with 1/100 reamers

The most commonly used tolerance field is H7; as such most reamers are designed for an H7 fit tolerance.
However, the 1/100 reamers, which are available in increments of 0.01 mm, can be used to cover a variety of other tolerances.
For example, a 1/100 reamer with a diameter of 8.02 mm can be used for an 8.0 F7 fit.
The table shows further tolerances that can be covered.

Tolerance class	Nominal Ø in mm											
	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0	11,0	12,0
A9				4,29	5,29	6,29	7,30	8,30	9,30	10,30	11,32	12,32
A11	1,31	2,31	3,31	4,32	5,32	6,32	7,35	8,35	9,35	10,35	11,37	12,37
B8				4,15	5,15	6,15	7,16	8,16	9,16	10,16		
B9				4,16	5,16	6,16	7,17	8,17	9,17	10,17	11,18	12,18
B10	1,17	2,17	3,17	4,17	5,17	6,17	7,19	8,19	9,19	10,19	11,20	12,20
B11	1,18	2,18	3,18	4,19	5,19	6,19	7,22	8,22	9,22	10,22	11,23	12,23
C8				4,08	5,08	6,08	7,09	8,09	9,09	10,09	11,11	12,11
C9	1,07	2,07	3,07	4,09	5,09	6,09	7,10	8,10	9,10	10,10	11,12	12,12
C10	1,09	2,09	3,09	4,10	5,10	6,10	7,12	8,12	9,12	10,12	11,14	12,14
C11	1,10	2,10	3,10	4,12	5,12	6,12	7,15	8,15	9,15	10,15	11,18	12,18
D7											11,06	12,06
D8				4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,06	12,06
D9				4,05	5,05	6,05	7,06	8,06	9,06	10,06	11,08	12,08
D10	1,05	2,05	3,05	4,06	5,06	6,06	7,08	8,08	9,08	10,08	11,10	12,10
D11	1,06	2,06	3,06	4,08	5,08	6,08	7,10	8,10	9,10	10,10	11,13	12,13
E7							7,03	8,03	9,03	10,03	11,04	12,04
E8	1,02	2,02	3,02	4,03	5,03	6,03	7,04	8,04	9,04	10,04	11,05	12,05
E9	1,03	2,03	3,03	4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,06	12,06
F7	1,01	2,01	3,01				7,02	8,02	9,02	10,02	11,02	12,02
F8	1,01	2,01	3,01	4,02	5,02	6,02	7,02	8,02	9,02	10,02	11,03	12,03
F9	1,02	2,02	3,02	4,03	5,03	6,03	7,03	8,03	9,03	10,03	11,04	12,04
F10				4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,07	12,07
G7				4,01	5,01	6,01	7,01	8,01	9,01	10,01		
H7										10,01	11,01	12,01
H8				4,01	5,01	6,01	7,01	8,01	9,01	10,01	11,02	12,02
H9	1,01	2,01	3,01	4,02	5,02	6,02	7,02	8,02	9,02	10,02	11,03	12,03
H10	1,03	2,03	3,03	4,03	5,03	6,03	7,04	8,04	9,04	10,04	11,05	12,05
H11	1,04	2,04	3,04	4,05	5,05	6,05	7,06	8,06	9,06	10,06	11,08	12,08
H12	1,07	2,07	3,07	4,08	5,08	6,08	7,10	8,10	9,10	10,10	11,13	12,13
H13	1,11	2,11	3,11	4,14	5,14	6,14	7,18	8,18	9,18	10,18	11,22	12,22
J6				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
J7				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
J8	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS7				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS8	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS9	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,01	12,01
K8	0,99	1,99	2,99				6,99	7,99	8,99	9,99	10,99	11,99
M6							6,99	7,99	8,99	9,99	10,99	11,99
M7							6,99	7,99	8,99	9,99	10,99	11,99
M8	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,99	11,99
N6				3,99	4,99	5,99						
N7	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,99	11,99
N8	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,98	11,98
N9	0,98	1,98	2,98	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,98	11,98
N10	0,98	1,98	2,98	3,98	4,94	5,98	6,98	7,98	8,98	9,98	10,98	11,98
N11	0,98	1,98	2,98	3,98	4,94	5,98	6,98	7,98	8,98	9,98	10,97	11,97
P6	0,99	1,99	2,99								10,98	11,98
P7	0,99	1,99	2,99				6,98	7,98	8,98	9,98	10,98	11,98
P8	0,99	1,99	2,99	3,98	4,98	5,98					10,97	11,97
R6							6,98	7,98	8,98	9,98		
R7				3,98	4,98	5,98	6,98	7,98	8,98	9,98	10,97	11,97
S6				3,98	4,98	5,98					10,97	11,97
S7	0,98	1,98	2,98	3,98	4,98	5,98	6,97	7,97	8,97	9,97	10,97	11,97
U6							6,97	7,97	8,97	9,97		
U7				3,97	4,97	5,97	6,97	7,97	8,97	9,97		
X7				3,97	4,97	5,97						
X8	0,97	1,97	2,97				6,96	7,96	8,96	9,96	10,95	11,95
X9	0,97	1,97	2,97	3,96	4,96	5,96	6,95	7,95	8,95	9,95		
Z7	0,97	1,97	2,97	3,96	4,96	5,96	6,96	7,96	8,96	9,96	10,95	11,95
Z8	0,97	1,97	2,97	3,96	4,96	5,96	6,95	7,95	8,95	9,95	10,94	11,94
Z9				3,95	4,95	5,95						
Z10	0,96	1,96	2,96	3,95	4,95	5,95	6,94	7,94	8,94	9,94	10,93	11,93
ZA7	0,96	1,96	2,96	3,95	4,95	5,95	6,94	7,94	8,94	9,94		
ZA8							6,94	7,94	8,94	9,94	10,93	11,93
ZB8	0,95	1,95	2,95	3,94	4,94	5,94					10,90	11,90
ZB9	0,95	1,95	2,95	3,94	4,94	5,94	6,92	7,92	8,92	9,92	10,90	11,90

Tolerances

ISO basic tolerances according to DIN 7151

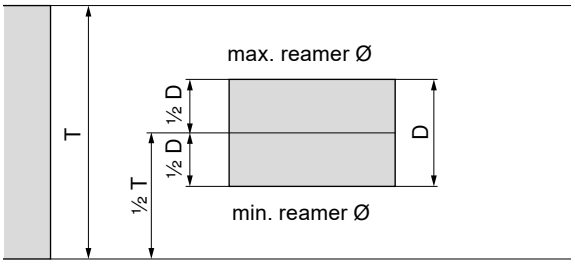
Nominal dimension range (inch)	IT tolerance class (inch)											
	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12
.039 – .118	.00003	.00005	.00008	.00012	.00016	.00024	.00039	.00055	.00098	.00158	.00236	.00394
> .118 – .236	.00004	.00006	.00010	.00016	.00020	.00032	.00047	.00071	.00118	.00189	.00295	.00472
> .236 – .394	.00004	.00006	.00010	.00016	.00024	.00035	.00059	.00087	.00142	.00228	.00354	.00591
> .394 – .709	.00005	.00008	.00012	.00020	.00032	.00043	.00071	.00106	.00169	.00276	.00433	.00709
> .709 – 1.181	.00006	.00010	.00016	.00024	.00035	.00051	.00083	.00130	.00205	.00331	.00512	.00827
> 1.181 – 1.969	.00006	.00010	.00016	.00028	.00043	.00063	.00098	.00154	.00244	.00394	.00630	.00984
> 1.969 – 3.150	.00008	.00012	.00020	.00032	.00051	.00075	.00118	.00181	.00291	.00472	.00748	.01181
> 3.150 – 4.724	.00010	.00016	.00024	.00039	.00059	.00087	.00138	.00213	.00343	.00551	.00866	.01378
> 4.724 – 7.087	.00014	.00020	.00032	.00047	.00071	.00098	.00158	.00248	.00394	.00630	.00984	.01575
> 7.087 – 9.843	.00018	.00028	.00039	.00055	.00079	.00114	.00181	.00284	.00453	.00728	.01142	.01811
> 9.843 – 12.402	.00024	.00032	.00047	.00063	.00091	.00126	.00205	.00319	.00512	.00827	.01260	.02047

Nominal dimension range (mm)	IT tolerance class (metric) (in 0.001 mm)											
	IT 1	IT 2	IT 3	IT 4	IT 5	IT 6	IT 7	IT 8	IT 9	IT 10	IT 11	IT 12
1 – 3	0.8	1.2	2	3	4	6	10	14	25	40	60	100
> 3 – 6	1	1.5	2.5	4	5	8	12	18	30	48	75	120
> 6 – 10	1	1.5	2.5	4	6	9	15	22	36	58	90	150
> 10 – 18	1.2	2	3	5	8	11	18	27	43	70	110	180
> 18 – 30	1.5	2.5	4	6	9	13	21	33	52	84	130	210
> 30 – 50	1.5	2.5	4	7	11	16	25	39	62	100	160	250
> 50 – 80	2	3	5	8	13	19	30	46	74	120	190	300
> 80 – 120	2.5	4	6	10	15	22	35	54	87	140	220	350
> 120 – 180	3.5	5	8	12	18	25	40	63	100	160	250	400
> 180 – 250	4.5	7	10	14	20	29	46	72	115	185	290	460
> 250 – 315	6	8	12	16	23	32	52	81	130	210	320	520

Manufacturer's tolerance of the reamers

T = Hole tolerance range
D = Manufacturer's tolerance of the reamer

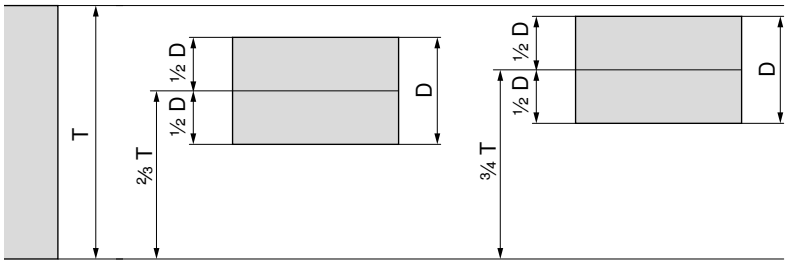
max. hole Ø



min. hole Ø

Manufacturer's tolerance of expandable reamers

The diameter of an adjustable reamer is ground to the middle of drilling tolerance T (Reamax TS / Reamax Mono). The adjustment capability of the reamer facilitates wear compensation.



Manufacturer's tolerance of fixed reamers

The manufacturer tolerance D of fixed reamers is two thirds (Reamax) or three quarters (Reamax Full) of the drilling tolerance T.

Coatings – Reaming

HPC TiN

- Nanostructured TiN multilayer coating
- Friction-optimized top layer enables process-secure dry hard machining
- Extreme resistance to oxidation and elevated-temperature hardness
- Maximum application temperature: 900 °C or 1652 °F

TiN

- TiN coating
- Maximum application temperature: 450 °C or 842 °F

TiAlN

- TiAlN multilayer coating
- Maximum application temperature: 900 °C or 1652 °F

TiAlSiN

- TiAlSiN multilayer coating
- Maximum application temperature: 800 °C or 1472 °F
- Specially designed for machining hardened steels: High hardness and heat resistance with low thermal conductivity.

DBC

- Diamond-like carbon coating
- Specifically for machining non-ferrous metals
- Maximum application temperature: 400 °C or 752 °F

DBG-U

- AlTiN multilayer coating
- Specially designed for universal use in a wide range of materials, including hardened materials up to 62 HRC
- Suitable for high cutting speeds and minimum quantity lubrication applications
- Maximum application temperature: 1000 °C or 1832 °F

DBG-P

- AlTiN multilayer coating
- Specially designed for universal use in a wide range of materials at high cutting speeds
- Suitable for minimum quantity lubrication applications
- Maximum application temperature: 1000 °C or 1832 °F

DBC-N

- Diamond-like ta-C multilayer carbon coating
- Particularly hard and smooth coating, making it especially suitable for machining non-ferrous metals
- Maximum application temperature: 500 °C or 932 °F

DBQ

- AlCrN multilayer coating
- Particularly well suited for machining stainless steels and titanium
- Low built-up edge formation
- Maximum application temperature: > 1000 °C or > 1832 °F

DBF-A

- AlCrN multilayer coating
- Specially developed for machining hardened materials < 62 HRC
- Maximum application temperature: > 1100 °C or > 2012 °F

Grade description – Reamers

DST

- Cermet, uncoated
- ISO | **P15** | **M10** | K10
- The uncoated cermet grade for finish machining of stainless and hardened steel
- Particularly wear-resistant due to high heat resistance

CWC10

- Cermet, uncoated
- ISO | **P15** | **M10** | K10
- The uncoated cermet grade for finish machining of stainless and hardened steel
- Particularly wear-resistant due to high heat resistance

K10

- Carbide, uncoated
- ISO | **K10**
- Uncoated carbide grade for machining gray cast iron or non-ferrous metals, depending on the cutting edge geometry

Grade description – Insert countersinks

BK8425

- Carbide, TiAlN/TiN-coated
- ISO | **P25** | **M25** | **K25**
- Universal grade with greater wear resistance due to innovative PVD multi-layer coating

K10

- Carbide, uncoated
- ISO | **K10**
- Uncoated carbide grade for machining gray cast iron or non-ferrous metals, depending on the cutting edge geometry

Chip breakers

-01

- Rake angle 12°
- All-round topography chamfered, rounded
- Very smooth-cutting thanks to positive cutting edge geometry
- Also suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials

-U877

- Rake angle 6°
- Periphery ground
- Chip breaker reground three times with second clearance angle for free movement with small tool diameters

-G06

- Rake angle 6°
- For P / M / K materials
- High stability thanks to strong wedge angle

-G12

- Rake angle 12°
- For P / N / S materials
- Particularly smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials

→ Adapters and accessories

This is where you will find tool holders perfectly suited for reaming (such as the DAH compensation holders).



CERATIZIT GROUP

Core drilling and fine boring tools



Contents

Core drilling and fine boring tools
→ Explanation of symbols
→ Toolfinder
→ Overview – Fine boring systems
→ Overview – Fine boring tools
→ Overview – Core drilling tools
→ Overview – Console tools
→ Overview of base adapters and accessories
→ Cutting data
Technical information
→ Fine boring tools
→ Rough boring tools
→ Indexable inserts
→ Notes on boring technology
→ Problems / possible causes / solutions
→ Types of wear
→ Chip breakers
→ Grades / coatings

Accessories for individual tool concepts
→ Overview – Installation inserts
→ Overview – Indexable inserts

Explanation of symbols

F Fine machining
M Medium machining
R Rough Machining


Smooth cut
Irregular cut
Interrupted cut

ABS Modular coupling system for rotating and stationary tools

STM Modular interface

ER 32 System-independent ER 32 interface


Central coolant supply
Steep taper shape AD

Toolfinder

Machining	Diameter range	System + quantity of rough boring or fine boring heads to cover the diameter range	Digital	Analog	ABS Modular	STM Modular	ER 32 Modular	Monoblock	Through spindle	Tolerance class	Case set
Finishing	0,5 – 365 mm 0.020" – 14.370"	→ hi.flex 1 Precision adjustment head	✓	✓	✓				✓ > Ø 60 mm > Ø 2.362"	≥ IT 7	✓
	24,8 – 206 mm (0.976" – 8.110")	→ M03 Speed 9 Precision adjustment heads		✓	✓				✓	≤ IT 7	
	29,5 – 199 mm (1.161" – 7.835")	→ FF 15 Precision adjustment heads		✓	✓				✓	≥ IT 7	
	20 – 175 mm (0.787" – 6.890")	→ FZ 9 Precision adjustment heads		✓	✓				✓	≥ IT 7	
	0,3 – 19,1 mm (0.120" – .752")	→ 2 Micro boring heads	✓	✓						≥ IT 7	
	14,7 – 24,1 mm (0.579" – .949")	→ 3 Fine boring heads		✓					✓	≥ IT 7	
	3 – 320 mm (0.118" – 12.598")	→ 1 Multi-Head – Fine boring head		✓		✓		✓	✓ > Ø 63 mm > Ø 2.480"	≥ IT 7	✓
	3 – 88,1 mm (0.118" – 3.469")	→ 1 Single point boring head	✓	✓		✓	✓	✓	✓ > Ø 55 mm > Ø 2.615"	≥ IT 7	✓
	23,9 – 154,1 mm (0.941" – 6.067")	→ 6 Single point finish boring heads	✓	✓		✓			✓	≥ IT 7	
	86 – 402 mm (3.386" – 15.827")	→ 1 Single point finish boring head		✓		✓			✓	≥ IT 7	✓
Roughing and finishing	150 – 655 mm (5.906" – 25.787")	→ 1 Console tool with base plate	✓	✓					✓		
	650 – 2205 mm (25.591" – 86.811")	→ 1 Console tool with slide	✓	✓					✓		
	24 – 401 mm (0.945" – 15.757")	→ Twin G01 11 Twin cutters		✓	✓				✓		
Roughing	30 – 204 mm 1.181" – 8.031"	→ Twin G04 7 Twin cutters		✓	✓				✓		
	23,5 – 87,5 mm (0.925" – 3.445")	→ 5 Boring heads for roughing with 2 cutting edges		✓		✓			✓		

Diameter range

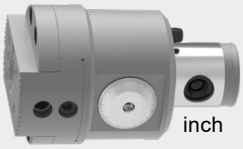
0.197"	0.394"	0.591"	0.787"	0.984"	1.969"	3.937"	5.906"	7.874"	11.811"	15.748"	19.685"	23.622"	...	86.614"
5 mm	10 mm	15 mm	20 mm	25 mm	50 mm	100 mm	150 mm	200 mm	300 mm	400 mm	500 mm	600 mm	...	2200 mm

Overview – Fine boring systems

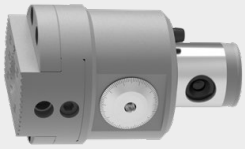
hi.flex

Ø 0,5 – 365 mm / 0.020" – 14.370"

ABS


inch

→ Analog



→ Analog



→ Digital

Ø 0,5 – 30 mm / 0.020" – 1.181"

Ø 0,5 – 8 mm (0.020" – 0.315")

UltraMini, EcoCut


→ Adapter

→ **Ø 5,6 – 24 mm** (0.220" – 0.945")


Boring bar

→ **Ø 5,6 – 11 mm** (0.220" – 0.433")


Boring bar, vibration-optimized


→ Adapter

→ **Ø 13 – 26 mm** (0.512" – 1.024")


Boring bar

→ **Ø 6 – 22 mm** * (0.236" – 0.866")


Steel boring bar

→ **Ø 7,9 – 23,9 mm** (0.311" – 0.941")


ABS32 boring bar

→ **Ø 11,9 – 30 mm** (0.469" – 1.181")


ABS32 boring bar

Ø 25 – 365 mm / 0.984" – 14.370"

→ **Ø 25 – 44 mm**
→ **Ø 0.984" – 1.732"**


Insert holder

→ **Ø 44 – 63 mm**
→ **Ø 1.732" – 2.480"**


Insert holder


Adapter and insert holder


→ Serrated body

→ **Ø 44 – 66 mm** (1.732" – 2.598")

→ **Ø 63 – 93 mm**
→ **Ø 2.480" – 3.661"**


Insert holder


Adapter and insert holder


→ Coolant diverting plug

→ **Ø 66 – 94 mm** (2.598" – 3.701")

→ **Ø 90 – 365 mm**
→ **Ø 3.543" – 14.370"**


Insert holder


Adapter and insert holder


→ Bridge


→ Coolant diverting plug

→ **Ø 90 – 365 mm** (3.543" – 14.370")

→ **Ø 5 – 70 mm** (0.197" – 2.756")


Boring tool for external machining


→ TO.X


→ WOHX *

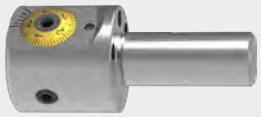
* Used for steel boring bars Ø 6 – 8 mm

Overview – Fine boring systems

Micro boring head

Ø 0,3 – 19,1 mm

Analog →
Digital →



Ø 0,3 – 19,1 mm

Ø 0,3 – 7,1 mm



→ Solid carbide cutting insert
→ Adapter

Ø 5,2 – 8,1 mm



→ Solid carbide cutting insert

Ø 6,9 – 19,1 mm



→ Solid carbide cutting insert
→ Tool holders

Single point finish boring head

Ø 3 – 88,1 mm

HSK-A | SK | MAS BT | STM | ER 32

Analog → → → → →
Digital → → → →



Ø 3 – 53,1 mm

Ø 3 – 12 mm



→ Boring steel

Ø 5,8 – 13,2 mm



→ Boring bar
→ Reduction sleeve

Ø 8,75 – 40,1 mm



→ → High-speed boring head + boring shank

Ø 9,75 – 53,1 mm



→ Steel boring bar
→ Boring tool extension

Ø 29,75 – 88,1 mm

Ø 29,75 – 88,1 mm



→ Insert holder
→ Adjustable boring bar

Multi-Head boring and fine boring head

Ø 3 – 320 mm

HSK-A | SK | MAS BT | STM

Analog → → → →



Ø 3 – 53,1 mm

Ø 3 – 12 mm



→ Boring steel

Ø 5,8 – 13,2 mm



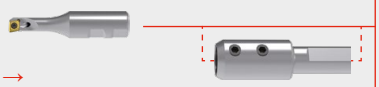
→ Boring bar
→ Reduction sleeve

Ø 8,75 – 40,1 mm



→ → High-speed boring head + boring shank

Ø 9,75 – 53,1 mm



→ Steel boring bar
→ Boring tool extension

Ø 29,75 – 320 mm

Ø 29,75 – 88,1 mm



→ Insert holder
→ Adjustable boring bar

Ø 86 – 320 mm



→ Counterweight
→ Bridge
→ Insert holder



→ CC..

Overview – Fine boring tools

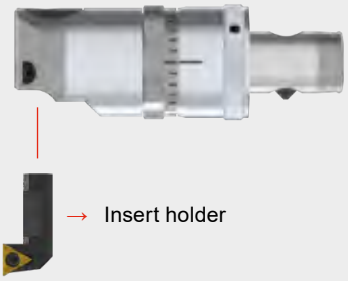
M03 Speed
Analog

Ø 24,8 – 206 mm

ABS

Ø 24,8 – 39 mm

→ Precision adjustment head



→ Insert holder

Ø 38 – 103 mm

→ Precision adjustment head



→ Insert holder

Ø 38 – 206 mm

→ Precision adjustment head



→ Interchangeable bridge

→ Insert holder

FF precision adjustment head
Analog

Ø 29,5 – 199 mm

ABS

→ Precision adjustment head



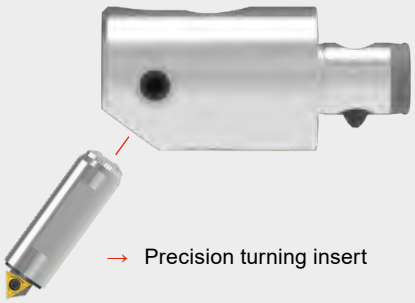
Precision turning insert
→ TO..
→ TP..

FZ precision adjustment head
Analog

Ø 20 – 175 mm

ABS

→ Precision adjustment head



→ Precision turning insert



→ TO.X

Overview – Fine boring tools

Single point finish boring head

Ø 23,9 – 154,1 mm

STM

Single point finish boring head
→ Analog
→ Digital



→ High-speed boring shank



→ Insert holder, 90°, extended



→ Insert holder, 90°



→ Insert holder, 95°



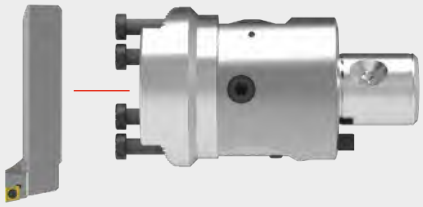
→ Reverse adapter for back boring

Single point finish boring head

Ø 86 – 402 mm

STM

Single point finish boring head
→ Analog



→ Insert holder

Fine boring head

Ø 14,7 – 24,1 mm

Fine boring head
→ Analog





→ High-speed boring shank



→
Insert holder, 90°



→ Shank extension



→ CC..



→ WC..

Overview – Core drilling tools

Twin G01
Analog

Ø 24 – 215 mm

ABS

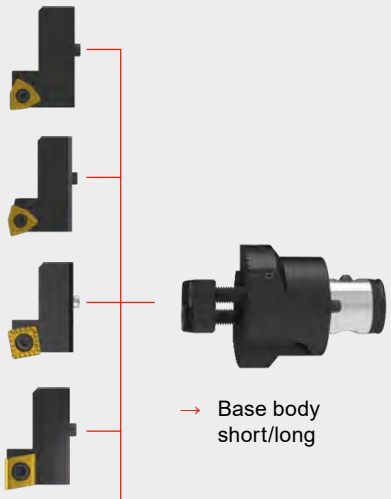
Tool holder, radially adjustable

→ 90° WO.X

→ 80° WO.X

→ 80° SOEX

→ 90° CC.T



→ Base body short/long

Indexable insert seating

→ 90° WO.X

→ 90° WO.X

→ 80° WO.X

→ 80° SOEX

→ 90° CC.T

→ 90° TO.X



→ Basic tool holder, radially + axially adjustable

Twin G01
Analog

Ø 196 – 335 mm

ABS

→ Twin cutter with pair of holders



Indexable insert seating

→ 90° WO.X

→ 90° WO.X

→ 80° WO.X



Ø 196 – 401 mm

ABS

→ Twin cutter with pair of holders and inserts



Twin G04
Analog

Ø 30 – 204 mm / Ø 1.181" – 8.031"

ABS

Pair of blade carriers, radially adjustable

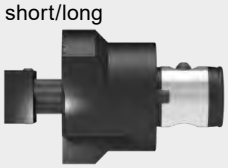
90° WO.X
→ Ø 30 – 204 mm
→ Ø 1.181" – 8.031"

80° WO.X
→ Ø 30 – 204 mm
→ Ø 1.181" – 8.031"

90° SOEX
→ Ø 1.181" – 8.031"



Base body short/long



→ Ø 30 – 204 mm
→ Ø 1.181" – 8.031"

Boring head for roughing with 2 cutting edges
Analog

Ø 23,5 – 87,5 mm

STM

Pair of insert holders

→ Standard 90°

→ Standard 70°

→ Synchro 90°





→ Boring head



→ WO.X



→ SOEX



→ TO.X



→ CC.. / CN..

Overview – Console tools

Console tool
Analog / digital

Ø 150 – 2205 mm

Rough boring block
→ 90° CC..

→ 90° CN..

→ 70° CN..

Finish boring block
→ Analog
→ Digital

Insert holder
→ 90° / 95° CC..

→ Counterweight

Ø 150 – 655 mm
→ Base plate

Ø 650 – 2205 mm
Elongation console

→ Slide

→ Base

Base adapter

→ HSK-A

→ SK

→ MAS BT

→ SK

→ MAS BT

Ø 60 mm
DIN 6357

→ CC.. / CN..

Overview of base adapters and accessories

Adapters

STM

Reduction



Extension



Interface adapter
ABS → STM

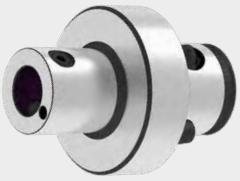


ABS

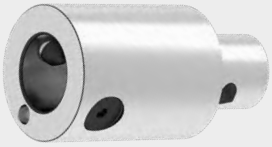
Interface adapter
STM → ABS



→ Adapters and accessories
Reduction

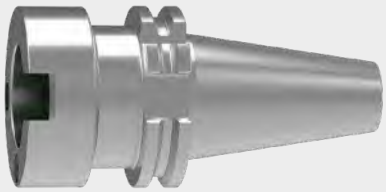


→ Adapters and accessories
Extension

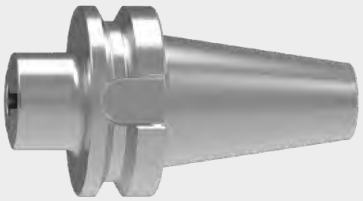


Base adapter

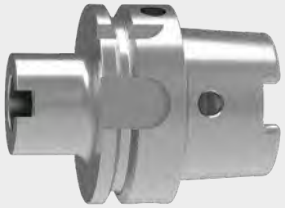
STM



SK



MAS-BT



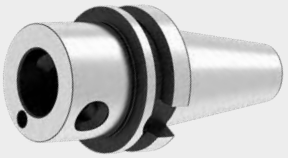
HSK-A

ABS

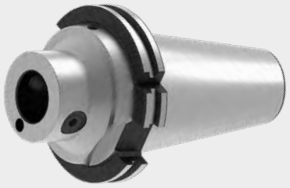
→ Adapters and accessories



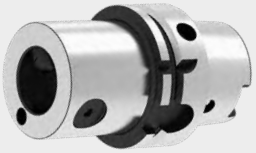
CAT
CAT-FC



BT
BT-FC



SK
SK-FC



HSK-A



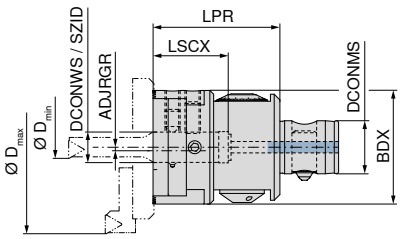
PSC

Additional accessories available on request, such as balancing rings, axial grooving holders (UltraMini), and core drilling insert holders (0.4 mm offset) for STM systems.

CoreLine – Precision adjustment head – hi.flex

- ▲ for hi.flex boring bars with Ø 16 mm or ABS 32, hi.flex bridges, and serrated body
- ▲ with through coolant supply
- ▲ LSCX = Recess depth of boring bar

ABS





ABS Modular Analog

D_{min} - D_{max} inch	Product Reference No.	Adapter	DCONWS inch	DCONWS mm	SZID	DCONMS inch	BDX inch	LPR inch	LSCX inch	FI 67 800 ...
0.221 - 14.370	M05 01600	ABS 50	0.630	16	ABS 32	1.102	2.362	2.638	1.563	**12597**

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.







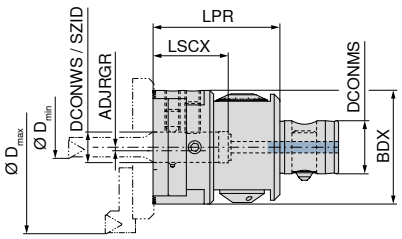


Spare parts for article number		FI 62 950 ...		CT 62 950 ...		CT 84 950 ...		FI 62 950 ...
67 800 12597	M8x8 - SW4	**14700**	M8x1x12/SW4	**13989**		**99900**	M8x1x20/SW4	**13700**

CoreLine – Precision adjustment head analogue – hi.flex

- for hi.flex boring bars with Ø 16 mm or ABS 32, hi.flex bridges, and serrated body
- with through coolant supply
- LSCX = Recess depth of boring bar

ABS





ABS Modular
Analog

FI
62 800 ...

D_{min} - D_{max} mm	Product Reference No.	Adapter	DCONWS mm	SZID	DCONMS mm	BDX mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	
0,5 - 365	M05 01000	ABS 50	16	ABS 32	28	60	67	39.7	-0,25 - 5	1.23	**16097**

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.


Clamping screw

FI

Spare parts for article number		62 950 ...
62 800 16097	M8x8 - SW4	**14700**


Clamping screw

CT

	62 950 ...
M8x1x12/SW4	**13989**


Set

CT

	84 950 ...
	99900


Clamping screw

FI

	62 950 ...
M8x1x20/SW4	**13700**

CoreLine – Precision spindle set analogue – hi.flex

Scope of supply:

- **1 plastic case**
- **1 precision adjustment head**
  - 62 800 16097
- **5 boring bars**
  - 62 850 00600 Ø 6 mm
  - 62 850 01000 Ø 10 mm
  - 62 850 01400 Ø 14 mm
  - 62 850 01800 Ø 18 mm
  - 62 850 02200 Ø 22 mm
- **2 insert holders**
  - 62 863 04400 Ø 25 – Ø 44 mm
  - 62 863 12500 Ø 44 – Ø 63 mm (– Ø 125 mm)
- **1 bridge**
  - 62 860 12500 Ø 90 – Ø 125 mm
- **1 serrated body**
  - 62 861 06300 Ø 25 – Ø 63 mm
- **1 filling piece**
  - 62 862 09300 16x35 mm
- **10 indexable inserts**
  - 2 pieces 62 600 00102 – WOHX02T001EL-G12 BK8440
  - 4 pieces 62 601 90206 – TOGX06T102EN-14 BK60
  - 4 pieces 62 601 70409 – TOGX090204EN-14 BK60
- **5 cylindrical screws**
  - 62 950 00000 M5x16 mm
- **5 screwdrivers**
  - 5IP, 6IP, 8IP, SW3, SW4



ABS Modular
Analog

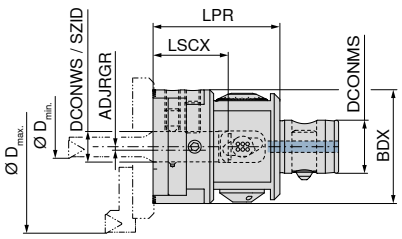
FI
62 800 ...

D_{min} - D_{max} mm	
6 - 125	**99997**

CoreLine – Precision adjustment head digital – hi.flex

- For hi.flex boring bars with Ø 16 mm or ABS 32, hi.flex bridges and serrated bodies
- With through coolant supply
- LSCX = Recess depth of boring bar
- Digital variant: please order the digital stick separately

ABS





ABS Modular Digital

D_{min} - D_{max} mm	Product Reference No.	Adapter	DCONWS mm	SZID	DCONMS mm	BDX mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	FI 62 800 ...
0,5 - 365	M04 10040	ABS 50	16	ABS 32	28	60	67	39.7	-0,25 - 5	1.23	**16197**

→ Here you will find the Digital Stick.

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.



Clamping screw



Clamping screw



Set



Clamping screw

Spare parts for article number		FI 62 950 ...		CT 62 950 ...		CT 84 950 ...		FI 62 950 ...
62 800 16197	M8x8 - SW4	**14700**	M8x1x12/SW4	**13989**		**99900**	M8x1x20/SW4	**13700**

CoreLine – Precision spindle set digital – hi.flex

Scope of supply:

- **1 plastic case**
- **1 precision adjustment head**
  - 62 800 16197
- **5 boring bars**
  - 62 850 00600 Ø 6 mm
  - 62 850 01000 Ø 10 mm
  - 62 850 01400 Ø 14 mm
  - 62 850 01800 Ø 18 mm
  - 62 850 02200 Ø 22 mm
- **2 insert holders**
  - 62 863 04400 Ø 25 – Ø 44 mm
  - 62 863 12500 Ø 44 – Ø 63 mm (– Ø 125 mm)
- **1 bridge**
  - 62 860 12500 Ø 90 – Ø 125 mm
- **1 serrated body**
  - 62 861 06300 Ø 25 – Ø 63 mm
- **1 filling piece**
  - 62 862 09300 16x35 mm
- **10 indexable inserts**
  - 2 pieces 62 600 00102 – WOHX02T001EL-G12 BK8440
  - 4 pieces 62 601 90206 – TOGX06T102EN-14 BK60
  - 4 pieces 62 601 70409 – TOGX090204EN-14 BK60
- **5 cylindrical screws**
  - 62 950 00000 M5x16 mm
- **5 screwdrivers**
  - 5IP, 6IP, 8IP, SW3, SW4

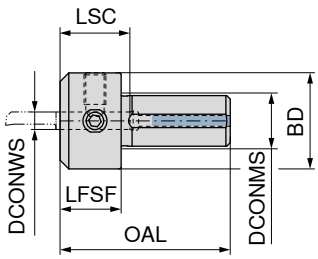


ABS Modular Digital

D_{min} - D_{max} mm	FI 62 800 ...
6 - 125	**99897**

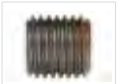
CoreLine – UltraMini / EcoCut boring bar adapter – hi.flex

▲ 4 clamping flats (offset by 90°) on Ø DCONMS
▲ with through coolant supply





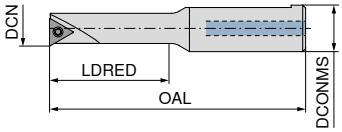
DCONWS mm	Product Reference No.	OAL mm	BD mm	LFSF mm	LSC mm	DCONMS mm	FI 62 851 ...
4	M05 90950	39	22	14	18	16	**16499**
5	M05 90960	39	22	14	18	16	**16599**
6	M05 90970	39	22	14	18	16	**16699**
7	M05 90980	39	25	14	18	16	**16799**
8	M05 90990	39	25	14	18	16	**16899**


Clamping screw

Spare parts DCONWS		AS 70 950 ...
4 - 5	M5x10 ISO 4026	**867**
6 - 8	M8x1x8 - SW4	**123**

CoreLine – Steel boring bar – hi.flex

▲ with through coolant





DCN mm	Product Reference No.	OAL mm	LDRED mm	DCONMS $_{h6}$ mm	Indexable insert	FI 62 850 ...
6	B05 20100	71.7	21.0	16	WO.. 02T0	**00600**
8	B05 20120	77.4	28.0	16	TO.. 06T1	**00800**
10	B05 20140	81.8	34.0	16	TO.. 0902	**01000**
12	B05 20160	88.2	42.0	16	TO.. 0902	**01200**
14	B05 20180	94.4	50.0	16	TO.. 0902	**01400**
18	B05 20220	100.0	60.0	16	TO.. 0902	**01800**
22	B05 20260	108.0	68.5	16	TO.. 1403	**02200**

→ Find suitable indexable inserts here.

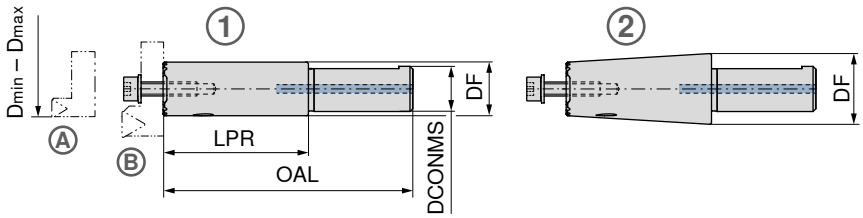

TORX® screw

Spare parts Indexable insert		FI 62 950 ...
TO.. 06T1	M2x3,8/IP6	**12800**
TO.. 0902	M2,6x5,2 - 08IP	**12000**
TO.. 1403	M3,5x7,3 - 10IP	**12600**
WO.. 02T0	M1,8x2,9/IP5	**11800**

CoreLine – Serrated body – hi.flex

▲ with through coolant

Scope of supply:
Without insert holder





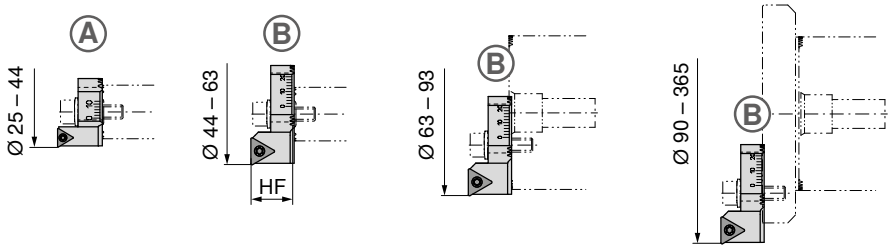
D_{min} - D_{max} mm	Product Reference No.	DCONMS $_{g6}$ mm	OAL mm	LPR mm	DF mm	Fig.	FI 62 861 ...
25 - 63	M05 90100	16	89.12	52.12	19	1	**06300**
25 - 63	M05 90110	16	128.39	91.93	24	2	**16300**





Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 861 06300	M5x16	**00000**	10x5,2x0,3	**19100**
62 861 16300	M5x16	**00000**	10x5,2x0,3	**19100**

CoreLine – Insert holder – hi.flex





DCN mm	DCX mm	Product Reference No.	HF mm	Indexable insert	Fig.	FI 62 863 ...
25	44	M05 20101	13.5	TO.. 06T1	A	**04400**
44	365	M05 20151	13.5	TO.. 0902	B	**12500**

→ Find suitable indexable inserts here.

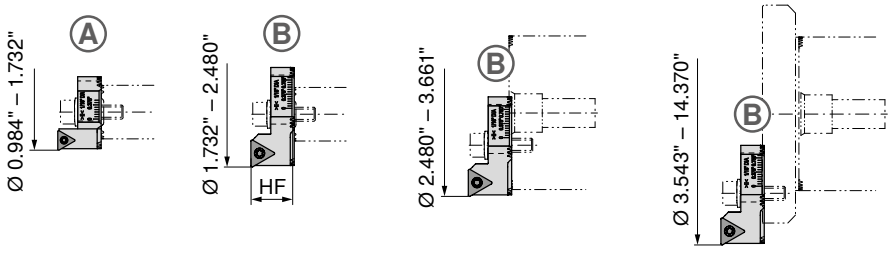

TORX® screw

Spare parts Indexable insert		FI 62 950 ...
TO.. 06T1	M2x4,9/IP6	**09700**
TO.. 0902	M2,6x6,2 - 08IP	**09900**

CoreLine – Insert holder – hi.flex

▲ with through coolant

Scope of supply:
without inserts
incl. mounting screws





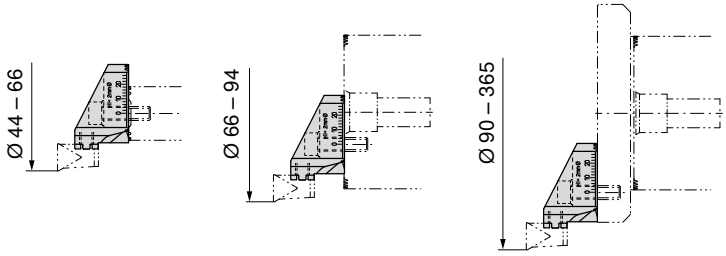
DCN inch	DCX inch	Product Reference No.	HF inch	Indexable insert	Fig.	FI 67 863 ...
0.984	1.732	M05 20601	0.531	TO.. 06T1	A	**04400**
1.732	14.370	M05 20651	0.531	TO.. 0902	B	**12500**

→ Find suitable indexable inserts here.


TORX® screw

Spare parts Indexable insert		FI 62 950 ...
TO.. 06T1	M2x4,9 - 06IP	**09700**
TO.. 0902	M2,6x6,2 - 08IP	**09900**

CoreLine – Adapter – hi.flex

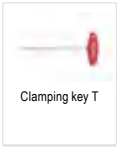


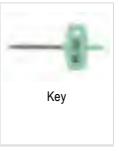


D_{min} - D_{max} mm	Product Reference No.	FI 62 863 ...
44 - 365	M05 21150	**71500** [1]

1) Not in stock

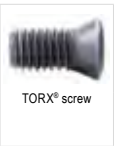






Spare parts D_{min} - D_{max}		FI 62 950 ...		AS 80 397 ...		AS 80 950 ...
44 - 365	10x5,2x0,3	**19100**	SW4	**040**	T10 - IP	**062**





Spare parts D_{min} - D_{max}				FI 62 950 ...		FI 62 950 ...
44 - 365			M5x16	**00000**	M3,5x7,3 - 10IP	**12600**

SpinTools – Insert holder – M03 Speed

Scope of supply:
Without indexable insert
Incl. fixing screws





Product Reference No.	Indexable insert	FI
		62 864 ...
M03 10043	TO.. 0902	**08000**

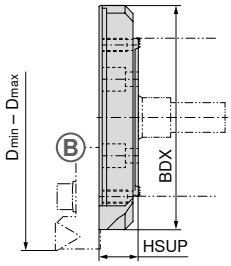
→ Find suitable indexable inserts here.



TORX® screw

Spare parts Indexable insert		FI 62 950 ...
TO.. 0902	M2,6x5,2 - 08IP	**12000**

CoreLine – Bridge – hi.flex





D_{min} - D_{max} mm	Product Reference No.	BDX mm	HSUP mm	WT kg	FI 62 860 ...
90 - 125	M05 80101	85	14.89	0.147	**12500**
120 - 155	M05 80200	115	16.89	0.107	**15500**
150 - 185	M05 80300	145	18.89	0.152	**18500**
180 - 215	M05 80400	175	21.89	0.229	**21500**
210 - 245	M05 80500	205	25.00	0.309	**24500**
240 - 275	M05 80510	235	25.00	0.349	**27500**
270 - 305	M05 80520	265	25.00	0.394	**30500**
300 - 335	M05 80530	295	25.00	0.435	**33500**
330 - 365	M05 80540	325	25.00	0.478	**36500**

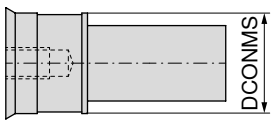

Cylindrical screw


Disk spring

Spare parts BDX	FI 62 950 ...		FI 62 950 ...
85 - 325	M5x16 **00000**	10x5,2x0,3	**19100**

CoreLine – Coolant diverting plug – hi.flex

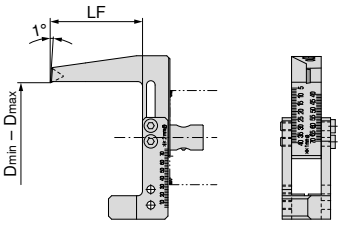
▲ For targeted redirecting of the through coolant to the cutting edge when using bridges or insert holders with diameters from 63 mm





DCONMS mm	Product Reference No.	FI 62 862 ...
16	M05 90501	**09300**

CoreLine – Boring tool for external machining – hi.flex





D_{min} - D_{max} mm	Product Reference No.	LF mm	Adapter	WT kg	Indexable insert	FI 62 866 ...
5 - 70	M05 90300	58	ABS 32	0.377	TO.X 0902..	**07000**

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.

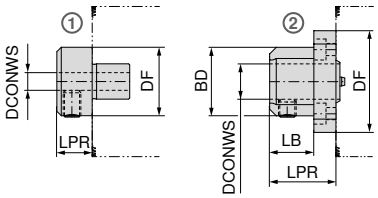




Spare parts Indexable insert		FI 62 950 ...		FI 62 950 ...
TO.X 0902..	M5x30	**26800**	M2,6x5,2 - 08IP	**12000**

CoreLine – Adapter – hi.flex

▲ For 62 852 …, 62 853 …, 62 856 … (essential for using the boring bar)





DCONWS mm	Product Reference No.	DF mm	BD mm	LPR mm	LB mm	Fig.	FI 62 851 ...
6	M05 90200	31		16		1	**00600**
8	M05 90210	31		16		1	**00800**
10	M05 90220	46	31	25	15	2	**01000**
12	M05 90230	46	31	25	15	2	**01200**
16	M05 90240	46	31	30	20	2	**01600**

A detailed operating manual is available for download in the online shop next to the product.

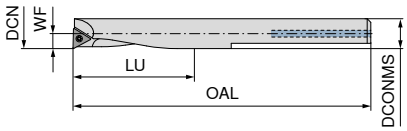

Cylindrical screw


Clamping screw

Spare parts DCONWS		FI 62 950 ...		FI 62 950 ...
6 - 8			M8x10 - SW4	**44800**
10 - 12	M5x16	**00000**	M8x10 - SW4	**44800**
16	M5x16	**00000**	M8x8 - SW4	**14700**

CoreLine – Boring bar, vibration-optimized – hi.flex

▲ Can only be used with adapter 62 851 …
▲ With through coolant supply





DCN mm	Product Reference No.	WF mm	LU mm	OAL mm	DCONMS mm	Indexable insert	FI 62 852 ...
5.6	B00 30280	2.80	22	65	6	WOHX 02T0..	**10600**
6.9	B00 30290	3.45	36	80	6	WOHX 02T0..	**00600** 1)
9.0	B00 00680	4.45	48	90	8	TO.X 06T1..	**00800** 1)
11.0	B00 00690	5.45	60	95	10	TO.X 06T1..	**01000** 1)

1) Carbide version

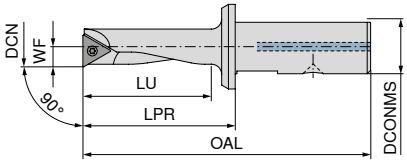
→ Find suitable indexable inserts here.


TORX® screw

Spare parts **Indexable insert**		FI 62 950 ...
TO.X 06T1..	M2x4,9/IP6	**09700**
WOHX 02T0..	M1,8x2,9/IP5	**11800**

CoreLine – Boring bar – hi.flex

▲ Can only be used with adapter 62 851 …
▲ With through coolant supply





DCN mm	Product Reference No.	OAL mm	LPR mm	LU mm	DCONMS mm	WF mm	Indexable insert	FI 62 856 ...
5.6	B00 37010	48	26	20	8	2.75	WOHX 02T0..	**05600**
6.5	B00 37020	52	30	24	8	3.20	WOHX 02T0..	**06500**
8.0	B00 15510	57	35	28	8	3.95	TO.X 06T1..	**08000**
8.0	B00 15610	75	35	28	16	3.95	TO.X 06T1..	**00800**
10.0	B00 15620	80	40	33	16	4.95	TO.X 06T1..	**01000**
11.0	B00 15710	85	45	38	16	5.45	TO.X 0902..	**01100**
12.0	B00 15530	67	45	39	8	5.95	TO.X 0902..	**11200**
12.0	B00 15630	85	45	38	16	5.95	TO.X 0902..	**01200**
14.0	B00 15640	90	50	43	16	6.95	TO.X 0902..	**01400**
16.0	B00 15650	95	55	49	16	7.95	TO.X 0902..	**01600**
18.0	B00 15661	100	60	54	16	8.95	TO.X 0902..	**01800**
19.0	B00 15751	105	65	59	16	9.45	TO.X 0902..	**01900**
20.0	B00 15671	105	65	59	16	9.95	TO.X 0902..	**02000**
22.0	B00 15681	105	65	59	16	10.95	TO.X 0902..	**02200**
24.0	B00 15691	105	65	60	16	11.95	TO.X 0902..	**02400**

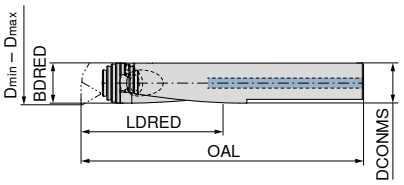
→ Find suitable indexable inserts here.


TORX® screw

Spare parts **Indexable insert**		FI 62 950 ...
TO.X 06T1..	M2x3,8/IP6	**12800**
TO.X 0902..	M2,6x5,2 - 08IP	**12000**
WOHX 02T0..	M1,8x2,9/IP5	**11800**

CoreLine – Carbide boring shank – hi.flex

- For boring head 62 854 …
- Can only be used with adapter 62 851 …
- With through coolant supply

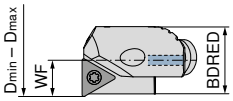




D_{min} - D_{max} mm	Product Reference No.	OAL mm	BDRED mm	LDRED mm	DCONMS mm	FI 62 853 ...
13 - 17	G10 12060	120	12	75	12	**01300**
17 - 22	G10 12070	140	16	100	16	**01700**
22 - 26	G10 12080	140	16	100	16	**02200**

CoreLine – Boring head – hi.flex

▲ For boring shank 62 853 …





D_{min} - D_{max} mm	Product Reference No.	WF mm	BDRED mm	Indexable insert	FI 62 854 ...
13 - 15	G10 12621	6.45	12	TO.X 0902..	**01300**
15 - 17	G10 12841	7.45	12	TO.X 0902..	**01500**
17 - 19	G10 12711	8.45	16	TO.X 0902..	**01700**
19 - 22	G10 12861	9.45	16	TO.X 0902..	**01900**
22 - 26	G10 12731	10.95	16	TO.X 0902..	**02200**

→ Find suitable indexable inserts here.

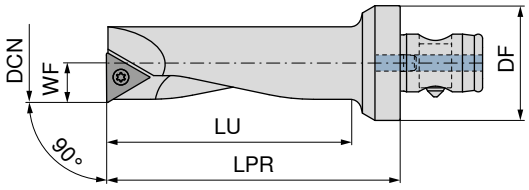
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number		 TORX® screw FI **62 950 ...**		 Fixing screw FI **62 950 ...**
62 854 01300	M2,6x5,2 - 08IP	**12000**	M3x10	**19700**
62 854 01500	M2,6x5,2 - 08IP	**12000**	M3x10	**19700**
62 854 01700	M2,6x5,2 - 08IP	**12000**	M5x12	**19800**
62 854 01900	M2,6x5,2 - 08IP	**12000**	M5x12	**19800**
62 854 02200	M2,6x5,2 - 08IP	**12000**	M5x12	**19800**

CoreLine – Boring bar – hi.flex

▲ with through coolant

ABS





DCN mm	Product Reference No.	WF mm	DF mm	LU mm	LPR mm	Indexable insert	FI 62 857 ...
8	B00 25610	3.95	32	26	42	TO.X 06T1..	**07989**
9	B00 25700	4.45	32	32	48	TO.X 06T1..	**21989**
10	B00 25620	4.95	32	32	48	TO.X 06T1..	**08989**
11	B00 25710	5.45	32	41	57	TO.X 0902..	**23989**
12	B00 25630	5.95	32	41	57	TO.X 0902..	**09989**
14	B00 25640	6.95	32	49	64	TO.X 0902..	**10989**
16	B00 25650	7.95	32	57	72	TO.X 0902..	**11989**
18	B00 25661	8.95	32	57	72	TO.X 0902..	**13989**
20	B00 25671	9.95	32	67	82	TO.X 0902..	**15989**
22	B00 25681	10.95	32	68	82	TO.X 0902..	**17989**
24	B00 25691	11.95	32	68	82	TO.X 0902..	**19989**

→ Find suitable indexable inserts here.


TORX® screw

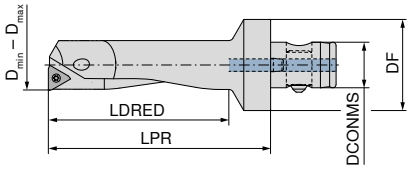
Spare parts **Indexable insert**		FI 62 950 ...
TO.X 06T1..	M2x3,8/IP6	**12800**
TO.X 0902..	M2,6x5,2 - 08IP	**12000**

SpinTools – Adjustable boring bar – hi.flex

▲ with through coolant

Scope of supply:
With turning head and screws

ABS





D_{min} - D_{max} mm	Product Reference No.	Adapter	DF mm	LDRED mm	LPR mm	DCONMS mm	FI 62 868 ...
11,9 - 14	G10 10111	ABS 32	32	43.3	57	16	**01489** [1]
13,9 - 16	G10 10121	ABS 32	32	59.0	64	16	**01689** [1]
15,9 - 18	G10 10131	ABS 32	32	56.0	71	16	**01889** [1]
17,9 - 20	G10 10141	ABS 32	32	63.0	78	16	**02089**
19,9 - 24	G10 10151	ABS 32	32	70.0	85	16	**02489**
23,8 - 30	G10 10161	ABS 32	32	84.0	99	16	**03089**

1) Not in stock


TORX® screw

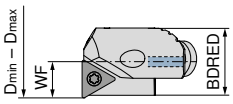

Set


Set Screw


Fixing screw

Spare parts for article number		FI **62 950 ...**	CT **84 950 ...**		FI **62 950 ...**		FI **62 950 ...**
62 868 01489	M2,6x5,2 - 08IP	**12000**	**98800**	M3x4	**48800**	M3x10	**19700**
62 868 01689	M2,6x5,2 - 08IP	**12000**	**98800**	M3x4	**48800**	M4x10	**48900**
62 868 01889	M2,6x5,2 - 08IP	**12000**	**98800**	M4x4	**49000**	M5x12	**19800**
62 868 02089	M2,6x5,2 - 08IP	**12000**	**98800**	M5x5	**48300**	M5x16	**48400**
62 868 02489	M2,6x5,2 - 08IP	**12000**	**98800**	M5x5	**48300**	M5x16	**48500**
62 868 03089	M2,6x5,2 - 08IP	**12000**	**98800**	M6x6	**48600**	M6X20	**48700**

SpinTools – Turning head – hi.flex





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 867 ...
11,9 - 14	G10 10611	TO.. 0902	**01400** [1]
13,9 - 16	G10 10621	TO.. 0902	**01600** [1]
15,9 - 18	G10 10631	TO.. 0902	**01800** [1]
17,9 - 20	G10 10641	TO.. 0902	**02000** [1]
19,9 - 24	G10 10651	TO.. 0902	**02400** [1]
23,8 - 30	G10 10661	TO.. 0902	**03000** [1]

1) Not in stock

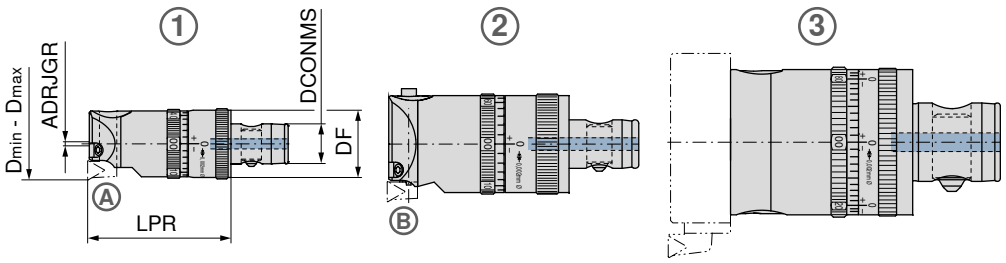
→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.

SpinTools – Precision adjustment head – M03 Speed

Scope of supply:
Precision adjustment head with clamping screw
Please order insert holder and indexable insert separately

ABS





ABS Modular

D_{min} - D_{max} mm	Product Reference No.	Adapter	DCONMS mm	DF mm	LPR mm	Fig.	Suitable insert holders	ADJRGR mm	WT kg	FI 62 815 ...
24,8 - 33,0	M03 00115	ABS 25	13	25	50	1	62 864 03300	0,25 Ø	0.15	**03390**
29 - 39	M03 00515	ABS 25	13	25	50	1	62 864 03900	0,4 Ø	0.17	**03990**
38 - 50	M03 01025	ABS 32	16	32	60	2	62 864 05000	0,4 Ø	0.35	**05089** [1]
49 - 63	M03 01535	ABS 40	20	40	70	2	62 864 08000	0,4 Ø	0.63	**06388** [1]
62 - 80	M03 02045	ABS 50	28	50	75	2	62 864 08000	0,6 Ø	1.12	**08097** [1]
79 - 103	M03 02555	ABS 63	34	63	80	2	62 864 10300	0,6 Ø	1.91	**10396** [1]
38 - 63	M03 20170	ABS 32	16	32	81	3		0,4 Ø	0.35	**06389** [2]
62 - 103	M03 20140	ABS 50	28	50	103	3		0,6 Ø	1.30	**10397** [2]
100 - 206	M03 20090	ABS 63	34	63	106	3		0,6 Ø	1.91	**20696** [2]

1) With dynamic balancing compensation
2) With dynamic balancing compensation / Can only be used with interchangeable bridge (Art. No. 62 865 ...)

A detailed operating manual is available for download in the online shop next to the product.
ABS adapters can be found in → Adapters and accessories.


TORX® screw


Clamping screw

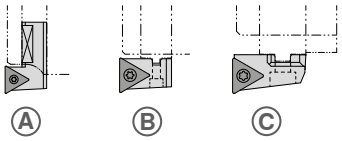

Set


Grub screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...	CT 84 950 ...		FI 10 950 ...
62 815 03390					**98900**	M4x0,5	**15600**
62 815 03990					**98900**	M4x0,5	**15600**
62 815 05089	M3,5x7,3 - 10IP	**12600**			**98800**	M4x0,5	**15600**
62 815 06388	M3,5x7,3 - 10IP	**12600**			**98700**	M5x0,5	**15700**
62 815 08097	M3,5x7,3 - 10IP	**12600**			**99900**	M5x0,5	**15700**
62 815 10396	M5x9,4/IP6	**45400**			**98600**	M6x8 - SW3	**11300**
62 815 06389			M8x10	**37400**	**98800**		
62 815 10397			M8x10	**37400**	**99900**		
62 815 20696	M5x9,4/IP6	**45400**	M8x10	**37400**	**98600**		

SpinTools – Insert holder – M03 Speed

Scope of supply:
Without indexable insert
Incl. fixing screws





For precision adjustment head	For precision adjustment head (with interchangeable bridge)	Product Reference No.	Indexable insert	Fig.	FI 62 864 ...
62 815 03390		M03 10011	TO.. 06T1	A	**03300**
62 815 03990		M03 10021	TO.. 06T1	A	**03900**
62 815 05089	62 815 06389 (62 865 05100 / 62 865 06300)	M03 10033	TO.. 06T1	B	**05000**
62 815 06388 / 62 815 08097	62 815 10397 (62 865 08300 / 62 865 10300)	M03 10043	TO.. 0902	B	**08000**
62 815 10396		M03 10063	TO.. 0902	B	**10300**
	62 815 20696 (62 865 13000 / 62 865 16800 / 62 865 20600)	M03 10070	TO.. 0902	C	**20600**

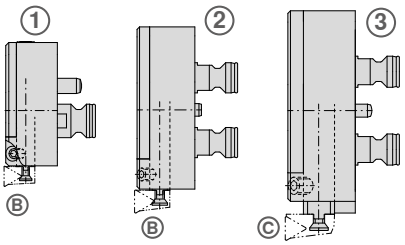
→ Find suitable indexable inserts here.



Spare parts **Indexable insert**		FI 62 950 ...
TO.. 06T1	M2x4,9 - 06IP	**09700**
TO.. 0902	M2,6x5,2 - 08IP	**12000**

SpinTools – Interchangeable bridge – M03 Speed

Scope of supply:
Without insert holder





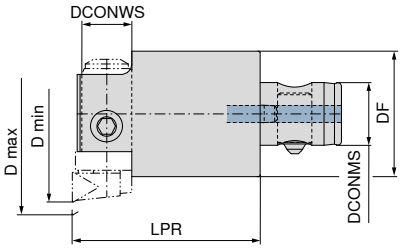
D_{min} - D_{max} mm	Product Reference No.	Fig.	WT kg	For precision adjustment head	Suitable insert holders	FI 62 865 ...
38 - 51	M03 20180	1	0.06	62 815 06389	62 864 05000	**05100**
50 - 63	M03 20190	1	0.08	62 815 06389	62 864 05000	**06300**
62 - 83	M03 20150	2	0.20	62 815 10397	62 864 08000	**08300**
82 - 103	M03 20160	2	0.24	62 815 10397	62 864 08000	**10300**
100 - 130	M03 20100	3	0.39	62 815 20696	62 864 20600	**13000**
128 - 168	M03 20110	3	0.49	62 815 20696	62 864 20600	**16800**
166 - 206	M03 20120	3	0.59	62 815 20696	62 864 20600	**20600**

Spare parts for article number		 Adjustment screw AS 10 950 ...		 TORX® screw FI 62 950 ...
62 865 05100	M4x8 - SW2	**11100**	M3,5x7,3 - 10IP	**12600**
62 865 06300	M4x8 - SW2	**11100**	M3,5x7,3 - 10IP	**12600**
62 865 08300	M4x8 - SW2	**11100**	M3,5x7,3 - 10IP	**12600**
62 865 10300	M4x8 - SW2	**11100**	M3,5x7,3 - 10IP	**12600**
62 865 13000	M4x8 - SW2	**11100**	M5x9,4 - 20IP	**45400**
62 865 16800	M4x8 - SW2	**11100**	M5x9,4 - 20IP	**45400**
62 865 20600	M4x8 - SW2	**11100**	M5x9,4 - 20IP	**45400**

CoreLine – Precision adjustment head – FF

Scope of supply:
Head with clamping screw
Without precision turning insert

ABS





ABS Modular

D_{min} - D_{max} mm	Product Reference No.	Adapter	DCONWS mm	DCONMS mm	DF mm	LPR mm	WT kg	FI 62 810 ...
29,5 - 36	B30 11010	ABS 25	10	13	25	50	0.17	**03690**
35,5 - 42	B30 11020	ABS 25	10	13	25	50	0.18	**04290**
39 - 45	B30 12010	ABS 32	12	16	32	60	0.35	**04589**
44 - 50	B30 12020	ABS 32	12	16	32	60	0.35	**05089**
47 - 57	B30 13010	ABS 40	16	20	40	60	0.52	**05788**
56 - 66	B30 13020	ABS 40	16	20	40	60	0.52	**06688**
58 - 71	B30 14010	ABS 50	20	28	50	70	0.97	**07197**
70 - 83	B30 14020	ABS 50	20	28	50	70	1.05	**08397**
79 - 94	B30 15010	ABS 63	25	34	63	70	1.58	**09496**
93 - 108	B30 15020	ABS 63	25	34	63	70	1.61	**10896**
100 - 121	B30 16010	ABS 80	32	46	80	90	3.33	**12192**
120 - 141	B30 16020	ABS 80	32	46	80	90	3.37	**14192**
138 - 159	B30 17010	ABS 100	32	56	100	90	6.56	**15991**
158 - 179	B30 17020	ABS 100	32	56	100	90	6.80	**17991**
178 - 199	B30 17030	ABS 100	32	56	100	90	6.61	**19991**

ABS adapters can be found in → Adapters and accessories.



Clamping screw



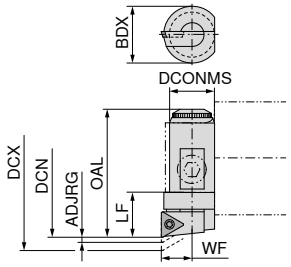
Set

Spare parts for article number		FI 62 950 ...	CT 84 950 ...
62 810 03690	M6x6/SW3	**44700**	**98900**
62 810 04290	M6x6/SW3	**44700**	**98900**
62 810 04589	M8x8 - SW4	**14700**	**98800**
62 810 05089	M8x10 - SW4	**44800**	**98800**
62 810 05788	M10x10/SW5	**44900**	**98700**
62 810 06688	M10x10/SW5	**44900**	**98700**
62 810 07197	M12x12/SW6	**45000**	**99900**
62 810 08397	M12x12/SW6	**45000**	**99900**
62 810 09496	M16x16/SW8	**45100**	**98600**
62 810 10896	M16x16/SW8	**45100**	**98600**
62 810 12192	M20x20 - SW10	**45200**	**98500**
62 810 14192	M20x20 - SW10	**45200**	**98500**
62 810 15991	M20x30/SW10	**45300**	**98400**
62 810 17991	M20x20 - SW10	**45200**	**98400**
62 810 19991	M20x20 - SW10	**45200**	**98400**

CoreLine – Precision turning insert – FF

▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Precision turning insert with fixing screw
Please order indexable insert separately





for	DCN mm	DCX mm	DCONMS mm	Product Reference No.	LF mm	WF mm	BDX mm	OAL mm	ADJRG mm	Indexable insert	Tightening torque Nm	FI 62 855 ...
62 810 03690 / 62 810 04290	29.5	42	10	M30 20011	11.0	7.5	14	28.5	3.5	TO.. 06T1	0,62	**03000**
62 810 04589 / 62 810 05089	39.0	50	12	M30 20021	12.5	9.0	16	37.5	3.5	TO.. 06T1	0,62	**03900**
62 810 05788 / 62 810 06688	47.0	66	16	M30 20031	16.0	11.0	20	45.0	5.0	TO.. 0902	1,28	**04700**
62 810 07197 / 62 810 08397	58.0	83	20	M30 20041	18.0	14.5	25	56.0	7.0	TO.. 0902	1,28	**05800**
62 810 09496 / 62 810 10896	79.0	108	25	M30 20051	21.6	16.0	32	77.5	8.0	TO.. 1403	2,8	**07900**
62 810 12192 / 62 810 14192	100.0	141	32	M30 20061	25.5	19.0	40	97.0	11.0	TO.. 1403	2,8	**10000**
62 810 15991 / 62 810 17991 / 62 810 19991	138.0	199	32	M30 20071	25.5	19.0	40	131.0	11.0	TO.. 1403	2,8	**13800**

→ Find suitable indexable inserts here.


TORX® screw

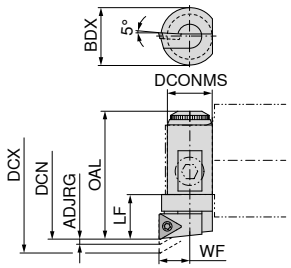

Key

Spare parts DCONMS		FI 62 950 ...		AS 80 950 ...
10	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
12	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
16	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**
20	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
25	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
32	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**

CoreLine – Precision turning insert – FF

▲ **Insert inclination across cutting edge +5°**
▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Precision turning insert with clamping screw
Please order indexable insert separately





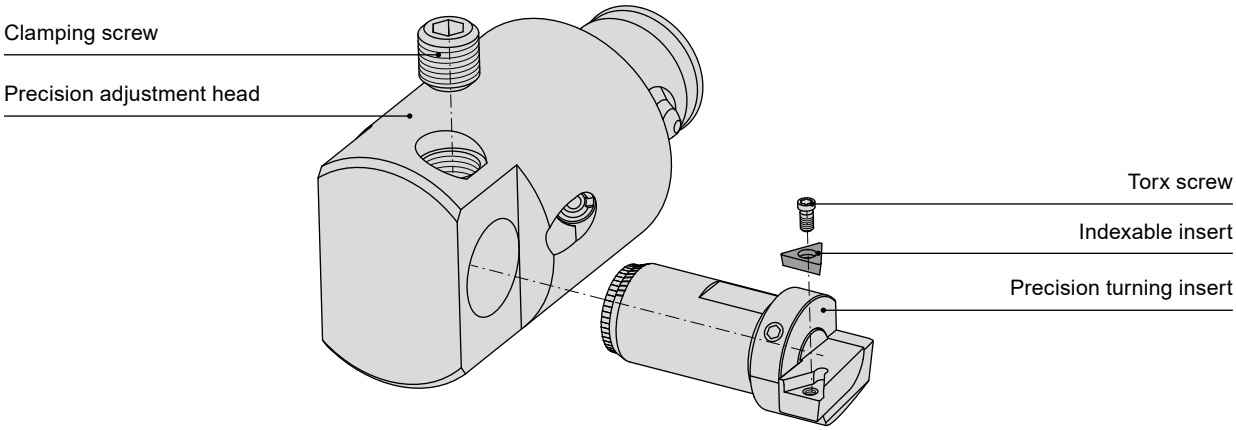
for	DCN mm	DCX mm	DCONMS mm	Product Reference No.	LF mm	WF mm	BDX mm	OAL mm	ADJRG mm	Indexable insert	Tightening torque Nm	FI 62 855 ...
62 810 04589 / 62 810 05089	39	50	12	M30 20211	37.75	9	16	37.75	3.5	TP.. 0601..	0,62	**13900**
62 810 05788 / 62 810 06688	47	66	16	M30 20221	45.40	11	20	45.40	5.0	TP.. 0902..	1,28	**14700**

→ Find suitable indexable inserts here.


TORX® screw


Key

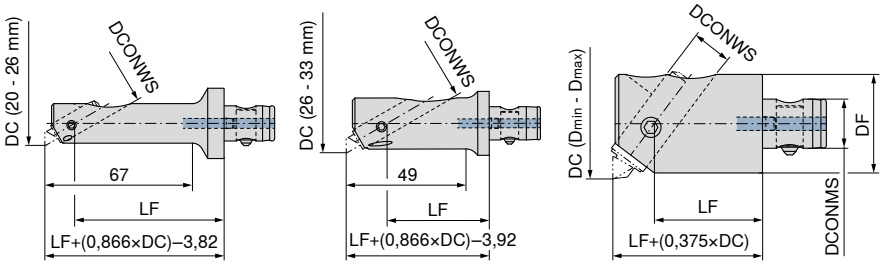
Spare parts DCONMS		FI 62 950 ...		AS 80 950 ...
12	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
16	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**



CoreLine – Precision adjustment head – FZ

Scope of supply:
Head with clamping screw and Allen key
Without precision turning insert

ABS





ABS Modular

D_{min} - D_{max} mm	Product Reference No.	Adapter	DCONWS mm	DCONMS mm	LF mm	DF mm	WT kg	FI 62 811 ...
20 - 26	B30 02200	ABS 32	10	16	68.0	32	0.19	**02089**
26 - 33	B30 01220	ABS 25	10	13	40.0	25	0.13	**02690**
28 - 44	B30 01010	ABS 25	10	13	40.0	25	0.20	**02890**
36 - 55	B30 02010	ABS 32	12	16	47.0	32	0.36	**03689**
45 - 68	B30 03010	ABS 40	16	20	44.0	40	0.55	**04588**
56 - 90	B30 04010	ABS 50	20	28	49.5	50	1.02	**05697**
72 - 114	B30 05010	ABS 63	25	34	63.5	63	2.06	**07296**
90 - 140	B30 06010	ABS 80	32	46	77.0	80	4.06	**09092**
110 - 175	B30 07010	ABS 100	32	56	84.5	100	7.65	**11091**

ABS adapters can be found in → Adapters and accessories.

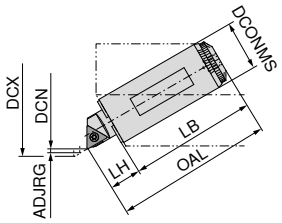
Spare parts for article number	 Positioning pin CT **84 950 ...**	 Pendulum bolt CT **84 950 ...**	 Coolant pipe CT **84 950 ...**		 Grub screw AS **10 950 ...**
62 811 02089	**23700**	**26100**	**24500**		
62 811 02690	**23600**	**26000**	**24400**		
62 811 02890	**23600**	**26000**	**24400**	M6x8 - SW3	**11300**
62 811 03689	**23700**	**26100**	**24500**		
62 811 04588	**23800**	**26200**	**24600**		
62 811 05697	**20200**	**20000**	**20100**		
62 811 07296	**23900**	**26300**	**24700**		
62 811 09092	**24000**	**26400**	**24800**		
62 811 11091	**24100**	**26500**	**24900**		

Spare parts for article number		 Clamping screw FI **62 950 ...**		 Clamping key T AS **80 397 ...**	 Set CT **84 950 ...**
62 811 02089	M5x5 - SW2,5	**51000**	SW2,5	**025**	**98800**
62 811 02690	M5x5 - SW2,5	**51000**	SW2,5	**025**	**98900**
62 811 02890			SW3	**030**	**98900**
62 811 03689	M8x10 - SW4	**44800**	SW4	**040**	**98800**
62 811 04588	M10x12 - SW5	**51900**	SW5	**050**	**98700**
62 811 05697	M12x16 - SW6	**51100**	SW6	**060**	**99900**
62 811 07296	M16x20 - SW8	**51200**	SW8	**080**	**98600**
62 811 09092	M20x20 - SW10	**45200**	SW10	**100**	**98500**
62 811 11091	M20x25 - SW10	**52000**	SW10	**100**	**98400**

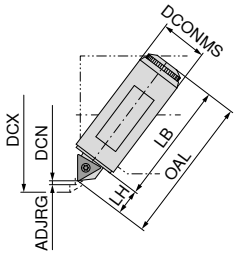
CoreLine – Precision turning insert – FZ

▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Complete precision turning insert (housing and insert) with clamping screw
Please order indexable insert separately



Cutting form 5



Cutting form 3



Cutting form 5



Cutting form 3

for	DCN mm	DCX mm	Product Reference No.	ADJRG mm	LH mm	LB mm	OAL mm	DCONMS $_{g6}$ mm	Indexable insert	Tightening torque Nm	FI 62 869 ...	FI 62 869 ...
62 811 02089	20	26	M30 04111	2.0	4.8	23.7	28.5	10	TO.X 06T1..	0,62	**02000**	
62 811 02690	26	33	M30 04121	4.0	8.4	25.5	33.9	10	TO.X 06T1..	0,62	**03100**	
62 811 02890	28	38	M30 02231	4.0	6.0	25.5	31.5	10	TO.X 06T1..	0,62		**02800**
62 811 02890	32	44	M30 02241	4.0	6.0	29.5	35.5	10	TO.X 06T1..	0,62		**03200**
62 811 03689	36	48	M30 02251	5.0	6.8	33.5	40.3	12	TO.X 06T1..	0,62		**03600**
62 811 03689	40	55	M30 02261	5.0	6.8	38.5	45.3	12	TO.X 06T1..	0,62		**04000**
62 811 04588	45	60	M30 02271	6.0	9.0	42.0	51.0	16	TO.X 0902..	1,28		**04500**
62 811 04588	50	68	M30 02281	6.0	9.0	48.0	57.0	16	TO.X 0902..	1,28		**05000**
62 811 05697	56	78	M30 02291	7.5	12.0	51.0	63.0	20	TO.X 0902..	1,28		**05600**
62 811 05697	64	90	M30 02301	7.5	12.0	59.0	71.0	20	TO.X 0902..	1,28		**06400**
62 811 07296	72	100	M30 02311	10.0	16.5	64.5	81.0	25	TO.X 1403..	2,8		**07200**
62 811 07296	80	114	M30 02321	10.0	16.5	74.5	91.0	25	TO.X 1403..	2,8		**08000**
62 811 09092	90	126	M30 02331	15.0	18.0	84.0	102.0	32	TO.X 1403..	2,8		**09000**
62 811 09092	100	140	M30 02341	15.0	18.0	94.0	112.0	32	TO.X 1403..	2,8		**10000**
62 811 11091	110	150	M30 02351	15.0	18.0	109.0	127.0	32	TO.X 1403..	2,8		**11000**
62 811 11091	125	175	M30 02361	15.0	18.0	124.0	142.0	32	TO.X 1403..	2,8		**12500**

→ Find suitable indexable inserts here.



TORX® screw

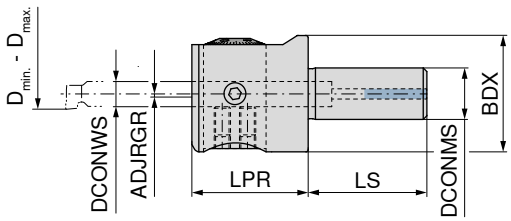


Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 869 02000	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
62 869 03100	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
62 869 02800	M2x4,9 - 06IP	**09700**	T06 - IP	**058**
62 869 03200	M2x4,9 - 06IP	**09700**	T06 - IP	**058**
62 869 03600	M2x4,9 - 06IP	**09700**	T06 - IP	**058**
62 869 04000	M2x4,9 - 06IP	**09700**	T06 - IP	**058**
62 869 04500	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 869 05000	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 869 05600	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 869 06400	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 869 07200	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 869 08000	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 869 09000	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 869 10000	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 869 11000	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 869 12500	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**

SpinTools – Micro boring head

▲ Max. speed 30,000 rpm




Analog

D_{min} - D_{max} mm	BDX mm	DCONWS mm	DCONMS mm	LPR mm	LS mm	ADJRGR mm	WT kg	FI 62 382 ...
0,3 - 7,1	25	4	10	25	25	0 - 1,7	0.10	**025**
0,3 - 19,1	32	7	16	32	40	0 - 2,75	0.25	**032**

A detailed operating manual is available for download in the online shop next to the product.

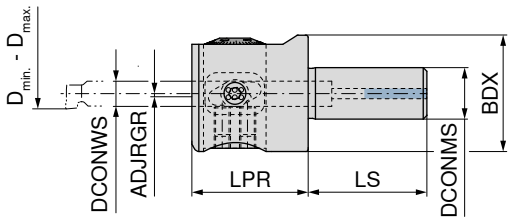

Clamping screw ST


Locking screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 382 025	M5x4	**214**	M4x8	**228**
62 382 032	M6x5	**215**	M6x10	**229**

SpinTools – Micro boring head

▲ Max. speed 30,000 rpm
▲ Digital variant: Please order the digital stick separately




Digital

D_{min} - D_{max} mm	BDX mm	DCONWS mm	DCONMS mm	LPR mm	LS mm	ADJRGR mm	WT kg	FI 62 386 ...
0,3 - 7,1	25	4	10	25	25	0 - 1,7	0.10	**025**
0,3 - 19,1	32	7	16	32	40	0 - 2,75	0.25	**032**

→ Here you will find the Digital Stick.

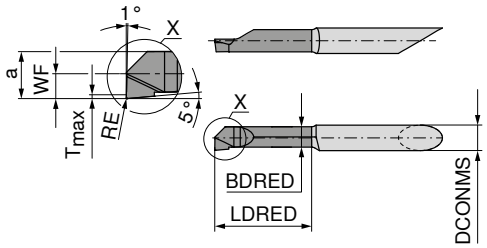
A detailed operating manual is available for download in the online shop next to the product.


Clamping screw ST


Locking screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 386 025	M5x4	**214**	M4x8	**228**
62 386 032	M6x5	**215**	M6x10	**229**

SpinTools – Solid carbide cutting inserts



TiN

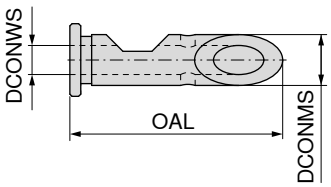


D_{min} - D_{max} mm	DCONMS mm	LDRED mm	RE mm	a mm	BDRED mm	WF mm	$T_{max.}$ mm	FI 62 383 ...
0,3 - 0,7	4	1.2		0.25	0.15	0.15	0.03	**003**
0,6 - 1,1	4	2.5		0.55	0.46	0.30	0.05	**006**
1,0 - 2,3	4	4.0	0.05	0.95	0.65	0.50	0.10	**010**
2,2 - 3,3	4	6.0	0.05	2.00	1.55	1.10	0.20	**022**
3,2 - 4,3	4	10.2	0.05	3.00	2.55	1.60	0.20	**032**
3,9 - 7,1	4	15.2	0.05	3.70	3.45	1.95	0.30	**039**
5,2 - 6,3	7	20.3	0.05	5.00	4.25	2.60	0.50	**052**
6,2 - 7,3	7	20.3	0.05	6.00	5.25	3.10	0.50	**062**
6,9 - 8,1	7	25.4	0.20	6.70	6.25	3.45	0.50	**069**

P	●
M	●
K	●
N	●
S	●
H	○
O	●

→ Find the cutting data standard values here.

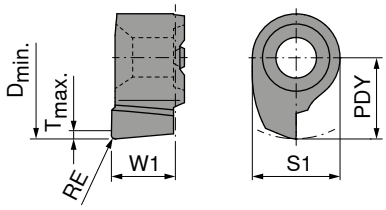
CoreLine – Adapter





DCONMS mm	DCONWS mm	OAL mm	FI 62 335 ...
7	4	30	**407**

SpinTools – Solid carbide cutting inserts



TiN



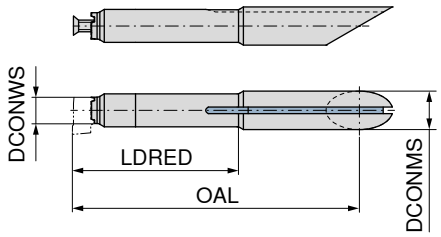
D_{min} - D_{max} mm	RE mm	PDY mm	S1 mm	W1 mm	$T_{max.}$ mm	FI 62 384 ...
6,9 - 8,1	0.2	3.45	4.8	3.5	1	**069**
7,9 - 9,1	0.2	3.95	4.8	3.5	1	**079**
8,9 - 10,1	0.2	4.45	4.8	3.5	1	**089**
9,9 - 12,1	0.2	4.95	7.0	3.9	1	**099**
11,9 - 14,1	0.2	5.95	7.0	3.9	1	**119**
13,9 - 19,1	0.2	6.95	7.0	3.9	1	**139**

P	●
M	●
K	●
N	●
S	●
H	○
O	●

→ Find the cutting data standard values here.

SpinTools – Tool holder for solid carbide cutting insert

▲ with through coolant
▲ appropriate inserts for article no. 62 384 ... can be found in the table above





DCONMS mm	LDRED mm	DCONWS mm	OAL mm	FI 62 385 ...
7	30	4.8	56	**330**
7	35	7.0	61	**350**


TORX® screw

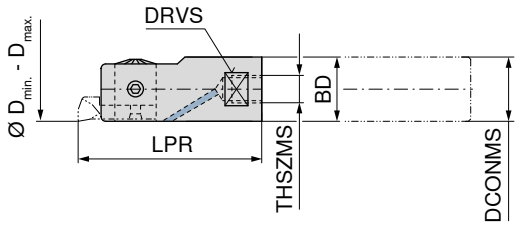

Screwdriver

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 385 330	M2x7,5 - T07	**007**	T07 - IP	**117**
62 385 350	M3x9 - T09	**094**	T09 - IP	**118**

CoreLine – Fine boring head

▲ with through coolant

Scope of supply:
Fine boring head without boring shank, without insert holder





D_{min} - D_{max} mm	BD mm	THSZMS	DCONMS mm	LPR mm	DRVS mm	WT kg	FI 62 304 ...
14,7 - 17,1	14	M6	14	39.8	12	0.05	**017**
16,7 - 20,1	16	M10	16	39.8	14	0.07	**020**
19,7 - 24,1	19	M10	18	39.8	16	0.09	**024**

→ Here you will find information about the usable length.


TORX® screw

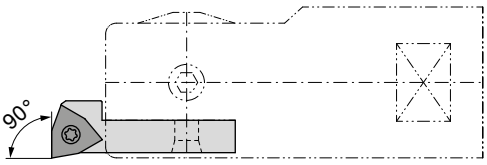

Screwdriver


Clamping screw ST

Spare parts for article number		FI 62 950 ...		AS 80 950 ...		FI 62 950 ...
62 304 017	M2,5x6 - T07	**022**	T07	**109**	M3x2	**017**
62 304 020	M2,5x6 - T07	**022**	T07	**109**	M3x2,5	**018**
62 304 024	M2,5x6 - T07	**022**	T07	**109**	M3x4	**019**

CoreLine – Insert holder, 90°

Scope of supply:
Without indexable insert





Indexable insert	FI
	62 317 ...
WC.. 0201..	024

→ Find suitable indexable inserts here.


TORX® screw

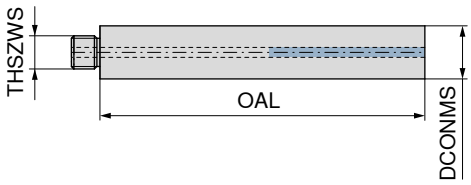

Screwdriver

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
WC.. 0201..	M2x3,7 - T06	021	T06	108

CoreLine – High-speed carbide boring shank

- ▲ with threaded mounting stud made of high quality steel
- ▲ with through coolant
- ▲ Shank clamping length 35 mm
- ▲ Boring shanks with DCONMS Ø 18 mm are for use in collet chuck or hydraulic chuck

Scope of supply:
Boring shank, without boring head





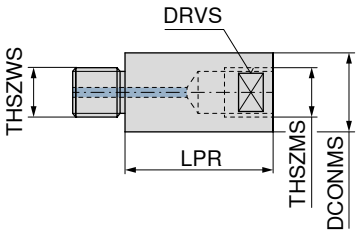


DCONMS $_{h6}$ mm	OAL mm	THSZWS	FI 62 353 ...	FI 62 353 ...
14	110	M6	**014**	
16	120	M10	**016**	
18	100	M10		**018**
18	140	M10		**118**
18	180	M10		**218**

→ Here you will find information about the usable length.

CoreLine – Shank extension (hardened steel)

- ▲ with through coolant





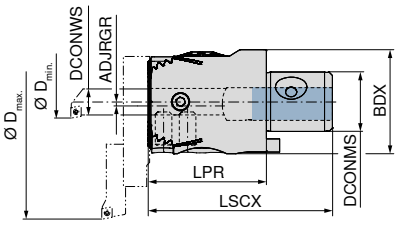
DCONMS $_{h9}$ mm	LPR mm	THSZWS	THSZMS	DRVS mm	FI 62 349 ...
16	32	M10	M10	14	**732**
16	64	M10	M10	14	**764**

CoreLine – Multi-Head boring and fine boring head – STM

- **For boring bars Ø 16 mm and bridges**
- With through coolant supply
- LSCX = Recess depth of boring bar

Scope of supply:
Without boring bar, bridge, and insert holder

STM





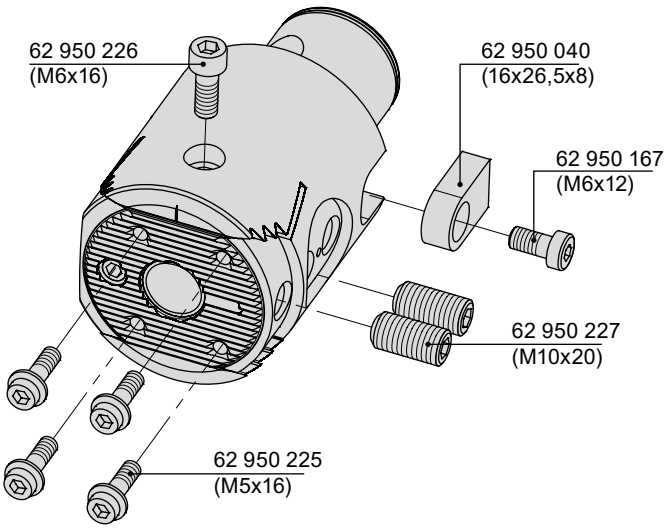
STM Modular
Analog

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	FI 62 372 ...
3 - 320	STM 36	36	63	71.6	111.6	0 - 2,7	1.69	653

→ Here you will find the suitable base adapters.

A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number	 Clamping screw	 Drive pin screw	 Drive pin	 Clamping screw MH	 Flange screw
	FI 62 950 ...	FI 62 950 ...	FI 62 950 ...	FI 62 950 ...	FI 62 950 ...
62 372 653	227	167	040	226	225



CoreLine – Multi-Head – boring and fine boring head set – STM

▲ Suitable for Ø 3 – Ø 320 mm
▲ Scope of supply Ø 9.75 – Ø 164 mm

Scope of supply:
▲ **1 case**
▲ **1 Multi-Head – boring and fine boring head**
– 62 372 653
▲ **4 boring bars**
– 62 345 015 Ø 9.75 – Ø 15.1 mm
– 62 345 020 Ø 14.75 – Ø 20.1 mm
– 62 345 024 Ø 19.75 – Ø 25.1 mm
– 62 345 029 Ø 24.75 – Ø 30.1 mm
▲ **2 boring bars, adjustable**
– 62 375 048 Ø 29.75 – Ø 48.1 mm
– 62 375 088 Ø 47.75 – Ø 88.1 mm
▲ **Incl. insert holder**
– 62 377 048 CC.. 0602
– 62 377 088 CC.. 0602
▲ **1 bridge**
– 62 376 164 Ø 86 – Ø 164 mm
▲ **1 Torx key – T7**
▲ **1 Allen key – SW5**



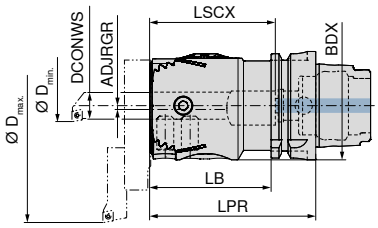
STM Modular
Analog

D_{min} - D_{max} mm	Adapter	FI 62 374 ...
9,75 - 164	STM 36	**999**

CoreLine – Multi-Head – boring and fine boring head

- **For boring bars Ø 16 mm and bridges**
- With through coolant supply
- LSCX = Recess depth of boring bar

Scope of supply:
Without boring bar, bridge, and insert holder





HSK-A
Analog

D_{min} - D_{max} mm	Adapter	BDX mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	FI 62 373 ...
3 - 320	HSK-A 63	63	96.6	70.6	73	0 - 2,7	1.9	**653**

A detailed operating manual is available for download in the online shop next to the product.


Clamping screw


Clamping screw MH


Flange screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 373 653	M10x20	**227**	M6x16	**226**	M5x16	**225**

CoreLine – Multi-Head – boring and fine boring head set

- Suitable for Ø 3 – Ø 320 mm
- Scope of supply Ø 9.75 – Ø 164 mm

Scope of supply:
- **1 case**
- **1 Multi-Head – boring and fine boring head**
  - 62 373 653
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 bridge**
  - 62 376 164 Ø 86 – Ø 164 mm
- **1 Torx key – T7**
- **1 Allen key – SW5**



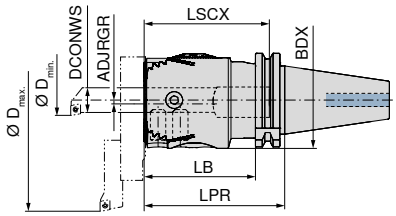
HSK-A
Analog

D_{min} - D_{max} mm	Adapter	FI 62 379 ...
9,75 - 164	HSK-A 63	**996**

CoreLine – Multi-Head boring and fine boring head

- **For boring bars Ø 16 mm and bridges**
- With through coolant supply
- LSCX = Recess depth of boring bar

Scope of supply:
Without boring bar, bridge, and insert holder





SK
Analog

D_{min} - D_{max} mm	Adapter	BDX mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	FI 62 373 ...
3 - 320	SK 40	63	91.6	72.5	81.6	0 - 2,7	1.9	**153**

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.


Clamping screw


Clamping screw MH


Flange screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 373 153	M10x20	**227**	M6x16	**226**	M5x16	**225**

CoreLine – Multi-Head – boring and fine boring head set

- Suitable for Ø 3 – Ø 320 mm
- Scope of supply Ø 9.75 – Ø 164 mm

Scope of supply:
- **1 case**
- **1 Multi-Head – boring and fine boring head**
  - 62 373 153
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 bridge**
  - 62 376 164 Ø 86 – Ø 164 mm
- **1 Torx key – T7**
- **1 Allen key – SW5**



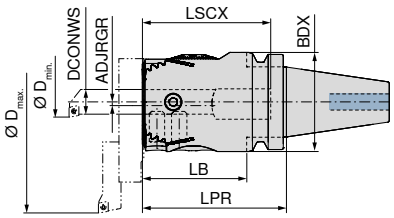
SK
Analog

D_{min} - D_{max} mm	Adapter	FI 62 379 ...
9,75 - 164	SK 40	**990**

CoreLine – Multi-Head boring and fine boring head

- **For boring bars Ø 16 mm and bridges**
- With through coolant supply
- LSCX = Recess depth of boring bar

Scope of supply:
Without boring bar, bridge, and insert holder





MAS-BT
Analog

D_{min} - D_{max} mm	Adapter	BDX mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	FI 62 373 ...
3 - 320	BT 40	63	91.6	69	81.6	0 - 2,7	2.2	**453**

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.


Clamping screw


Clamping screw MH


Flange screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 373 453	M10x20	**227**	M6x16	**226**	M5x16	**225**

CoreLine – Multi-Head – boring and fine boring head set

- Suitable for Ø 3 – Ø 320 mm
- Scope of supply Ø 9.75 – Ø 164 mm

Scope of supply:

- **1 case**
- **1 Multi-Head – boring and fine boring head**
  - 62 373 453
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 bridge**
  - 62 376 164 Ø 86 – Ø 164 mm
- **1 Torx key – T7**
- **1 Allen key – SW5**



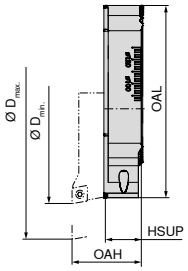
MAS-BT
Analog

D_{min} - D_{max} mm	Adapter	FI 62 379 ...
9,75 - 164	BT 40	**993**

CoreLine – Bridge for Multi-Head

▲ Ø adjustable
▲ With through coolant supply

Scope of supply:
Without insert holder
Incl. fixing screws





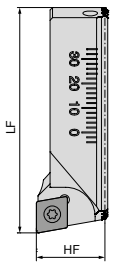
D_{min} - D_{max} mm	OAL mm	HSUP mm	OAH mm	FI 62 376 ...
86 - 164	80	15	29	**164**
162 - 320	158	15	29	**320**


Flange screw

Spare parts for article number		FI 62 950 ...
62 376 164	M5x16	**225**
62 376 320	M5x16	**225**

CoreLine – Insert holder for boring bar / bridge for Multi-Head

Scope of supply:
Without indexable insert
Incl. fixing screws





for	LF mm	HF mm	Indexable insert	FI 62 377 ...
62 375 048	28.2	12	CC.. 0602	**048**
62 375 088 / 62 376 ...	46.0	14	CC.. 0602	**088**
62 375 088 / 62 376 ...	46.0	14	CC.. 09T3	**089**

→ Find suitable indexable inserts here.



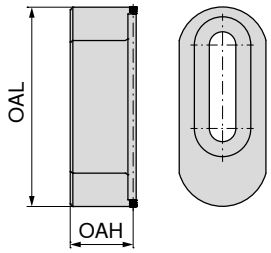




Spare parts for article number		FI 62 950 ...		AS 80 950 ...		FI 62 950 ...
62 377 048	M2,5x6 - T07	**022**	T07	**109**	M5x16	**225**
62 377 088	M2,5x6 - T07	**022**	T07	**109**	M5x16	**225**
62 377 089	M4x9 - T15	**023**	T15	**113**	M5x16	**225**

CoreLine – Counterweight

Scope of supply:
Including fixing screw





for	OAL mm	OAH mm	FI 62 378 ...
62 376 ...	38	12	**320**

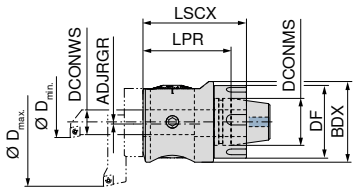

Flange screw

Spare parts for article number		FI 62 950 ...
62 378 320	M5x16	**225**

CoreLine – Single point boring head – ER 32

- Interface for use on ER32 collet chucks
- LSCX = Recess depth of boring bar
- with through coolant supply

ER 32





ER 32
Analog

D_{min} - D_{max} mm	Adapter	BDX mm	DF mm	DCONWS mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	FI 62 332 ...
3,0 - 88,1	ER 32	55	49.5	16	60	86.5	0 - 2,7	0.43	**732**

A detailed operating manual is available for download in the online shop next to the product.



Clamping screw



Clamping screw ST

Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 332 732	M10x16	**047**	M10x8	**046**

CoreLine – Single point boring head set – ER 32

- Suitable for Ø 3.0 – Ø 88.1 mm
- Scope of supply Ø 9.75 – Ø 30.1 mm
- with through coolant supply

Scope of supply:
- **1 case**
- **1 single point boring head**
  - 62 332 732
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **1 Torx key – T7**
- **1 Allen key – SW5**



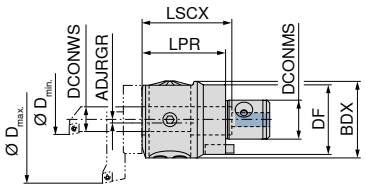
ER 32
Analog

D_{min} - D_{max} mm	Adapter	FI 62 332 ...
9,75 - 30,1	ER 32	**999**

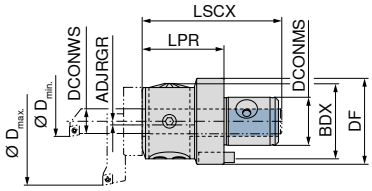
CoreLine – Single point boring heads – Modular system – STM

▲ LSCX = Recess depth of boring bar
▲ With through coolant supply

STM



STM without flange
Analog



STM with flange
Analog



STM without flange
Analog



STM with flange
Analog

D_{min} - D_{max} mm	Adapter	BDX mm	DF mm	DCONWS mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	FI 62 332 ...	FI 62 332 ...
3,0 - 88,1	STM 28	55	50	16	60	62	0 - 2,7	0.98	**553**	
3,0 - 88,1	STM 36	55	63	16	60	101	0 - 2,7	1.26		**653**

→ Here you will find the suitable base adapters.

A detailed operating manual is available for download in the online shop next to the product.


Clamping screw


Drive pin screw


Drive pin


Clamping screw ST

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 332 553	M10x16	**047**	M5x10	**166**	12x20x6	**039**	M10x8	**046**
62 332 653	M10x16	**047**	M6x12	**167**	16x26,5x8	**040**	M10x8	**046**

CoreLine – Single point boring head set 1 – STM

- suitable for Ø 3 – Ø 88.1 mm
- supplied with Ø 9.75 – Ø 40.1 mm
- with through coolant

Scope of supply:
- **1 Tool Kit**
- **1 single point boring head**
  - 62 332 653
- **8 Boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 019 Ø 13.75 – Ø 19.1 mm
  - 62 345 023 Ø 17.75 – Ø 23.1 mm
  - 62 345 027 Ø 21.75 – Ø 27.1 mm
  - 62 345 030 Ø 24.75 – Ø 30.1 mm
  - 62 345 033 Ø 27.75 – Ø 33.1 mm
  - 62 345 037 Ø 31.75 – Ø 37.1 mm
  - 62 345 040 Ø 34.75 – Ø 40.1 mm
- **1 6-adjustment key – SW5**
- **1 Torx-Key – T7**



STM with flange
Analog

D_{min} - D_{max} mm	Adapter	FI 62 334 ...
9,75 - 40,1	STM 36	999

CoreLine – Single point boring head set 2 – STM

- suitable for Ø 3 – Ø 88.1 mm
- Supplied with Ø 9.75 – Ø 88.1 mm
- with through coolant

Scope of supply:
- **1 case**
- **1 single point boring head**
  - 62 332 653
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Torx key – T7**
- **1 Allen key – SW5**

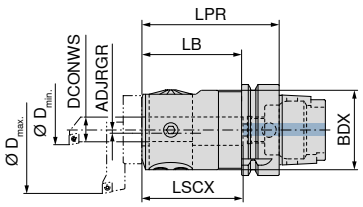


STM with flange
Analog

D_{min} - D_{max} mm	Adapter	FI 62 334 ...
9,75 - 88,1	STM 36	997

CoreLine – Single point boring head – Monoblock analog

- LSCX = Recess depth of boring bar
- With through coolant supply





HSK-A
Analog

FI
62 333 ...

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	
3,0 - 88,1	HSK-A 63	55	16	95	69	70	0 - 2,7	1.66	**653**

A detailed operating manual is available for download in the online shop next to the product.



Clamping screw

FI
62 950 ...



Clamping screw ST

FI
62 950 ...

Spare parts for article number				
62 333 653	M10x16	**047**	M10x8	**046**

CoreLine – Single point boring head set 2

- suitable for Ø 3 – Ø 88.1 mm
- Supplied with Ø 9.75 – Ø 88.1 mm
- with through coolant

Scope of supply:

- **1 case**
- **1 single point boring head**
  - 62 333 653
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Torx key – T7**
- **1 Allen key – SW5**



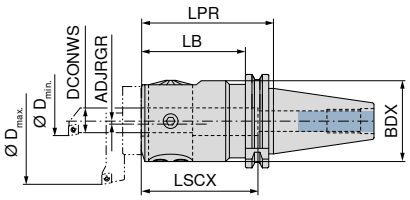
HSK-A
Analog

FI
62 345 ...

D_{min} - D_{max} mm	Adapter	
9,75 - 88,1	HSK-A 63	**997**

CoreLine – Single point boring head – Monoblock analog

▲ LSCX = Recess depth of boring bar
▲ With through coolant supply





SK
Analog

FI
62 333 ...
153

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg
3,0 - 88,1	SK 40	55	16	90	70	80	0 - 2,7	1.83

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.


Clamping screw

FI
62 950 ...
047


Clamping screw ST

FI
62 950 ...
046

Spare parts for article number			
62 333 153	M10x16	**047**	M10x8	**046**

CoreLine – Single point boring head set 1

- Suitable for Ø 3 – Ø 88.1 mm
- Scope of supply Ø 9.75 – Ø 30.1 mm
- With through coolant supply

Scope of supply:
- **1 Tool Kit**
- **1 single point boring head**
  - 62 333 153
- **4 Boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **1 6-adjustment key – SW5**
- **1 Torx-Key – T7**



SK
Analog

FI

D_{min} - D_{max} mm	Adapter	62 345 ...
9,75 - 30,1	SK 40	990

CoreLine – Single point boring head set 2

- Suitable for Ø 3 – Ø 88.1 mm
- Scope of supply Ø 9.75 – Ø 88.1 mm
- With through coolant supply

Scope of supply:
- **1 case**
- **1 single point boring head**
  - 62 333 153
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Torx key – T7**
- **1 Allen key – SW5**



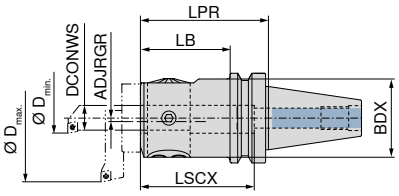
SK
Analog

FI

D_{min} - D_{max} mm	Adapter	62 345 ...
9,75 - 88,1	SK 40	998

CoreLine – Single point boring head – Monoblock analog

▲ LSCX = Recess depth of boring bar
▲ With through coolant supply





MAS-BT
Analog

FI
62 333 ...
453

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg
3,0 - 88,1	BT 40	55	16	90	63	80	0 - 2,7	1.9

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.


Clamping screw


Clamping screw ST

Spare parts for article number		FI **62 950 ...**		FI **62 950 ...**
62 333 453	M10x16	**047**	M10x8	**046**

CoreLine – Single point boring head set 1

- suitable for Ø 3 – Ø 88.1 mm
- supplied with Ø 9.75 – Ø 30.1 mm
- with through coolant

Scope of supply:
- **1 Tool Kit**
- **1 single point boring head**
  - 62 333 453
- **4 Boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **1 6-adjustment key – SW5**
- **1 Torx-Key – T7**



MAS-BT
Analog

D_{min} - D_{max} mm	Adapter	FI 62 345 ...
9,75 - 30,1	BT 40	993

CoreLine – Single point boring head set 2

- suitable for Ø 3 – Ø 88.1 mm
- Supplied with Ø 9.75 – Ø 88.1 mm
- with through coolant

Scope of supply:
- **1 case**
- **1 single point boring head**
  - 62 333 453
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 boring bars, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **Incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Torx key – T7**
- **1 Allen key – SW5**



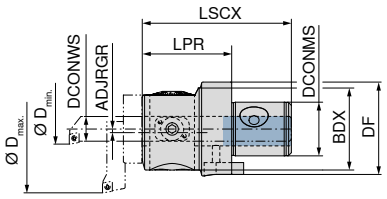
MAS-BT
Analog

D_{min} - D_{max} mm	Adapter	FI 62 345 ...
9,75 - 88,1	BT 40	999

CoreLine – Single point boring heads – Modular system – STM

- ▲ LSCX = Recess depth of boring bar
- ▲ With through coolant supply
- ▲ Digital variant: please order the digital stick separately

STM





STM with flange
Digital

D_{min} - D_{max} mm	Adapter	BDX mm	DF mm	DCONWS mm	LPR mm	LSCX mm	ADJRGR mm	WT kg	FI 62 326 ...
3,0 - 88,1	STM 36	55	63	16	60	106	0 - 2,7	0.43	**036**

→ Here you will find the Digital Stick.
→ Here you will find the suitable base adapters.

A detailed operating manual is available for download in the online shop next to the product.


Clamping screw


Drive pin screw

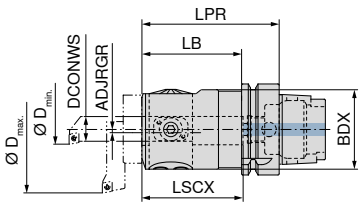

Drive pin


Clamping screw ST

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 326 036	M10x16	**047**	M6x12	**167**	16x26,5x8	**040**	M10x8	**046**

CoreLine – Single point boring head – Monoblock digital

- ▲ LSCX = Recess depth of boring bar
- ▲ With through coolant supply
- ▲ Digital variant: please order the digital stick separately





HSK-A
Digital

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	FI 62 363 ...
3,0 - 88,1	HSK-A 63	55	16	95	70	70	0 - 2,7	1.66	**688**

→ Here you will find the Digital Stick.

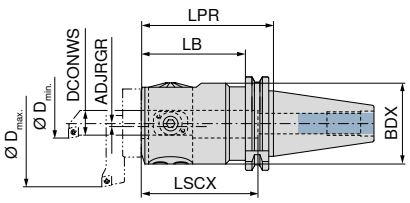
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number

	Clamping screw FI 62 950 ...	Clamping screw ST FI 62 950 ...
62 363 688	M10x16 **047**	M10x8 **046**

CoreLine – Single point boring head – Monoblock digital

- ▲ LSCX = Recess depth of boring bar
- ▲ With through coolant supply
- ▲ Digital variant: Please order the digital stick separately





SK
Digital

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	FI 62 363 ...
3,0 - 88,1	SK 40	55	16	90	71	80	0 - 2,7	1.83	**188**

→ Here you will find the Digital Stick.

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.

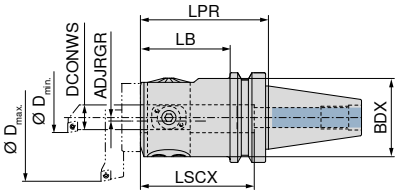

Clamping screw


Clamping screw ST

Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 363 188	M10x16	**047**	M10x8	**046**

CoreLine – Single point boring head – Monoblock digital

- ▲ LSCX = Recess depth of boring bar
- ▲ With through coolant supply
- ▲ Digital variant: please order the digital stick separately





MAS-BT
Digital

FI
62 363 ...

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	ADJRGR mm	WT kg	
3,0 - 88,1	BT 40	55	16	90	59	80	0 - 2,7	1.9	**488**

→ Here you will find the Digital Stick.

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.


Clamping screw

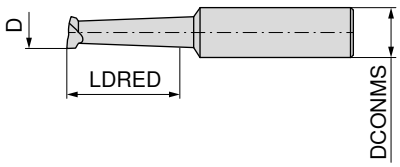
FI
62 950 ...


Clamping screw ST

FI
62 950 ...

Spare parts for article number				
62 363 488	M10x16	**047**	M10x8	**046**

CoreLine – Boring tool with carbide cutting edge





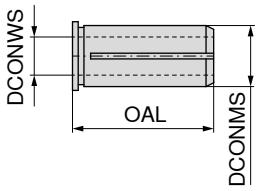
D_{min} - D_{max} mm	LDRED mm	DCONMS mm	FI 62 346 ...
3,0 - 8,0	20	10	008
4,0 - 9,0	23	10	009
5,0 - 10,0	25	10	010
6,0 - 11,0	28	10	011
7,0 - 12,0	31	10	012

P	●
M	○
K	○
N	●
S	
H	
O	

→ Find the cutting data standard values here.

CoreLine – Reduction sleeve

▲ For boring tools/shanks and boring bars

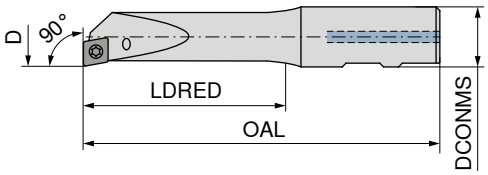




DCONMS mm	DCONWS mm	OAL mm	FI 62 335 ...
16	4	37	104
16	5	37	105
16	6	37	106
16	8	37	108
16	9	37	109
16	10	37	110
16	11	37	111
16	12	37	112
16	13	37	113
16	14	37	114

CoreLine – Steel boring bar

▲ with through coolant





D_{min} - D_{max} mm	OAL mm	LDRED mm	DCONMS $_{h6}$ mm	Indexable insert	FI 62 345 ...
9,75 - 15,1	75	30	16	CC.. 0602	**015**
11,75 - 17,1	80	37	16	CC.. 0602	**017**
13,75 - 19,1	85	43	16	CC.. 0602	**019**
14,75 - 20,1	90	51	16	CC.. 0602	**020**
15,75 - 21,1	95	57	16	CC.. 0602	**021**
17,75 - 23,1	100	67	16	CC.. 0602	**023**
19,75 - 25,1	105	72	16	CC.. 0602	**024**
19,75 - 25,1	105	72	16	CC.. 09T3	**025**
21,75 - 27,1	110	77	16	CC.. 09T3	**027**
24,75 - 30,1	115	82	16	CC.. 0602	**029**
24,75 - 30,1	115	82	16	CC.. 09T3	**030**
27,75 - 33,1	115	82	16	CC.. 09T3	**033**
31,75 - 37,1	115	82	16	CC.. 09T3	**037**
34,75 - 40,1	115	82	16	CC.. 09T3	**040**
38,75 - 44,1	115	82	16	CC.. 09T3	**044**
42,75 - 48,1	115	82	16	CC.. 09T3	**048**
47,75 - 53,1	115	82	16	CC.. 09T3	**053**

→ Find suitable indexable inserts here.

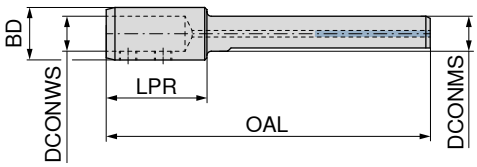

TORX® screw


Screwdriver

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
CC.. 0602	M2,5x6 - T07	**022**	T07	**109**
CC.. 09T3	M4x9 - T15	**023**	T15	**113**

CoreLine – Boring tool extension

▲ with through coolant





DCONWS mm	DCONMS mm	BD mm	OAL mm	LPR mm	FI 62 337 ...
10	16	16	128		**128**
16	16	24	148	44	**148**

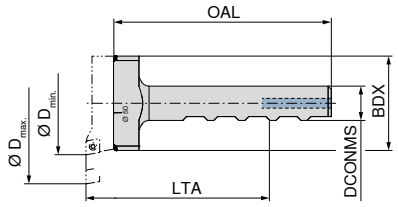

Clamping screw

Spare parts for article number		FI 62 950 ...
62 337 128	M6x3	**048**
62 337 148	M8x5	**049**

CoreLine – Adjustable boring bar

▲ with through coolant

Scope of supply:
Without insert holder

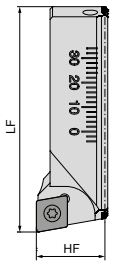




D_{min} - D_{max} mm	OAL mm	BDX mm	LTA mm	DCONMS mm	FI 62 375 ...
29,75 - 48,1	103	25	85	16	**048**
47,75 - 88,1	101	44	85	16	**088**

CoreLine – Insert holder for boring bar / bridge for Multi-Head

Scope of supply:
Without indexable insert
Incl. fixing screws





for	LF mm	HF mm	Indexable insert	FI 62 377 ...
62 375 048	28.2	12	CC.. 0602	**048**
62 375 088 / 62 376 ...	46.0	14	CC.. 0602	**088**
62 375 088 / 62 376 ...	46.0	14	CC.. 09T3	**089**

→ Find suitable indexable inserts here.


TORX® screw

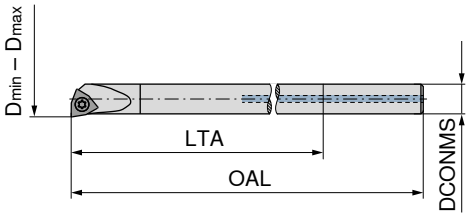

Screwdriver


Flange screw

Spare parts for article number		FI 62 950 ...		AS 80 950 ...		FI 62 950 ...
62 377 048	M2,5x6 - T07	**022**	T07	**109**	M5x16	**225**
62 377 088	M2,5x6 - T07	**022**	T07	**109**	M5x16	**225**
62 377 089	M4x9 - T15	**023**	T15	**113**	M5x16	**225**

CoreLine – Boring bar with carbide shank

▲ With through coolant supply
▲ LTA = max. overhang





D_{min} - D_{max} mm	DCONMS $_{h6}$ mm	OAL mm	LTA mm	Indexable insert	FI 62 341 ...
5,8 - 11,2	5	80	45	WC.. 0201..	**011**
7,8 - 13,2	6	100	60	WC.. 0201..	**013**

→ Find suitable indexable inserts here.


TORX® screw

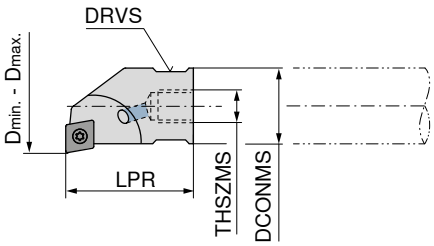

Screwdriver

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
WC.. 0201..	M2x3,7 - T06	**021**	T06	**108**

CoreLine – High-speed boring head

- For over turning holder and high-speed carbide boring shank
- With through coolant supply
- $D_{max.}$ = using a head with fine adjustment 0 – 2.7 mm

Scope of supply:
Boring head without boring shank, without indexable inserts





D_{min} - D_{max} mm	LPR mm	THSZMS	DCONMS $_{h6}$ mm	Indexable insert	FI 62 361 ...
8,75 - 14,1	18	M5	8	CC.. 0602	014
9,75 - 15,1	18	M5	9	CC.. 0602	015
10,75 - 16,1	23	M6	10	CC.. 0602	016
11,75 - 17,1	23	M6	11	CC.. 0602	017
12,75 - 18,1	23	M6	12	CC.. 0602	018
13,75 - 19,1	23	M6	13	CC.. 0602	019
14,75 - 20,1	23	M6	14	CC.. 0602	020
15,75 - 21,1	23	M6	14	CC.. 0602	021
16,75 - 22,1	27	M10	16	CC.. 0602	022
17,75 - 23,1	27	M10	16	CC.. 0602	023
19,75 - 25,1	27	M10	16	CC.. 0602	025
21,75 - 27,1	27	M10	16	CC.. 0602	027
24,75 - 30,1	27	M10	16	CC.. 0602	030
27,75 - 33,1	27	M10	16	CC.. 0602	033
31,75 - 37,1	27	M10	16	CC.. 0602	037
34,75 - 40,1	27	M10	16	CC.. 0602	040

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.



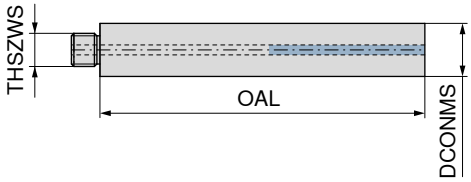


Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
CC.. 0602	M2,5x6 - T07	022	T07	109

CoreLine – High-speed carbide boring shank

- ▲ with threaded mounting stud made of high quality steel
- ▲ with through coolant
- ▲ Shank clamping length 35 mm

Scope of supply:
Boring shank, without boring head





DCONMS $_{h6}$ mm	OAL mm	THSZWS	FI 62 353 ...
8	73	M5	**008**
9	80	M5	**009**
10	82	M6	**010**
11	89	M6	**011**
12	96	M6	**012**
13	103	M6	**013**
14	110	M6	**014**
16	120	M10	**016**

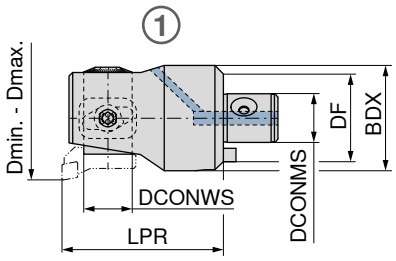
→ Here you will find information about the usable length.

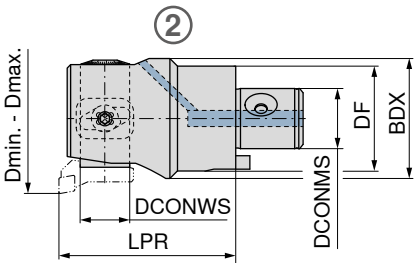
CoreLine – Single point finish boring head – STM

▲ With through coolant supply
▲ Digital variant: please order the digital stick separately

Scope of supply:
Without insert holder and indexable inserts

STM







STM Analog



STM Digital

D_{min} - D_{max} mm	D_{min} - D_{max} extended mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	DCONWS mm	WT kg	Fig.	FI 62 303 ...	FI 62 308 ...
23,9 - 31,1	29,9 - 37,1	STM 11	11	22.5	20	40	11	0.08	1	**031**	**031**
30,9 - 40,1	37,9 - 47,1	STM 14	14	29.0	25	45	13	0.15	1	**040**	**040**
39,9 - 51,1	47,9 - 59,1	STM 18	18	37.0	32	65	17	0.38	1	**051**	**051**
50,9 - 67,1	64,9 - 81,1	STM 22	22	47.0	40	72	22	0.70	1	**067**	**067**
66,9 - 87,1	84,9 - 105,1	STM 28	28	59.0	50	82	30	1.32	2	**087**	**087**
86,9 - 116,1	104,9 - 134,1 (124,9 - 154,1)	STM 36	36	72.0	63	105	30	3.15	2	**116**	**116**

→ Here you will find the Digital Stick.
→ Here you will find the suitable base adapters.

For optimal stability when fine boring, the main insert holder ranges are preferred over the extended range.



Drive pin screw



Drive pin



Fillister-head screw

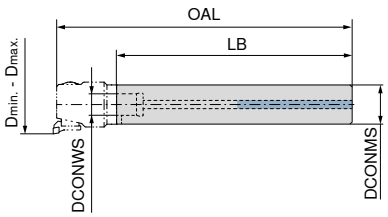


Clamping screw ST

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 303 031 / 62 308 031	M2x2,5	**162**	5x8,5x3	**035**	M4x6	**287**	M4x3	**213**
62 303 040 / 62 308 040	M2,5x6	**163**	6x10,3x4	**036**	M5x8	**288**	M5x4	**214**
62 303 051 / 62 308 051	M3x8	**164**	8x15x5	**037**	M6x10	**289**	M6x5	**215**
62 303 067 / 62 308 067	M4x10	**165**	10x18,1x6	**038**	M8x12	**290**	M8x6	**216**
62 303 087 / 62 308 087	M5x10	**166**	12x20x6	**039**	M10x16	**291**	M10x10	**217**
62 303 116 / 62 308 116	M6x12	**167**	16x26,5x8	**040**	M10x16	**291**	M10x18	**218**

CoreLine – High-speed carbide boring shank

▲ Shaft extension for single point finish boring heads Art. No. 62 303 ..., 62 308 ...
▲ with through coolant supply



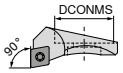


D_{min} - D_{max} mm	DCONWS mm	DCONMS $_{h5}$ mm	OAL mm	LB mm	WT kg	FI 62 354 ...
23,9 - 31,1	11	20	250	210	0.81	**020**
30,9 - 40,1	14	25	306	261	1.54	**025**
39,9 - 51,1	18	32	380	315	3.03	**032**

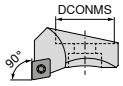
CoreLine – Insert holder

▲ For single point finish boring heads article nos 62 303 …, 62 308 …

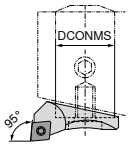
Scope of supply:
Incl. Torx clamping screw for indexable insert, without fixing screw for holder



90°



90° extended



95°



90°



90° extended



95°

D_{min} - D_{max} mm	D_{min} - D_{max} extended mm	DCONMS mm	Indexable insert	FI 62 318 ...	FI 62 318 ...	FI 62 320 ...
23,9 -31,1	29,9 - 37,1	11	CC.. 0602	**031**	**037**	**031**
30,9 - 40,1	37,9 - 47,1	13	CC.. 0602	**040**	**047**	**040**
39,9 - 51,1	47,9 - 59,1	17	CC.. 0602	**051**	**059**	**051**
50,9 - 67,1	64,9 - 81,1	22	CC.. 0602	**067**	**081**	**067**
66,9 - 87,1	84,9 - 105,1	30	CC.. 0602	**087**	**105**	
66,9 - 87,1		30	CC.. 09T3			**087**
86,9 - 116,1	104,9 - 134,1	30	CC.. 09T3	**116**	**134**	
	124,9 - 154,1	30	CC.. 09T3		**154**	

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.



TORX® screw



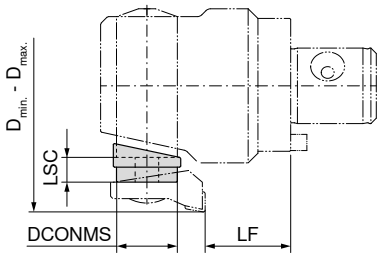
Screwdriver

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
CC.. 0602	M2,5x6 - T07	**022**	T07	**109**
CC.. 09T3	M4x9 - T15	**023**	T15	**113**

CoreLine – Reverse adapter for back boring

▲ For insert holder article nos. 62 318 … / 62 320 ...

Scope of supply:
Adapter including fixing screw





D_{min} - D_{max} mm	LSC mm	DCONMS mm	LF mm	FI 62 321 ...
37 - 44	6.5	11	13.0	**044**
40 - 47	8.0	11	13.0	**051**
44 - 53	6.5	13	12.6	**053**
51 - 60	10.0	13	12.6	**060**
53 - 64	6.5	17	31.3	**064**
60 - 71	10.0	17	31.3	**071**
68 - 80	6.5	22	31.2	**080**
75 - 91	12.0	22	31.2	**091**
87 - 107	10.0	30	29.0	**107**

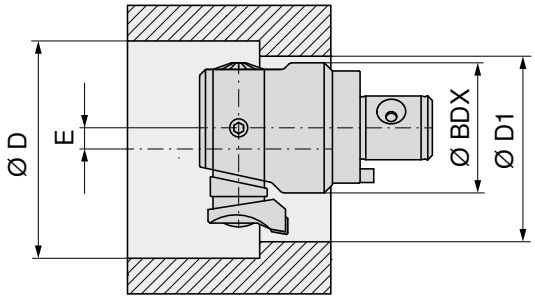
A detailed operating manual is available for download in the online shop next to the product.

Note left-hand direction of spindle rotation when in use.


Fillister-head screw

Spare parts for article number		FI 62 950 ...
62 321 044	M4x12	**278**
62 321 051	M4x13	**279**
62 321 053	M5x14	**280**
62 321 060	M5x16	**281**
62 321 064	M6x15	**282**
62 321 071	M6x20	**283**
62 321 080	M8x20	**284**
62 321 091	M8x25	**285**
62 321 107	M10x30	**286**

Minimum diameter (Ø D1) during retraction for back boring



Minimum diameter (Ø D1) of the entry bore

$$Ø\ D1 = \frac{Ø\ BDX + Ø\ D}{2} + 1^*$$

Minimum offset (E) for starting

$$E = \frac{Ø\ D - Ø\ D1}{2} + 0{,}5^*$$

*Safety margin

Example

Single point finish boring head
62 303 031 (Ø BDX = 22,5 mm)
Reverse adapter
62 321 044 (Ø D_{min} – Ø D_{max} = 37 – 44 mm)
Selected
Ø D = 37 mm
Insert holder
62 318 031

$$Ø\ D1 = \frac{Ø\ 22{,}5\ mm + Ø\ 37\ mm}{2} + 1\ mm = 30{,}75\ mm$$

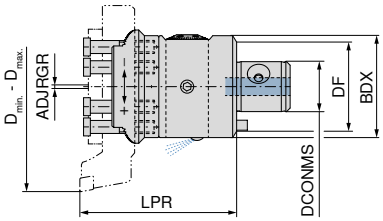
$$E = \frac{Ø\ 37\ mm - Ø\ 30{,}75\ mm}{2} + 0{,}5\ mm = 3{,}625\ mm$$

CoreLine – Single point finish boring head – STM

▲ With through coolant supply
▲ Extremely stable connection between insert holder and boring head

Scope of supply:
Boring head, without insert holder, pressure plate, and support

STM





STM
Analog

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	ADJRGR mm	WT kg	FI 62 305 ...
86 - 402	STM 36	36	80	63	120	± 1,25	2.94	**302**

→ Here you will find the suitable base adapters.

A detailed operating manual is available for download in the online shop next to the product.

	 Cylindrical screw	 Drive pin screw	 Drive pin	 Clamping screw ST
	FI	FI	FI	FI
Spare parts for article number	**62 950 ...**	**62 950 ...**	**62 950 ...**	**62 950 ...**
62 305 302	M8x45 **292**	M6x12 **167**	16x26,5x8 **040**	M8x60 **011**

CoreLine – Boring set – STM

- ▲ suitable for Ø 86 – Ø 402 mm
- ▲ supplied with Ø 86 – Ø 302 mm
- ▲ with through coolant

Scope of supply:

- ▲ **1 case**
- ▲ **1 single point finish boring head**
  - – 62 305 302
- ▲ **3 insert holders**
  - – 62 438 138 Ø 86 – Ø 138 mm
  - – 62 438 220 Ø 136 – Ø 220 mm
  - – 62 438 302 Ø 188 – Ø 302 mm
- ▲ **2 pressure plates and 2 supports**
  - – 62 950 149
  - – 62 950 150
  - – 62 950 152
  - – 62 950 153
- ▲ **1 Allen key – SW5**
- ▲ **1 Torx key – T15**



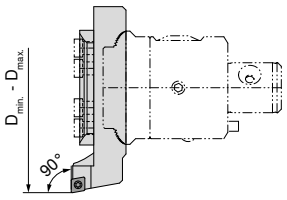
STM
Analog

D_{min} - D_{max} mm	Adapter	FI 62 439 ...
86 - 302	STM 36	**999**

CoreLine – Insert holder

- ▲ For single point finish boring heads
- ▲ Approach angle 90°

Scope of supply:
Incl. pressure plate and support





D_{min} - D_{max} mm	Indexable insert	FI 62 438 ...
86 - 138	CC.. 09T3	**138**
136 - 220	CC.. 09T3	**220**
188 - 302	CC.. 09T3	**302**
242 - 402	CC.. 09T3	**402**

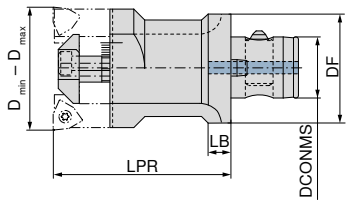
→ Find suitable indexable inserts here.

Spare parts for article number		 TORX® screw FI 62 950 ...		 Screwdriver AS 80 950 ...	 Pressure plate FI 62 950 ...	 Support FI 62 950 ...
62 438 138	M4x9 - T15	**023**	T15	**113**	**152**	**149**
62 438 220	M4x9 - T15	**023**	T15	**113**	**153**	**150**
62 438 302	M4x9 - T15	**023**	T15	**113**	**153**	**150**
62 438 402	M4x9 - T15	**023**	T15	**113**	**153**	**150**

SpinTools – Base body – Twin G01

Scope of supply:
Base body incl. clamping plate, adjustment screws, and fixing screws
Order tool holder (indexable insert seating) and indexable inserts separately

ABS





ABS Modular Long



ABS Modular Short

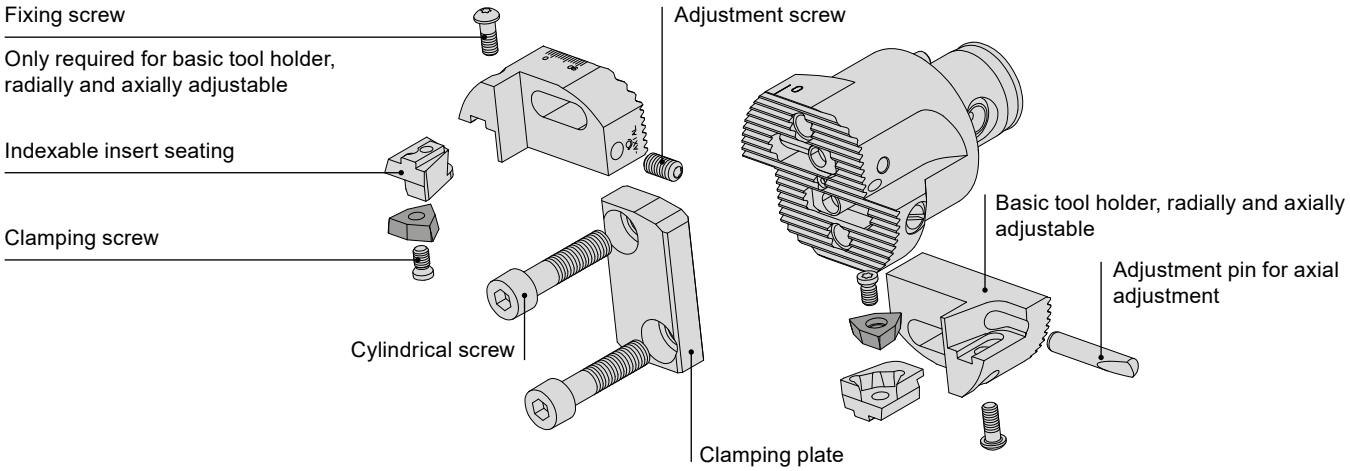
D_{min} - D_{max} mm	Product Reference No.	DCONMS mm	DF mm	Adapter	LPR mm	LB mm	WT kg	FI 62 870 ...	FI 62 870 ...
24 - 32	G01 70552	13	25	ABS 25	45	5.5	0.11		**03290**
24 - 32	G01 71072	16	32	ABS 32	70	8.1	0.21	**13289**	
30 - 41	G01 70562	13	25	ABS 25	50		0.12		**04190**
30 - 41	G01 71132	16	32	ABS 32	85	7.5	0.30	**14189**	
39 - 53	G01 71022	16	32	ABS 32	60		0.29		**05389**
39 - 53	G01 71622	20	40	ABS 40	120	7.2	0.68	**15388**	
51 - 71	G01 71522	20	40	ABS 40	60		0.44		**07188**
51 - 71	G01 72122	28	50	ABS 50	135	10.0	1.24	**17197**	
64 - 91	G01 72022	28	50	ABS 50	70		0.82		**09197**
64 - 91	G01 72622	34	63	ABS 63	155	12.2	2.25	**19196**	
83 - 124	G01 72522	34	63	ABS 63	70		1.35		**12496**
83 - 124	G01 73122	46	80	ABS 80	155	16.5	3.80	**12592**	
109 - 167	G01 73032	46	80	ABS 80	90		3.10		**16792** [1]
109 - 167	G01 73042	46	80	ABS 80	175		6.20	**16892** [1]	
139 - 215	G01 73562	56	100	ABS 100	125		6.47		**21591** [1]
139 - 215	G01 73572	56	100	ABS 100	240		13.25	**21691** [1]	

1) Diameter range can only be achieved with Twin G01 basic tool holder (radially + axially adjustable) and corresponding indexable insert seating!

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.

Spare parts



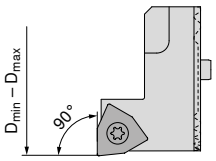
Spare parts for article number		 Adjustment screw FI 10 950 ...	 clamping plate FI 62 950 ...	 Set CT 84 950 ...		 Fixing screw FI 10 950 ...
62 870 03290	M2,5X5.SW1,3	16500	46900	98900	M2x4,5 - T06	15800
62 870 13289	M2,5X5.SW1,3	16500	46900	98800	M2x4,5 - T06	15800
62 870 04190	M2,5X5.SW1,3	16500	47000	98900	M2,5x5,3 - T08	15900
62 870 14189	M2,5X5.SW1,3	16500	47000	98800	M2,5x5,3 - T08	15900
62 870 05389	M4x8 - SW2	11100	47100	98800	M2,5x7 - T08	16000
62 870 15388	M4x8 - SW2	11100	47100	98700	M2,5x7 - T08	16000
62 870 07188	M4x10 - SW2	11200	47200	98700	M3,5x9,4 - T10	16300
62 870 17197	M4x10 - SW2	11200	47200	99900	M3,5x9,4 - T10	16300
62 870 09197	M6X12 SW3	16100	47300	99900	M4,5x11,5 - T15	13500
62 870 19196	M6X12 SW3	16100	47300	98600	M4,5x11,5 - T15	13500
62 870 12496	M6X20 SW3	16200	47400	98600	M5x12 - SW2,5	11000
62 870 12592	M6X20 SW3	16200	47400	98500	M5x12 - SW2,5	11000
62 870 16792	M8X20.SW4	16600	47500	98500		
62 870 16892	M8X20.SW4	16600	47500	98500		
62 870 21591	M10X20 DIN 913	17500	47700	98400	M6x20 Sw5	17600
62 870 21691	M10X20 DIN 913	17500	47700	98400	M6x20 Sw5	17600

Spare parts for article number		 Cylindrical screw FI 62 950 ...		 Cylindrical screw FI 62 950 ...	 Adjustment pin FI 62 950 ...
62 870 03290	M3X16	46000			46200
62 870 13289	M3X16	46000			46200
62 870 04190	M4X20	45500			46300
62 870 14189	M4X20	45500			46300
62 870 05389	M5X25	45600			46400
62 870 15388	M5X25	45600			46400
62 870 07188	M6X30	45700			46500
62 870 17197	M6X30	45700			46500
62 870 09197	M8X35	45800			46600
62 870 19196	M8X35	45800			46600
62 870 12496	M8X45	45900			46700
62 870 12592	M8X45	45900			46700
62 870 16792	M10X50	46100	M5x16	00000	46800
62 870 16892	M10X50	46100	M5x16	00000	46800
62 870 21591	M12x60	47600			47800
62 870 21691	M12x60	47600			47800

SpinTools – Tool holder 90° – Twin G01

▲ Radially adjustable

Scope of supply:
1x tool holder incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 871 ...
24 - 32	G03 70330	WO.X 0403..	**03200**
30 - 41	G03 70141	WO.X 05T3..	**04100**
39 - 53	G03 70230	WO.X 05T3..	**05300**
51 - 71	G03 70240	WO.X 06T3..	**07100**
64 - 91	G03 70250	WO.X 0804..	**09100**
83 - 124	G03 70260	WO.X 1005..	**12400**

→ Find suitable indexable inserts here.

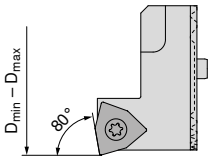

Clamping screw

Spare parts Indexable insert		AS 10 950 ...
WO.X 0403..	M2,2x5,5 - 06IP	**10700**
WO.X 05T3..	M2,5x7,2 - 08IP	**10500**
WO.X 06T3..	M3,5x7,3 - 10IP	**10600**
WO.X 0804..	M4,5x9 - 15IP	**12700**
WO.X 1005..	M4,5x9 - 15IP	**12700**

SpinTools – Tool holder 80° – Twin G01

▲ Radially adjustable

Scope of supply:
1x tool holder incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 875 ...
24 - 32	G03 80310	WO.X 0403..	**03200**
30 - 41	G03 80021	WO.X 05T3..	**04100**
39 - 53	G03 80090	WO.X 05T3..	**05300**
51 - 71	G03 80100	WO.X 06T3..	**07100**
64 - 91	G03 80110	WO.X 0804..	**09100**
83 - 124	G03 80120	WO.X 1005..	**12400**

→ Find suitable indexable inserts here.

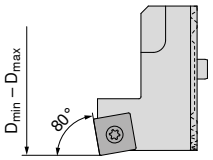

Clamping screw

Spare parts Indexable insert		AS 10 950 ...
WO.X 0403..	M2,2x5,5 - 06IP	**10700**
WO.X 05T3..	M2,5x7,2 - 08IP	**10500**
WO.X 06T3..	M3,5x7,3 - 10IP	**10600**
WO.X 0804..	M4,5x9 - 15IP	**12700**
WO.X 1005..	M4,5x9 - 15IP	**12700**

SpinTools – Tool holder 80° – Twin G01

▲ Radially adjustable

Scope of supply:
1x tool holder incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 876 ...
24 - 32	G03 80030	SOEX 060306	**03200**
30 - 41	G03 80040	SOEX 07T308	**04100**
39 - 53	G03 80050	SOEX 090408	**05300**
51 - 71	G03 80060	SOEX 090408	**07100**
64 - 91	G03 80070	SOEX 120508	**09100**
83 - 124	G03 80080	SOEX 120508	**12400**

→ Find suitable indexable inserts here.

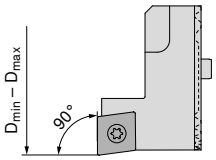

Clamping screw

Spare parts Indexable insert		AS 10 950 ...
SOEX 060306	M2,2x5,5 - 06IP	**10700**
SOEX 07T308	M2,5x6,3 - 08IP	**10800**
SOEX 090408	M3,5x7,5 - 15IP	**10300**
SOEX 120508	M4,5x10 - 20IP	**10400**

SpinTools – Tool holder 90° – Twin G01

▲ Radially adjustable
▲ Tightening torque refers to the clamping screw

Scope of supply:
1x tool holder incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	Tightening torque Nm	FI 62 883 ...
24 - 32	G03 70150	CC.T 060204	0,9	**03200**
30 - 41	G03 70160	CC.T 060204	0,9	**04100**
39 - 53	G03 70170	CC.T 09T304	2,8	**05300**
51 - 71	G03 70180	CC.T 09T304	2,8	**07100**
64 - 91	G03 70190	CC.T 120404	6,25	**09100**
83 - 124	G03 70200	CC.T 120404	6,25	**12400**

Suitable indexable inserts can be found in → indexable insert turning tools.

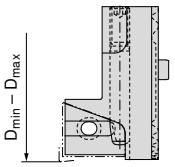


Clamping screw

Spare parts Indexable insert		AS 10 950 ...
CC.T 060204	M2,5x5,3 - 07IP	**18400**
CC.T 09T304	M3,5x7,5 - 15IP	**10300**
CC.T 120404	M4,5x10 - 20IP	**10400**

SpinTools – Basic tool holder, radially and axially adjustable – Twin G01

Scope of supply:
1x basic tool holder
Order indexable insert seating and indexable inserts separately



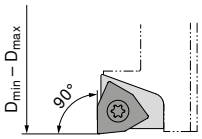


D_{min} - D_{max} mm	Product Reference No.	FI 62 872 ...
24 - 32	G03 70011	**03200**
30 - 41	G03 70021	**04100**
39 - 53	G03 70031	**05300**
51 - 71	G03 70041	**07100**
64 - 91	G03 70061	**09100**
83 - 124	G03 70071	**12400**
109 - 167	G03 70081	**16700**
139 - 215	G03 70091	**21500**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 873 ...
24 - 32	D54 60510	WO.X 0302..	**03200**
30 - 41	D54 60520	WO.X 0403..	**04100**
39 - 53	D54 60030	WO.X 05T3..	**05300**
51 - 71	D54 60040	WO.X 06T3..	**07100**
64 - 91	D54 60050	WO.X 0804..	**09100**
83 - 167	D54 60060	WO.X 1005..	**12400**
139 - 215	D54 60070	WO.X 1206..	**21500**

→ Find suitable indexable inserts here.

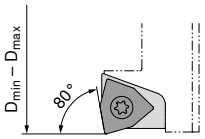

Clamping screw

Spare parts Indexable insert		AS 10 950 ...
WO.X 0302..	M2,0x4,3 - 06IP	**10000**
WO.X 0403..	M2,2x5,5 - 06IP	**10700**
WO.X 05T3..	M2,5x6,3 - 08IP	**10800**
WO.X 06T3..	M3,5x6,6 - 10IP	**16400**
WO.X 0804..	M4,5x9 - 15IP	**12700**
WO.X 1005..	M4,5x9 - 15IP	**12700**
WO.X 1206..	M5,5x11 - 20IP	**17400**

SpinTools – Indexable insert seating 80° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 874 ...
24 - 32	D54 60610	WO.X 0302..	**03200**
30 - 41	D54 60620	WO.X 0403..	**04100**
39 - 53	D54 60130	WO.X 05T3..	**05300**
51 - 71	D54 60140	WO.X 06T3..	**07100**
64 - 91	D54 60150	WO.X 0804..	**09100**
83 - 167	D54 60160	WO.X 1005..	**16700**
139 - 215	D54 60170	WO.X 1206..	**21500**

→ Find suitable indexable inserts here.

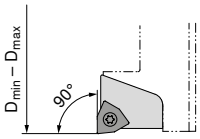

Clamping screw

Spare parts Indexable insert		AS 10 950 ...
WO.X 0302..	M2,0x4,3 - 06IP	**10000**
WO.X 0403..	M2,2x5,5 - 06IP	**10700**
WO.X 05T3..	M2,5x6,3 - 08IP	**10800**
WO.X 06T3..	M3,5x6,6 - 10IP	**16400**
WO.X 0804..	M4,5x9 - 15IP	**12700**
WO.X 1005..	M4,5x9 - 15IP	**12700**
WO.X 1206..	M5,5x11 - 20IP	**17400**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable
▲ Reduced indexable insert size for semi-cuts

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 879 ...
83 - 167	D54 60560	WO.X 05T3..	**16700**
139 - 215	D54 60570	WO.X 05T3..	**21500**

→ Find suitable indexable inserts here.


Key

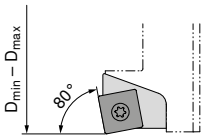

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WO.X 05T3..	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**

SpinTools – Indexable insert seating 80° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 880 ...
83 - 167	D54 60760	SOEX 1205..	**16700**
139 - 215	D54 60770	SOEX 1205..	**21500**

→ Find suitable indexable inserts here.


Key

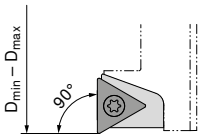

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
SOEX 1205..	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 877 ...
39 - 53	D54 60330	TO.X 0902..	**05300**
83 - 167	D54 60360	TO.X 1403..	**16700**

→ Find suitable indexable inserts here.


TORX® screw

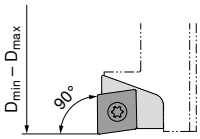

Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TO.X 0902..	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
TO.X 1403..	M3,5x6,2 - 10IP	**00003**	T10 - IP	**062**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 878 ...
83 - 167	D54 60460	CC.T 1204..	**16700**
139 - 215	D54 60470	CC.T 1204..	**21500**

Suitable indexable inserts can be found in → indexable insert turning tools.


Key

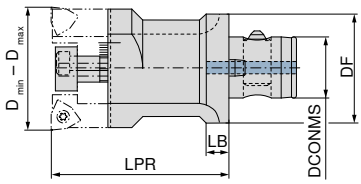

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
CC.T 1204..	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

SpinTools – Base body – Twin G04

Scope of supply:
Base body incl. clamping plate, adjustment screws, and fixing screws
Order tool holder and indexable inserts separately

ABS





ABS Modular Long



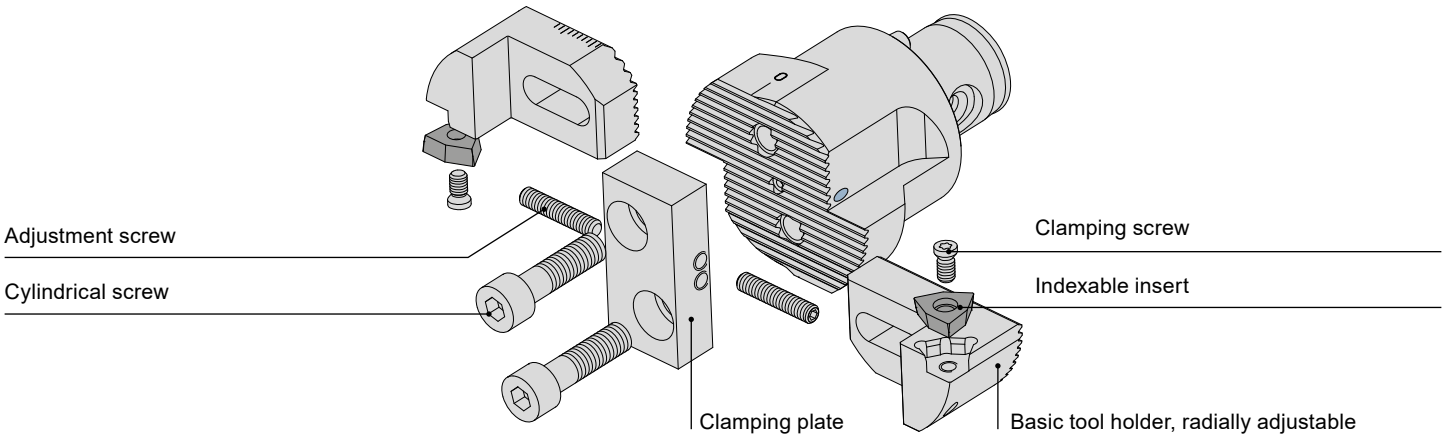
ABS Modular Short

D_{min} - D_{max} inch	Product Reference No.	DCONMS inch	DF inch	Adapter	LPR inch	LB inch	WT kg	FI 62 881 ...	FI 62 881 ...
1.181 - 1.575	G04 00500	0.512	0.984	ABS 25	1.969		0.130		**04190**
1.181 - 1.575	G04 01000	0.630	1.260	ABS 32	3.346	0.394	0.287	**44189**	
1.575 - 2.008	G04 01010	0.630	1.260	ABS 32	2.362		0.287		**05189**
1.575 - 2.008	G04 01500	0.787	1.575	ABS 40	4.724	0.394	0.664	**45188**	
2.008 - 2.677	G04 01510	0.787	1.575	ABS 40	2.362		0.428		**07188**
2.008 - 2.677	G04 02000	1.102	1.969	ABS 50	5.315	0.394	1.224	**47197**	
2.677 - 3.425	G04 02010	1.102	1.969	ABS 50	2.756		0.810		**09197**
2.677 - 3.425	G04 02020	1.102	1.969	ABS 50	5.315		2.225	**49197**	
3.425 - 4.567	G04 02500	1.339	2.480	ABS 63	2.756		1.337		**12196**
3.425 - 4.567	G04 02510	1.339	2.480	ABS 63	6.102		3.795	**52196**	
4.567 - 6.024	G04 03000	1.811	3.150	ABS 80	3.543		3.035		**15792**
4.567 - 6.024	G04 03010	1.811	3.150	ABS 80	6.890		6.050	**55792**	
6.024 - 8.031	G04 03500	2.205	3.937	ABS 100	4.921		6.220		**20491**

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.

Spare parts



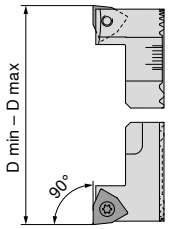
Spare parts for article number		 Adjustment screw	 clamping plate	 Set	 Positioning pin	 Pendulum bolt	 Coolant pipe
		FI	FI	CT	CT	CT	CT
		62 950 ...	62 950 ...	84 950 ...	84 950 ...	84 950 ...	84 950 ...
62 881 04190	M3x10 DIN913	53800	55000	98900			
62 881 44189	M3x10 DIN913	53800	55000	98800			
62 881 05189			55100	98800			
62 881 45188			55100	98700			
62 881 07188	M4x16 DIN913	53900	55200	98700			
62 881 47197	M4x16 DIN913	53900	55200	99900			
62 881 09197	M5x25 DIN913	54000	55300	99900	20200	20000	20100
62 881 49197	M5x25 DIN913	54000	55300	99900			
62 881 12196	M8x35 DIN913	54100	55400	98600			
62 881 52196	M8x35 DIN913	54100	55400	98600			
62 881 15792	M8x50 DIN913	54200	55500	98500			
62 881 55792	M8x50 DIN913	54200	55500	98500			
62 881 20491	M10x80 DIN913	54300	55600	98400			

Spare parts for article number			 Cylindrical screw		 Cylindrical screw		 Adjustment screw
			CT		FI		AS
			84 950 ...		62 950 ...		10 950 ...
62 881 04190				M4X20	45500		
62 881 44189				M4X20	45500		
62 881 05189				M5X25	45600	M4x10 - SW2	11200
62 881 45188				M5X25	45600	M4x10 - SW2	11200
62 881 07188				M6X25	54400		
62 881 47197				M6X25	54400		
62 881 09197		M8X30	42600				
62 881 49197		M8X30	42600				
62 881 12196				M10X35	54500		
62 881 52196				M10X35	54500		
62 881 15792				M12X45	54600		
62 881 55792				M12X45	54600		
62 881 20491				M16X55	54700		

SpinTools – Tool holder 90° – Twin G04

▲ radially adjustable

Scope of supply:
Pair of blade carriers with clamping screws
Please order indexable inserts separately





D_{min} - D_{max} inch	D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 67 871 ...
1.181 - 1.614	30 - 41	G03 60410	WO.X 05T3..	**04100**
1.535 - 2.008	39 - 51	G03 60420	WO.X 06T3..	**05100**
1.929 - 2.795	49 - 71	G03 60430	WO.X 06T3..	**07100**
2.520 - 3.583	64 - 91	G03 60440	WO.X 0804..	**09800**
3.268 - 4.764	83 - 121	G03 60450	WO.X 1005..	**12100**
4.291 - 6.181	109 - 157	G03 60460	WO.X 1005..	**15700**
5.472 - 8.031	139 - 204	G03 60470	WO.X 1206..	**20400**

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.


Screwdriver

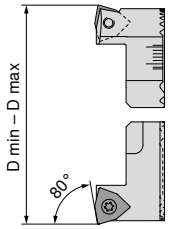

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WO.X 05T3..	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
WO.X 06T3..	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WO.X 0804..	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WO.X 1005..	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WO.X 1206..	T20 - IP	**121**	M5,5x11 - 20IP	**17400**

SpinTools – Tool holder 80° – Twin G04

▲ radially adjustable

Scope of supply:
Pair of blade carriers with clamping screws
Please order indexable inserts separately





D_{min} - D_{max} inch	D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 67 875 ...
1.181 - 1.614	30 - 41	G03 50410	WO.X 05T3..	**04100**
1.535 - 2.008	39 - 51	G03 50420	WO.X 06T3..	**05100**
1.929 - 2.795	49 - 71	G03 50430	WO.X 06T3..	**07100**
2.520 - 3.583	64 - 91	G03 50440	WO.X 0804..	**09800**
3.268 - 4.764	83 - 121	G03 50450	WO.X 1005..	**12100**
4.291 - 6.181	109 - 157	G03 50460	WO.X 1005..	**15700**
5.472 - 8.031	139 - 204	G03 50470	WO.X 1206..	**20400**

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.


Screwdriver

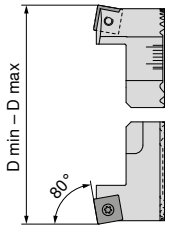

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WO.X 05T3..	T08 - IP	**039**	M2,5x7,2 - 08IP	**10500**
WO.X 06T3..	T10 - IP	**119**	M3,5x7,3 - 10IP	**10600**
WO.X 0804..	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WO.X 1005..	T15 - IP	**120**	M4,5x9 - 15IP	**12700**
WO.X 1206..	T20 - IP	**121**	M5,5x11 - 20IP	**17400**

SpinTools – Tool holder 80° – Twin G04

▲ radially adjustable

Scope of supply:
Pair of blade carriers with clamping screws
Please order indexable inserts separately





D_{min} - D_{max} inch	D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 67 872 ...
1.181 - 1.614	30 - 41	G03 80200	SOEX 07T308	**04100**
1.535 - 2.008	39 - 51	G03 80211	SOEX 090408	**05100** [1]
1.929 - 2.795	49 - 71	G03 80220	SOEX 090408	**07100**
2.520 - 3.583	64 - 91	G03 80230	SOEX 120508	**09800**
3.268 - 4.764	83 - 121	G03 80240	SOEX 120508	**12100**
4.291 - 6.181	109 - 157	G03 80250	SOEX 120508	**15700**
5.472 - 8.031	139 - 204	G03 80260	SOEX 120508	**20400**

1) Not in stock

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.


Screwdriver

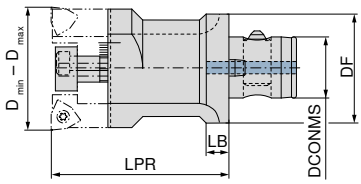

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
SOEX 07T308	T08 - IP	**039**	M2,5x6,3 - 08IP	**10800**
SOEX 090408	T15 - IP	**120**	M3,5x7,5 - 15IP	**10300**
SOEX 120508	T20 - IP	**121**	M4,5x10 - 20IP	**10400**

SpinTools – Base body – Twin G04

Scope of supply:
Base body incl. clamping plate, adjustment screws, and fixing screws
Order tool holder and indexable inserts separately

ABS





ABS Modular Long



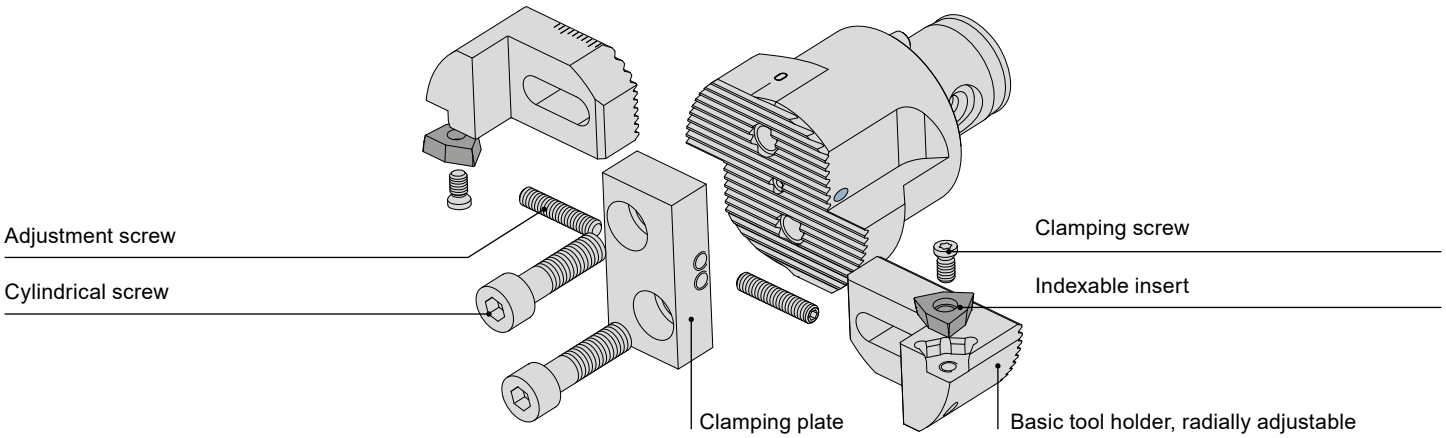
ABS Modular Short

D_{min} - D_{max} mm	Product Reference No.	DCONMS mm	DF mm	Adapter	LPR mm	LB mm	WT kg	FI 62 881 ...	FI 62 881 ...
30 - 41	G04 00500	13	25	ABS 25	50		0.130		**04190**
30 - 41	G04 01000	16	32	ABS 32	85	10	0.287	**44189**	
39 - 51	G04 01010	16	32	ABS 32	60		0.287		**05189**
39 - 51	G04 01500	20	40	ABS 40	120	10	0.664	**45188**	
49 - 71	G04 01510	20	40	ABS 40	60		0.428		**07188**
49 - 71	G04 02000	28	50	ABS 50	135	10	1.224	**47197**	
64 - 91	G04 02010	28	50	ABS 50	70		0.810		**09197**
64 - 91	G04 02020	28	50	ABS 50	135		2.225	**49197**	
83 - 121	G04 02500	34	63	ABS 63	70		1.337		**12196**
83 - 121	G04 02510	34	63	ABS 63	155		3.795	**52196**	
109 - 157	G04 03000	46	80	ABS 80	90		3.035		**15792**
109 - 157	G04 03010	46	80	ABS 80	175		6.050	**55792**	
139 - 204	G04 03500	56	100	ABS 100	125		6.220		**20491**

A detailed operating manual is available for download in the online shop next to the product.

ABS adapters can be found in → Adapters and accessories.

Spare parts



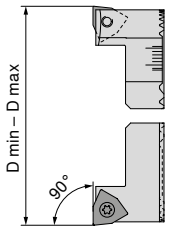
Spare parts for article number		 Adjustment screw	 clamping plate	 Set	 Positioning pin	 Pendulum bolt	 Coolant pipe
		FI	FI	CT	CT	CT	CT
		62 950 ...	62 950 ...	84 950 ...	84 950 ...	84 950 ...	84 950 ...
62 881 04190	M3x10 DIN913	53800	55000	98900			
62 881 44189	M3x10 DIN913	53800	55000	98800			
62 881 05189			55100	98800			
62 881 45188			55100	98700			
62 881 07188	M4x16 DIN913	53900	55200	98700			
62 881 47197	M4x16 DIN913	53900	55200	99900			
62 881 09197	M5x25 DIN913	54000	55300	99900	20200	20000	20100
62 881 49197	M5x25 DIN913	54000	55300	99900			
62 881 12196	M8x35 DIN913	54100	55400	98600			
62 881 52196	M8x35 DIN913	54100	55400	98600			
62 881 15792	M8x50 DIN913	54200	55500	98500			
62 881 55792	M8x50 DIN913	54200	55500	98500			
62 881 20491	M10x80 DIN913	54300	55600	98400			

Spare parts for article number			 Cylindrical screw		 Cylindrical screw		 Adjustment screw
			CT		FI		AS
			84 950 ...		62 950 ...		10 950 ...
62 881 04190				M4X20	45500		
62 881 44189				M4X20	45500		
62 881 05189				M5X25	45600	M4x10 - SW2	11200
62 881 45188				M5X25	45600	M4x10 - SW2	11200
62 881 07188				M6X25	54400		
62 881 47197				M6X25	54400		
62 881 09197		M8X30	42600				
62 881 49197		M8X30	42600				
62 881 12196				M10X35	54500		
62 881 52196				M10X35	54500		
62 881 15792				M12X45	54600		
62 881 55792				M12X45	54600		
62 881 20491				M16X55	54700		

SpinTools – Pair of blade carriers 90° – Twin G04

▲ Radially adjustable
▲ Tightening torque refers to the clamping screw

Scope of supply:
Pair of blade carriers with clamping screws
Please order indexable inserts separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	Tightening torque Nm	FI 62 881 ...
30 - 41	G03 60510	WOEX 05T3..	1,28	**04100**
39 - 51	G03 60520	WOEX 06T3..	2,8	**05100**
49 - 71	G03 60530	WOEX 06T3..	2,8	**07100**
64 - 91	G03 60540	WOEX 0804..	6,25	**09100**
83 - 121	G03 60550	WOEX 1005..	6,25	**12100**
109 - 157	G03 60560	WOEX 1005..	6,25	**15700**
139 - 204	G03 60570	WOEX 1206..	6,25	**20400** [1]

1) Not in stock

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.


Key

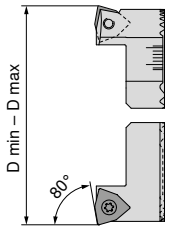

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 05T3..	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
WOEX 06T3..	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
WOEX 0804..	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
WOEX 1005..	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
WOEX 1206..	T20 - IP	**064**	M5,5x11 - 20IP	**17400**

SpinTools – Pair of blade carriers 80° – Twin G04

▲ Radially adjustable
▲ Tightening torque refers to the clamping screw

Scope of supply:
Pair of blade carriers with clamping screws
Please order indexable inserts separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	Tightening torque Nm	FI 62 882 ...
30 - 41	G03 50510	WOEX 05T3..	1,28	**04100**
39 - 51	G03 50520	WOEX 06T3..	2,8	**05100**
49 - 71	G03 50530	WOEX 06T3..	2,8	**07100**
64 - 91	G03 50540	WOEX 0804..	6,25	**09100**
83 - 121	G03 50550	WOEX 1005..	6,25	**12100** [1]
109 - 157	G03 50560	WOEX 1005..	6,25	**15700** [1]
139 - 204	G03 50570	WOEX 1206..	6,25	**20400** [1]

1) Not in stock

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.


Key

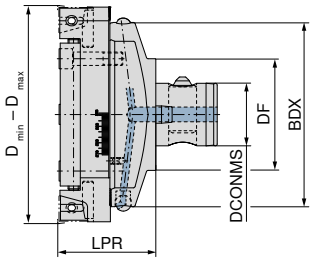

Clamping screw

Spare parts Indexable insert		AS 80 950 ...		AS 10 950 ...
WOEX 05T3..	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
WOEX 06T3..	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
WOEX 0804..	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
WOEX 1005..	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
WOEX 1206..	T20 - IP	**064**	M5,5x11 - 20IP	**17400**

SpinTools – Adjustable twin cutter 90° / 80° – Twin G01

Scope of supply:
Base body, clamping plate, adjustment and fixing screws, pair of holders with axial adjustment pin and grub screw

ABS





ABS Modular

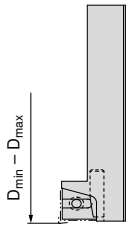
D_{min} - D_{max} mm	Product Reference No.	DCONMS mm	DF mm	BDX mm	Adapter	LPR mm	WT kg	FI 62 841 ...
196 - 271	G01 63532	56	100	165	ABS 100	88	9.15	**27191**
261 - 335	G01 63542	56	100	230	ABS 100	88	11.04	**33591**

ABS adapters can be found in → Adapters and accessories.

Spare parts for article number	 Set CT 84 950 ...	 Positioning pin CT 84 950 ...	 Pendulum bolt CT 84 950 ...	 Coolant pipe CT 84 950 ...		 Set Screw FI 62 950 ...
62 841 27191	**98400**	**24100**	**26500**	**24900**	M5x20 DIN913	**54800**
62 841 33591	**98400**	**24100**	**26500**	**24900**	M5x20 DIN913	**54800**

SpinTools – Tool holder for adjustable twin cutter – Twin G01

Scope of supply:
Order indexable insert seating and indexable inserts separately





D_{min} - D_{max} mm	Product Reference No.	FI 62 842 ...
196 - 271	G03 10281	**27100**
261 - 335	G03 10291	**33500**

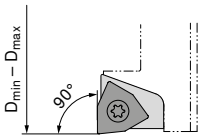

Set Screw

Spare parts for article number		FI 62 950 ...
62 842 27100	M5x20 DIN913	**54800**
62 842 33500	M5x20 DIN913	**54800**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





Product Reference No.	Indexable insert	FI 62 873 ...
D54 60070	WO.X 1206..	**21500**

→ Find suitable indexable inserts here.

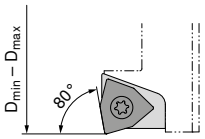

Clamping screw

Spare parts Indexable insert		FI 10 950 ...
WO.X 1206..	M5,5x11 - 20IP	**17400**

SpinTools – Indexable insert seating 80° – Twin G01

▲ Axially adjustable

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





Product Reference No.	Indexable insert	FI
D54 60170	WO.X 1206..	**62 874 ...** **21500**

→ Find suitable indexable inserts here.

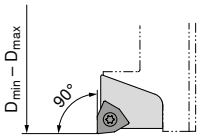

Clamping screw

Spare parts Indexable insert		FI
WO.X 1206..	M5,5x11 - 20IP	**10 950 ...** **17400**

SpinTools – Indexable insert seating 90° – Twin G01

▲ Axially adjustable
▲ Reduced indexable insert size for semi-cuts

Scope of supply:
1x indexable insert seating incl. clamping screw
Order indexable insert separately





Product Reference No.	Indexable insert	FI 62 879 ...
D54 60570	WO.X 05T3..	**21500**

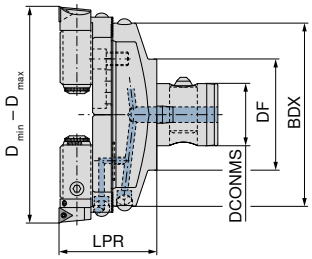
→ Find suitable indexable inserts here.

Spare parts Indexable insert		 Key AS 80 950 ...		 Clamping screw AS 10 950 ...
WO.X 05T3..	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**

SpinTools – Adjustable fine twin cutter 90° – Twin G01

Scope of supply:
Twin cutter with pair of holders, inserts, and clamping screws

ABS





ABS Modular

D_{min} - D_{max} mm	Product Reference No.	DCONMS mm	DF mm	BDX mm	Adapter	LPR mm	WT kg	FI 62 843 ...
196 - 271	G01 23511	56	100	165	ABS 100	88	7.60	**27191**
261 - 335	G01 23521	56	100	230	ABS 100	88	8.89	**33591**
326 - 401	G01 23531	56	100	295	ABS 100	88	10.65	**40191** 1)

1) Not in stock

ABS adapters can be found in → Adapters and accessories.



TORX® screw



Set



Positioning pin



Pendulum bolt

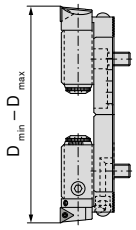


Coolant pipe

Spare parts for article number	FI 62 950 ...	CT 84 950 ...	CT 84 950 ...	CT 84 950 ...	CT 84 950 ...
62 843 27191	**12600**	**98400**	**24100**	**26500**	**24900**
62 843 33591	**12600**	**98400**	**24100**	**26500**	**24900**
62 843 40191	**12600**	**98400**	**24100**	**26500**	**24900**

SpinTools – Tool holder for adjustable twin cutter – Twin G01

Scope of supply:
Pair of holders with inserts and clamping screws
Order indexable inserts separately





D_{min} - D_{max} mm	Product Reference No.	Indexable insert	FI 62 844 ...
196 - 401	G01 23601	TO.X 1403..	**29500**

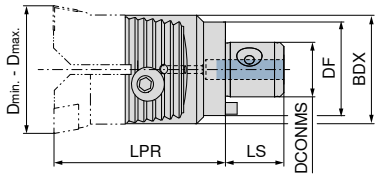
→ Find suitable indexable inserts here.

CoreLine – Boring head for roughing with 2 cutting edges – STM

▲ with through coolant

Scope of supply:
Boring head incl. driver, fixing screws, spring rings, drive dog screw, and stop pin

STM





STM Modular

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	LS mm	WT kg	FI 62 295 ...
23,5 - 30,5	STM 11	11	20	20	40	13	0.05	**030**
29,5 - 40,1	STM 14	14	25	25	45	16	0.09	**040**
39,5 - 50,5	STM 18	18	32	32	65	20	0.25	**050**
49,5 - 66,5	STM 22	22	42	40	72	24	0.38	**066**
65,5 - 87,5	STM 28	28	55	50	82	30	0.59	**087**

→ Here you will find the suitable base adapters.

A detailed operating manual is available for download in the online shop next to the product.


Fillister-head screw


Spring ring


Stop pin

Spare parts for article number		FI 62 950 ...		FI 62 950 ...	FI 62 950 ...
62 295 030	M4x8	**298**	Ø 4,3/7,3	**311**	**231**
62 295 040	M5x12	**293**	Ø 5,3/9,3	**312**	**231**
62 295 050	M6x16	**294**	Ø 6.4/10,2	**313**	**231**
62 295 066	M8x20	**295**	Ø 8,4/14,0	**314**	**234**
62 295 087	M10x25	**296**	Ø 10,5/17,0	**315**	**234**

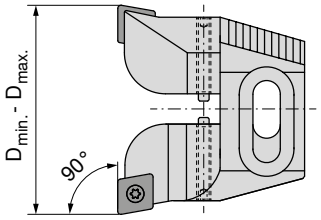

Drive pin screw


Drive pin

Spare parts for article number		FI 62 950 ...		FI 62 950 ...
62 295 030	M2x2,5	**162**	5x8,5x3	**035**
62 295 040	M2,5x6	**163**	6x10,3x4	**036**
62 295 050	M3x8	**164**	8x15x5	**037**
62 295 066	M4x10	**165**	10x18,1x6	**038**
62 295 087	M5x10	**166**	12x20x6	**039**

CoreLine – Pair of insert holders, standard, 90°

Scope of supply:
Adjustment screws, stop pin, insert clamping screws

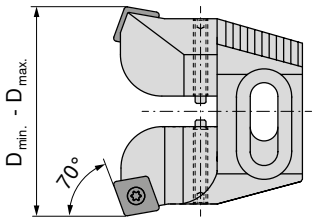




D_{min} - D_{max} mm	Indexable insert	FI 62 296 ...
23,5 - 30,5	CC.. 0602	030
29,5 - 40,1	CC.. 0602	040
39,5 - 50,5	CC.. 09T3	050
49,5 - 66,5	CC.. 09T3	066
65,5 - 87,5	CN.. 1204	088
65,5 - 87,5	CC.. 1204	087

CoreLine – Pair of insert holders, standard, 70°

Scope of supply:
Adjustment screws, stop pin, insert clamping screws



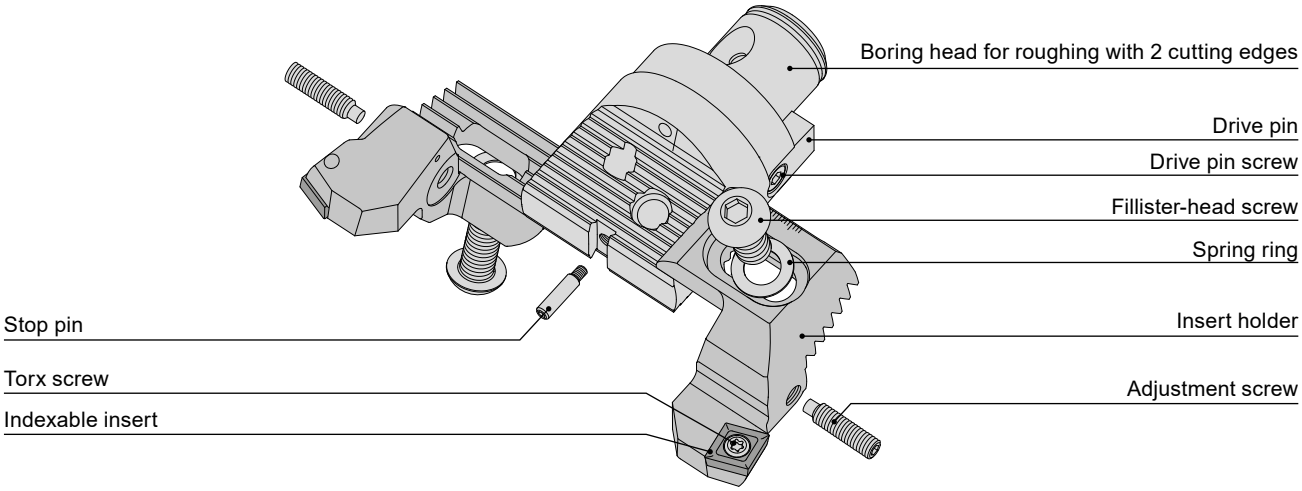


D_{min} - D_{max} mm	Indexable insert	FI 62 299 ...
23,5 - 30,5	CC.. 0602	030
29,5 - 40,1	CC.. 0602	040
39,5 - 50,5	CC.. 09T3	050
49,5 - 66,5	CC.. 09T3	066
65,5 - 87,5	CN.. 1204	088
65,5 - 87,5	CC.. 1204	087

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.

Spare parts

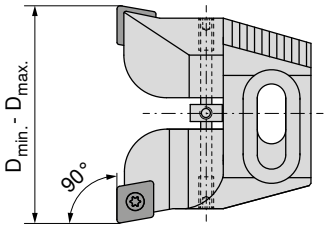


Spare parts D_{min} - D_{max}	Indexable insert		TORX® screw		Screwdriver		Adjustment screw
			FI		AS		FI
			62 950 ...		80 950 ...		62 950 ...
23,5 - 30,5	CC.. 0602	M2,5x6 - T07	**022**	T07	**109**	M4x0,5x7	**238**
29,5 - 40,1	CC.. 0602	M2,5x6 - T07	**022**	T07	**109**	M4x0,5x9,5	**239**
39,5 - 50,5	CC.. 09T3	M4x9 - T15	**023**	T15	**113**	M4x0,5x13	**240**
49,5 - 66,5	CC.. 09T3	M4x9 - T15	**023**	T15	**113**	M6x14	**241**
65,5 - 87,5	CC.. 1204	M5x10 - T20	**232**	T20	**114**	M6x20	**242**

Spare parts D_{min} - D_{max}	Indexable insert	Shim	Toggle lever screw	Toggle lever	Carbide seat C		Adjustment screw
		FI	FI	FI	FI		FI
		62 950 ...	62 950 ...	62 950 ...	62 950 ...		62 950 ...
65,5 - 87,5	CN.. 1204	**096**	**136**	**125**	**117**	M6x20	**242**

CoreLine – Pair of insert holders, "Synchro", 90°

Scope of supply:
Insert clamping screws, synchronization screw





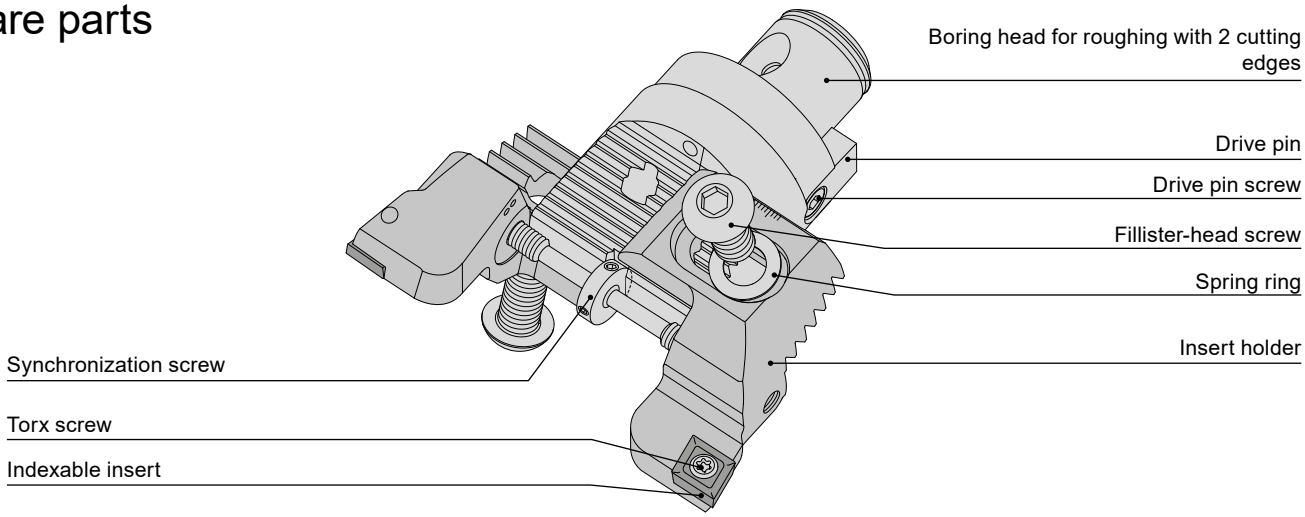
D_{min} - D_{max} mm	Indexable insert	FI 62 297 ...
23,5 - 30,5	CC.. 0602	**030**
29,5 - 40,1	CC.. 0602	**040**
39,5 - 50,5	CC.. 09T3	**050**
49,5 - 66,5	CC.. 09T3	**066**
65,5 - 87,5	CC.. 1204	**087**

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.

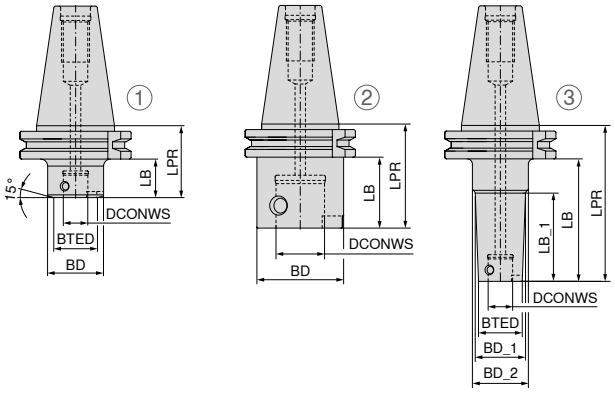
Spare parts for article number		 TORX® screw FI 62 950 ...		 Synchronization screw FI 62 950 ...		 Screwdriver AS 80 950 ...
62 297 030	M2,5x6 - T07	**022**	M4x0,5x18	**207**	T07	**109**
62 297 040	M2,5x6 - T07	**022**	M4x0,5x23	**208**	T07	**109**
62 297 050	M4x9 - T15	**023**	M4x0,5x30	**209**	T15	**113**
62 297 066	M4x9 - T15	**023**	M6x40	**210**	T15	**113**
62 297 087	M5x10 - T20	**232**	M6x52	**211**	T20	**114**

Spare parts



CoreLine – Base adapter ISO 7388-1 (DIN 69871) – STM

STM







AD

	Adapter	Fig.	SZID	DCONWS mm	BTED mm	BD mm	BD_1 mm	BD_2 mm	LPR mm	LB mm	LB_1 mm	WT kg	FI 62 107 ...
Short	SK 40	1	STM 11	11	20	32			40	20.9		0.91	**111** [1]
	SK 40	1	STM 14	14	25	32			40	20.9		0.93	**114** [1]
	SK 40	2	STM 18	18		32			40	20.9		0.89	**118**
	SK 40	2	STM 22	22		40			50	30.9		1.02	**122**
	SK 40	2	STM 28	28		50			50	30.9		1.11	**128**
	SK 40	2	STM 36	36		63			60	40.9		1.27	**136**
	SK 50	2	STM 28	28		50			50	30.9		2.92	**428**
	SK 50	2	STM 36	36		63			63	43.9		3.27	**436**
Long	SK 40	3	STM 11	11	20		23	32	80	60.9	40.9	1.04	**211** [1]
	SK 40	3	STM 14	14	25		28	32	80	60.9	40.9	1.07	**214** [1]
	SK 40	2	STM 18	18		32			80	60.9		1.13	**218**
	SK 40	2	STM 22	22		40			100	80.9		1.47	**222**
	SK 40	2	STM 28	28		50			100	80.9		1.84	**228**
	SK 40	2	STM 36	36		63			120	100.9		2.68	**236**
	SK 50	2	STM 36	36		63			120	100.9		4.60	**536**

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

Suitable pull studs can be found in → Adapters and accessories.

ABS adapters can be found in → Adapters and accessories.



O ring



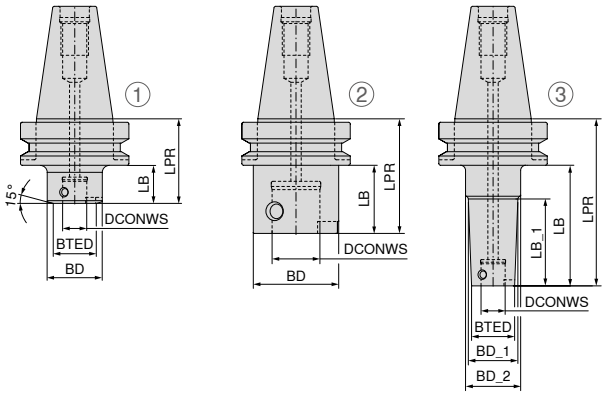
Clamping screw ST

Spare parts DCONWS		FI 62 950 ...		FI 62 950 ...
11	9x1,5	**254**	M4x0,5x6	**026**
14	12x1,5	**255**	M5x0,5x7,5	**027**
18	16x1,5	**256**	M6x0,75x9,5	**028**
22	19x2	**257**	M8x0,75x12	**029**
28	25x2	**258**	M10x1x14,2	**030**
36	33x2	**259**	M12x1x18	**031**

CoreLine – Base adapter ISO 7388-2 (JIS B 6339 / MAS-BT) – STM

▲ Form B available upon request

STM







AD

	Adapter	Fig.	SZID	DCONWS mm	BTED mm	BD mm	BD_1 mm	BD_2 mm	LPR mm	LB mm	LB_1 mm	WT kg	FI 62 112 ...
Short	BT 30	2	STM 28	28		50			55			0.64	328
	BT 40	1	STM 11	11	20	32			50	23		1.09	111 1)
	BT 40	1	STM 14	14	25	32			50	23		1.08	114 1)
	BT 40	2	STM 18	18		32			50	23		1.06	118
	BT 40	2	STM 22	22		40			50	23		1.10	122
	BT 40	2	STM 28	28		50			50	23		1.14	128
	BT 40	2	STM 36	36		63			60	33		1.38	136
	BT 50	2	STM 28	28		50			63	25		3.75	428
	BT 50	2	STM 36	36		63			63	25		3.78	436
Long	BT 40	3	STM 11	11	20		23	32	90	63	43	1.20	211 1)
	BT 40	3	STM 14	14	25		28	32	90	63	43	1.24	214 1)
	BT 40	2	STM 18	18		32			90	63		1.30	218
	BT 40	2	STM 22	22		40			100	73		1.57	222
	BT 40	2	STM 28	28		50			100	73		1.87	228
	BT 40	2	STM 36	36		63			120	93		2.78	236
	BT 50	2	STM 36	36		63			120	82		5.18	536

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

Suitable pull studs can be found in → Adapters and accessories.

ABS adapters can be found in → Adapters and accessories.



O ring

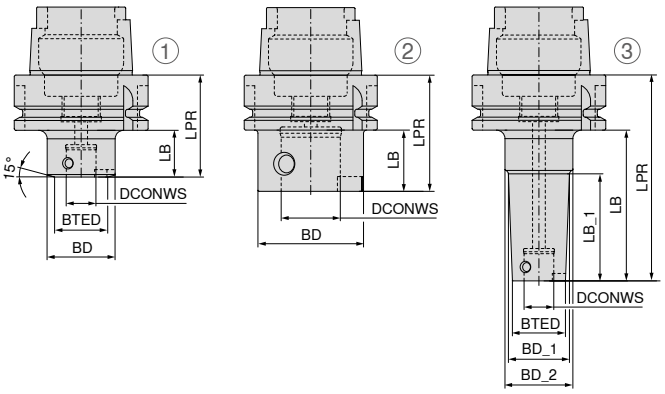


Clamping screw ST

Spare parts DCONWS		FI 62 950 ...		FI 62 950 ...
11	9x1,5	254	M4x0,5x6	026
14	12x1,5	255	M5x0,5x7,5	027
18	16x1,5	256	M6x0,75x9,5	028
22	19x2	257	M8x0,75x12	029
28	25x2	258	M10x1x14,2	030
36	33x2	259	M12x1x18	031

CoreLine – Base adapter HSK-A ISO 12164-1 (DIN 69893-1) – STM

STM







AD

	Adapter	Fig.	SZID	DCONWS mm	BTED mm	BD mm	BD_1 mm	BD_2 mm	LPR mm	LB mm	LB_1 mm	WT kg	FI 62 122 ...
Short	HSK-A 63	1	STM 11	11	20	32			50	24		0.77	111 [1]
	HSK-A 63	1	STM 14	14	25	32			50	24		0.76	114 [1]
	HSK-A 63	2	STM 18	18		32			50	24		0.74	118
	HSK-A 63	2	STM 22	22		40			50	24		0.79	122
	HSK-A 63	2	STM 28	28		50			55	24		0.91	128
	HSK-A 63	2	STM 36	36		63			65	34		1.10	136
	HSK-A 100	2	STM 28	28		50			63	34		2.32	428
	HSK-A 100	2	STM 36	36		63			70	34		2.61	436
Long	HSK-A 63	3	STM 11	11	20		23	32	90	64	44	0.87	211 [1]
	HSK-A 63	3	STM 14	14	25		28	32	90	64	44	0.93	214 [1]
	HSK-A 63	2	STM 18	18		32			90	64		0.98	218
	HSK-A 63	2	STM 22	22		40			100	74		1.26	222
	HSK-A 63	2	STM 28	28		50			100	74		1.58	228
	HSK-A 63	2	STM 36	36		63			120	94		2.41	236

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

ABS adapters can be found in → Adapters and accessories.



O ring



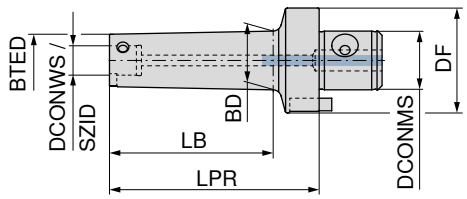
Clamping screw ST

Spare parts DCONWS		FI 62 950 ...		FI 62 950 ...
11	9x1,5	254	M4x0,5x6	026
14	12x1,5	255	M5x0,5x7,5	027
18	16x1,5	256	M6x0,75x9,5	028
22	19x2	257	M8x0,75x12	029
28	25x2	258	M10x1x14,2	030
36	33x2	259	M12x1x18	031

CoreLine – Reduction – STM

▲ with through coolant

STM





STM Modular

Adapter	LPR mm	SZID	DCONMS mm	DCONWS mm	DF mm	BTED mm	BD mm	LB mm	WT kg	FI 62 357 ...
STM 14	30	STM 11	14	11	25	20	23	15	0.04	**111**
STM 18	30	STM 11	18	11	32	20	23	17	0.14	**211**
STM 18	30	STM 14	18	14	32	25	28	17	0.16	**214**
STM 22	30	STM 11	22	11	40	20	23	15	0.21	**311**
STM 22	30	STM 14	22	14	40	25	28	15	0.22	**314**
STM 22	30	STM 18	22	18	40	32	37	15	0.25	**318**
STM 28	40	STM 11	28	11	50	20	23	20	0.44	**411**
STM 28	40	STM 14	28	14	50	25	28	20	0.49	**414**
STM 28	40	STM 18	28	18	50	32	37	20	0.45	**418**
STM 28	40	STM 22	28	22	50	40	46	20	0.55	**422**
STM 36	40	STM 11	36	11	63	20	22	16	0.82	**511**
STM 36	70	STM 11	36	11	63	20	23	42	0.90	**811**
STM 36	95	STM 11	36	11	63	20	23	71	0.98	**611**
STM 36	115	STM 11	36	11	63	20	23	87	1.02	**911**
STM 36	135	STM 11	36	11	63	20	23	111	1.08	**711**
STM 36	40	STM 14	36	14	63	25	27	16	0.84	**514**
STM 36	80	STM 14	36	14	63	25	28	52	1.00	**814**
STM 36	120	STM 14	36	14	63	25	28	96	1.16	**614**
STM 36	145	STM 14	36	14	63	25	28	117	1.27	**914**
STM 36	170	STM 14	36	14	63	25	28	146	1.38	**714**
STM 36	40	STM 18	36	18	63	32	37	16	0.85	**518**
STM 36	100	STM 18	36	18	63	32	38	74	1.24	**818**
STM 36	150	STM 18	36	18	63	32	38	126	1.66	**918**
STM 36	207	STM 18	36	18	63	32	38	183	2.07	**618**
STM 36	40	STM 22	36	22	63	40	46	16	0.89	**522**
STM 36	120	STM 22	36	22	63	40	48	95	1.76	**822**
STM 36	183	STM 22	36	22	63	40	48	159	2.52	**622**
STM 36	263	STM 22	36	22	63	40	48	239	3.44	**722**
STM 36	40	STM 28	36	28	63	50	58	21	1.03	**528**
STM 36	140	STM 28	36	28	63	50	60	117	2.70	**828**
STM 36	233	STM 28	36	28	63	50	60	209	4.41	**628**
STM 36	333	STM 28	36	28	63	50	60	309	6.25	**728**

ABS reductions can be found in → Adapters and accessories.

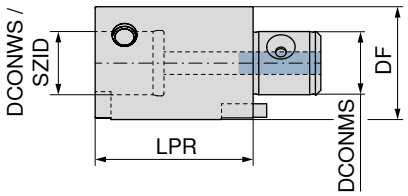
Reductions – Spare Parts

Spare parts for article number		 O ring		 Drive pin screw		 Drive pin		 Clamping screw ST
		FI		FI		FI		FI
		62 950 ...		62 950 ...		62 950 ...		62 950 ...
62 357 111	9x1,5	254	M2,5x6	163	6x10,3x4	036	M4x0,5x6	026
62 357 211	9x1,5	254	M3x8	164	8x15x5	037	M4x0,5x6	026
62 357 214	12x1,5	255	M3x8	164	8x15x5	037	M5x0,5x7,5	027
62 357 311	9x1,5	254	M4x10	165	10x18,1x6	038	M4x0,5x6	026
62 357 314	12x1,5	255	M4x10	165	10x18,1x6	038	M5x0,5x7,5	027
62 357 318	16x1,5	256	M4x10	165	10x18,1x6	038	M6x0,75x9,5	028
62 357 411	9x1,5	254	M5x10	166	12x20x6	039	M4x0,5x6	026
62 357 414	12x1,5	255	M5x10	166	12x20x6	039	M5x0,5x7,5	027
62 357 418	16x1,5	256	M5x10	166	12x20x6	039	M6x0,75x9,5	028
62 357 422	19x2	257	M5x10	166	12x20x6	039	M8x0,75x12	029
62 357 511	9x1,5	254	M6x12	167	16x26,5x8	040	M4x0,5x6	026
62 357 811	9x1,5	254	M6x12	167	16x26,5x8	040	M4x0,5x6	026
62 357 611	9x1,5	254	M6x12	167	16x26,5x8	040	M4x0,5x6	026
62 357 911	9x1,5	254	M6x12	167	16x26,5x8	040	M4x0,5x6	026
62 357 711	9x1,5	254	M6x12	167	16x26,5x8	040	M4x0,5x6	026
62 357 514	12x1,5	255	M6x12	167	16x26,5x8	040	M5x0,5x7,5	027
62 357 814	12x1,5	255	M6x12	167	16x26,5x8	040	M5x0,5x7,5	027
62 357 614	12x1,5	255	M6x12	167	16x26,5x8	040	M5x0,5x7,5	027
62 357 914	12x1,5	255	M6x12	167	16x26,5x8	040	M5x0,5x7,5	027
62 357 714	12x1,5	255	M6x12	167	16x26,5x8	040	M5x0,5x7,5	027
62 357 518	16x1,5	256	M6x12	167	16x26,5x8	040	M6x0,75x9,5	028
62 357 818	16x1,5	256	M6x12	167	16x26,5x8	040	M6x0,75x9,5	028
62 357 918	16x1,5	256	M6x12	167	16x26,5x8	040	M6x0,75x9,5	028
62 357 618	16x1,5	256	M6x12	167	16x26,5x8	040	M6x0,75x9,5	028
62 357 522	19x2	257	M6x12	167	16x26,5x8	040	M8x0,75x12	029
62 357 822	19x2	257	M6x12	167	16x26,5x8	040	M8x0,75x12	029
62 357 622	19x2	257	M6x12	167	16x26,5x8	040	M8x0,75x12	029
62 357 722	19x2	257	M6x12	167	16x26,5x8	040	M8x0,75x12	029
62 357 528	25x2	258	M6x12	167	16x26,5x8	040	M10x1x14,2	030
62 357 828	25x2	258	M6x12	167	16x26,5x8	040	M10x1x14,2	030
62 357 628	25x2	258	M6x12	167	16x26,5x8	040	M10x1x14,2	030
62 357 728	25x2	258	M6x12	167	16x26,5x8	040	M10x1x14,2	030

CoreLine – Extension – STM

▲ with through coolant

STM





STM Modular

Adapter	LPR mm	SZID	DCONWS mm	DF mm	DCONMS mm	WT kg	FI 62 351 ...
STM 11	25	STM 11	11	20	11	0.06	**111**
STM 11	35	STM 11	11	20	11	0.09	**211**
STM 14	30	STM 14	14	25	14	0.11	**114**
STM 14	45	STM 14	14	25	14	0.17	**214**
STM 18	40	STM 18	18	32	18	0.23	**118**
STM 18	60	STM 18	18	32	18	0.35	**218**
STM 22	50	STM 22	22	40	22	0.45	**122**
STM 22	80	STM 22	22	40	22	0.73	**222**
STM 28	50	STM 28	28	50	28	0.71	**128**
STM 28	75	STM 28	28	50	28	1.07	**228**
STM 28	100	STM 28	28	50	28	1.44	**328**
STM 36	60	STM 36	36	63	36	1.33	**136**
STM 36	90	STM 36	36	63	36	2.02	**236**
STM 36	120	STM 36	36	63	36	2.72	**336**

ABS extensions can be found in → Adapters and accessories.



O ring



Drive pin screw



Drive pin



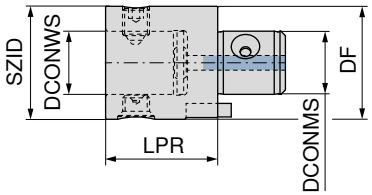
Clamping screw ST

Spare parts DCONWS		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
11	9x1,5	**254**	M2x2,5	**162**	5x8,5x3	**035**	M4x0,5x6	**026**
14	12x1,5	**255**	M2,5x6	**163**	6x10,3x4	**036**	M5x0,5x7,5	**027**
18	16x1,5	**256**	M3x8	**164**	8x15x5	**037**	M6x0,75x9,5	**028**
22	19x2	**257**	M4x10	**165**	10x18,1x6	**038**	M8x0,75x12	**029**
28	25x2	**258**	M5x10	**166**	12x20x6	**039**	M10x1x14,2	**030**
36	33x2	**259**	M6x12	**167**	16x26,5x8	**040**	M12x1x18	**031**

SpinTools – STM/ABS adapter – STM

▲ using this adapter, ABS core drilling and precision boring systems can be accommodated reliably and precisely in STM base adapters
▲ with through coolant supply

STM





STM Modular

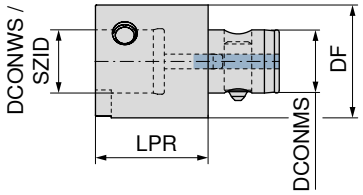
Adapter	LPR mm	SZID	DCONWS mm	DF mm	DCONMS mm	FI 62 359 ...
STM 14	35	ABS 25	13	25	14	**02519**
STM 18	40	ABS 32	16	32	18	**03218**
STM 22	45	ABS 40	20	40	22	**04017**
STM 28	50	ABS 50	28	50	28	**05016**
STM 36	60	ABS 63	34	63	36	**06315**

Spare parts DCONWS		 Clamping screw CT 62 950 ...	 Clamping screw CT 84 950 ...		 Drive pin FI 62 950 ...	 Taper screw CT 84 950 ...
13			**26800**	6x10,3x4	**036**	**27000**
16	M8x1x12/SW4	**13989**		8x15x5	**037**	**27100**
20			**26900**	10x18,1x6	**038**	**27200**
28			**20300**	12x20x6	**039**	**20400**
34			**25500**	16x26,5x8	**040**	**27300**

SpinTools – ABS/STM adapter – ABS

▲ using this adapter, STM core drilling and precision boring systems can be accommodated reliably and precisely in ABS base adapters
▲ with through coolant supply

ABS





ABS Modular

Adapter	LPR mm	SZID	DCONWS mm	DF mm	DCONMS mm	FI 62 359 ...
ABS 25	30	STM 14	14	25	13	**02590**
ABS 32	40	STM 18	18	32	16	**03289**
ABS 40	40	STM 22	22	40	20	**04088**
ABS 50	50	STM 28	28	50	28	**05097**
ABS 63	60	STM 36	36	63	34	**06396**


Set


Positioning pin


Pendulum bolt


Coolant pipe

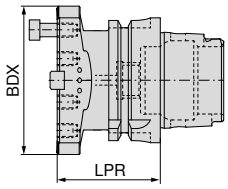

Clamping screw ST

Spare parts DCONWS	CT 84 950 ...	CT 84 950 ...	CT 84 950 ...	CT 84 950 ...		FI 62 950 ...
14	**98900**	**23600**	**26000**	**24400**	M5x0,5x7,5	**027**
18	**98800**	**23700**	**26100**	**24500**	M6x0,75x9,5	**028**
22	**98700**	**23800**	**26200**	**24600**	M8x0,75x12	**029**
28	**99900**	**20200**	**20000**	**20100**	M10x1x14,2	**030**
36	**98600**	**23900**	**26300**	**24700**	M12x1x18	**031**

SpinTools – Base adapter for base plate

▲ with through coolant

Scope of supply:
Without coolant set





HSK-A

Adapter	LPR mm	BDX mm	WT kg	FI 62 392 ...
HSK-A 63	75	130	2.69	**063** [1]
HSK-A 100	75	130	4.43	**100** [1]

1) Not in stock

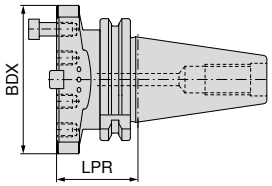
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number		 Clamping screw FI 62 950 ...		 Drive pin FI 62 950 ...		 Drive pin screw FI 62 950 ...
62 392 063	M12x25	**109**	16x16	**013**	M6x6	**108**
62 392 100	M12x25	**109**	16x16	**013**	M6x6	**108**

SpinTools – Base adapter for base plate

▲ with through coolant

Scope of supply:
Without coolant set





SK

Adapter	LPR mm	BDX mm	WT kg	FI 62 392 ...
SK 40	69.1	130	3.31	**040** [1]
SK 50	69.1	130	5.63	**050** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.



Clamping screw



Drive pin



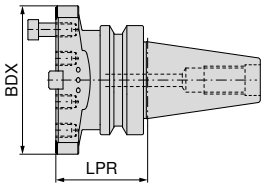
Drive pin screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 392 040	M12x25	**109**	16x16	**013**	M6x6	**108**
62 392 050	M12x25	**109**	16x16	**013**	M6x6	**108**

SpinTools – Base adapter for base plate

▲ with through coolant

Scope of supply:
Without coolant set





MAS-BT

Adapter	LPR mm	BDX mm	WT kg	FI 62 392 ...
BT 40	77	130	3.40	**140** [1]
BT 50	88	130	6.47	**150** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

Suitable pull studs can be found in → Adapters and accessories.



Clamping screw



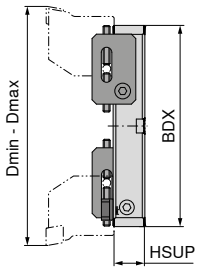
Drive pin



Drive pin screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 392 140	M12x25	**109**	16x16	**013**	M6x6	**108**
62 392 150	M12x25	**109**	16x16	**013**	M6x6	**108**

SpinTools – Base plate





D_{min} - D_{max} mm	HSUP mm	BDX mm	WT kg	FI 62 402 ...
150 - 205	30	130	1.94	**205** [1]
200 - 255	30	180	2.75	**255** [1]
250 - 305	35	230	4.01	**305** [1]
300 - 355	35	280	5.12	**355** [1]
350 - 405	40	330	6.86	**405** [1]
400 - 455	40	380	7.93	**455** [1]
450 - 505	40	430	9.20	**505** [1]
500 - 555	40	480	10.20	**555** [1]
550 - 605	50	530	13.90	**605** [1]
600 - 655	50	580	15.30	**655** [1]

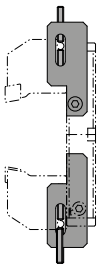
1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number		 Set Screw FI 62 950 ...		 Location pin FI 62 950 ...	 Spring FI 62 950 ...	 Setting plate FI 62 950 ...		 Stop pin FI 62 950 ...
62 402 205	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 255	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 305	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 355	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 405	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 455	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 505	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 555	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 605	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**
62 402 655	M18x45	**368**	Ø 6x14	**369**	**001**	**372**	Ø 8x28	**005**

Spare parts for article number		 Cylindrical screw FI 62 950 ...	 Clamping bolt FI 62 950 ...		 Ball FI 62 950 ...	 Taper screw FI 62 950 ...		 Polyamide grub screw FI 62 950 ...
62 402 205	M10x12	**370**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 255	M10x12	**370**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 305	M10x12	**370**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 355	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 405	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 455	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 505	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 555	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 605	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**
62 402 655	M10x18	**371**	**033**	Ø 10	**002**	**024**	M6x12	**367**

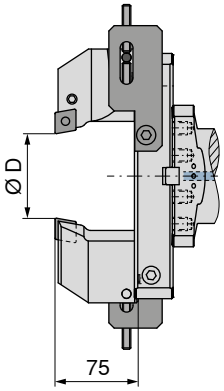
SpinTools – Setting plate for over turning





for	FI
	62 950 ...
62 402 255 - 655	373 [1]

1) Not in stock

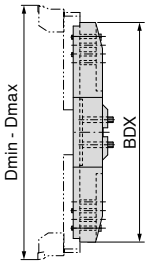


Base plate Article No.	Over turning Ø D mm
62 402 255	10 - 65
62 402 305	60 - 115
62 402 355	110 - 165
62 402 405	160 - 215
62 402 455	210 - 265
62 402 505	260 - 315
62 402 555	310 - 365
62 402 605	360 - 415
62 402 655	410 - 465

SpinTools – Base for elongation consoles

▲ For use on adapter Ø 60 DIN 6357
▲ Base made of aluminum

Scope of supply:
Without adapter and slide





D_{min} - D_{max} mm	BDX mm	WT kg	FI 62 405 ...
650 - 1105	630	20.1	**110** [1]
1100 - 1655	1080	28.8	**165** [1]
1650 - 2205	1630	43.7	**220** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

SpinTools – Slide for elongation console

▲ For use on base

Scope of supply:
2x slide without counterweight and boring block





D_{min} - D_{max} mm	WT kg	FI 62 406 ...
650 - 1105	13.71	**110** [1]
1100 - 2205	15.65	**220** [1]

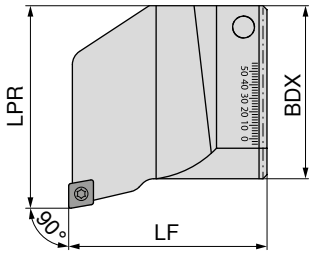
1) Not in stock

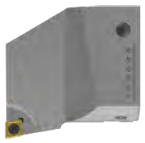
A detailed operating manual is available for download in the online shop next to the product.

SpinTools – Rough boring block

▲ For use with base plate or extension console

Scope of supply:
2x rough boring block and indexable insert screws





90° CC..

LF mm	LPR mm	BDX mm	WT kg	Indexable insert	FI 62 412 ...
75	75	65	3.22	CC.. 09T3	**009** [1]

1) Not in stock

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.

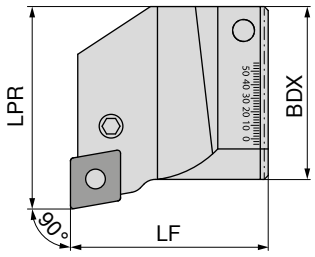
Suitable indexable inserts can be found in → indexable insert turning tools.

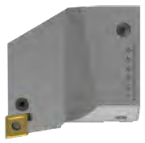
Spare parts for article number		 TORX® screw FI 62 950 ...	 Screwdriver AS 80 950 ...	 Adjustment screw FI 62 950 ...
62 412 009	M4x9 - T15	**023**	T15 **113**	M8x35 **058**

SpinTools – Rough boring block

▲ For use with base plate or extension console

Scope of supply:
2x rough boring block and indexable insert screws





90° CN..

LF mm	LPR mm	BDX mm	Indexable insert	FI 62 413 ...
75	75	65	CN.. 1906	**019** [1]
75	75	65	CN.. 1204	**012** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.

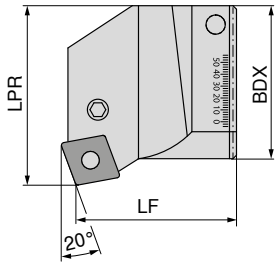
Suitable indexable inserts can be found in → indexable insert turning tools.

Spare parts for article number	 Shim FI 62 950 ...	 Toggle lever screw FI 62 950 ...	 Toggle lever FI 62 950 ...	 Carbide seat C FI 62 950 ...		Adjustment screw FI 62 950 ...
62 413 019	**098**	**138**	**127**	**119**	M8x35	**058**
62 413 012	**096**	**136**	**125**	**117**	M8x35	**058**

SpinTools – Rough boring block

▲ For use with base plate or extension console

Scope of supply:
2x rough boring block and indexable insert screws





70° CN..

LF mm	LPR mm	BDX mm	Indexable insert	FI 62 414 ...
69	75	65	CN.. 1906	**019** [1]

1) Not in stock

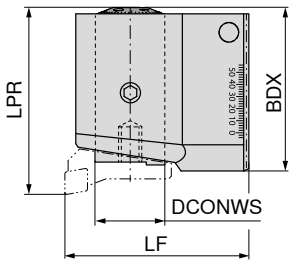
A detailed operating manual is available for download in the online shop next to the product.
Suitable indexable inserts can be found in → indexable insert turning tools.

Spare parts for article number	 Shim FI 62 950 ...	 Toggle lever screw FI 62 950 ...	 Toggle lever FI 62 950 ...	 Carbide seat C FI 62 950 ...	Adjustment screw FI 62 950 ...
62 414 019	**098**	**138**	**127**	**119**	M8x35 **058**

SpinTools – Finish boring block analogue

- For use with base plate or extension console
- Diameter adjustment with minimal backlash
- Setting accuracy of 0.01 mm on diameter

Scope of supply:
1x finish boring block without insert holder and indexable inserts





Analog

DCONWS mm	LPR mm	LF mm	BDX mm	WT kg	FI 62 410 ...
30	75	75	65	2.06	**000** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.



Clamping screw



Fillister-head screw



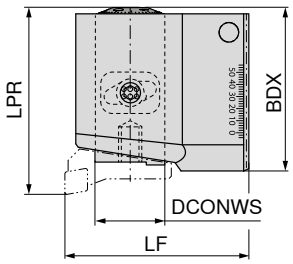
Adjustment screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 410 000	M10x12	**071**	M10x16	**291**	M8x35	**058**

SpinTools – Finish boring block digital

- For use with base plate or extension console
- Setting accuracy of 0.001 mm on diameter
- Digital variant: Please order the digital stick separately

Scope of supply:
1x finish boring block without insert holder and indexable inserts





Digital

DCONWS mm	LPR mm	LF mm	BDX mm	WT kg	FI 62 409 ...
30	75	75	65	2.06	**000** [1]

1) Not in stock

→ Here you will find the Digital Stick.

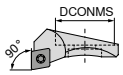
A detailed operating manual is available for download in the online shop next to the product.

Spare parts for article number		 Clamping screw FI 62 950 ...	 Fillister-head screw FI 62 950 ...	 Adjustment screw FI 62 950 ...
62 409 000	M10x12	**071**	M10x16 **291**	M8x35 **058**

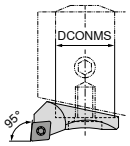
CoreLine – Insert holder

▲ For single point finish boring heads article nos 62 303 …, 62 308 …

Scope of supply:
Incl. Torx clamping screw for indexable insert, without fixing screw for holder



90°



95°



90°



95°

DCONMS mm	Indexable insert	FI 62 318 ... 90°	FI 62 320 ... 95°
30	CC.. 0602	**087**	
30	CC.. 09T3	**116**	**087**

→ Find suitable indexable inserts here.

A detailed operating manual is available for download in the online shop next to the product.



TORX® screw



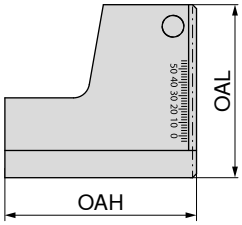
Screwdriver

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
CC.. 0602	M2,5x6 - T07	**022**	T07	**109**
CC.. 09T3	M4x9 - T15	**023**	T15	**113**

SpinTools – Counterweight

▲ For use with base plate or extension console

Scope of supply:
1x counterweight





OAH mm	OAL mm	WT kg	FI 62 427 ...
72	65	2.2	**655** [1]

1) Not in stock

A detailed operating manual is available for download in the online shop next to the product.



Spare parts for article number		FI 62 950 ...
62 427 655	M8x35	**058**

CoreLine – Digital Stick

- ▲ Suitable for all digital heads
- ▲ Revised software for even more precise adjustment
- ▲ Display in millimeters / inches

Scope of supply:
Incl. AAA battery

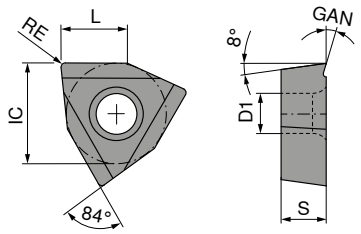


FI
62 309 ...
00100

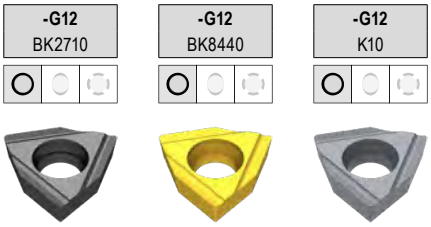
A detailed operating manual is available for download in the online shop next to the product.

CoreLine – HM indexable insert

WOHX



Left indexable insert



F WOHX | **F** WOHX | **F** WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN °	RE mm	IH 62 600 ...	IH 62 600 ...	IH 62 600 ...
WOHX 02T001FL	W00 04120.0121	2.6	2	1.2	4	12	0.1			**20102**
WOHX 02T001EL	W00 04120.012710	2.6	2	1.2	4	12	0.1	**10102**		
WOHX 02T001EL	W00 04120.018440	2.6	2	1.2	4	12	0.1		**00102**	
WOHX 02T002EL	W00 04120.028440	2.6	2	1.2	4	12	0.2		**00300**	

P	●	●	
M	●	●	
K	●	●	
N			●
S	●		●
H		●	
O			●

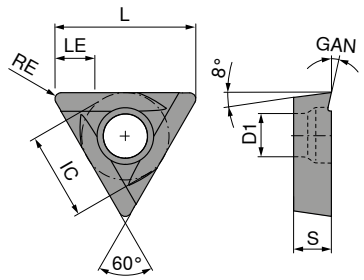
→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

Material group	Guideline recommendation	
	Chip breaker	Grade
P	**-G12**	BK8440
M	**-G12**	BK8440
K	**-G12**	BK2710
N	**-G12**	K10
S	**-G12**	K10
H1.1	**-G12**	BK8440
O	**-G12**	K10

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – HM indexable insert

TOHX



Left indexable insert



F TOHX | F TOHX | F TOHX

Designation	Product Reference No.	L mm	LE mm	S mm	D1 mm	IC mm	GAN °	RE mm	IH 62 603 ...	IH 62 602 ...	IH 62 602 ...
TOHX 06T102EL	W30 04060.022710	6.64	1.0	1.8	2.2	4.0	6	0.2		10400	
TOHX 06T102EL	W30 04060.027615	6.64	1.0	1.8	2.2	4.0	6	0.2			80400
TOHX 06T102EL	W30 04120.028425	6.64	1.0	1.8	2.2	4.0	12	0.2	34600		
TOHX 06T103EL	W30 04060.032710	6.50	1.0	1.8	2.2	4.0	6	0.3		10606	
TOHX 06T103EL	W30 04060.037615	6.50	1.0	1.8	2.2	4.0	6	0.3			80606
TOHX 06T103EL	W30 04120.038425	6.50	1.0	1.8	2.2	4.0	12	0.3	30200		
TOHX 06T104EL	W30 04120.048425	6.34	1.0	1.8	2.2	4.0	12	0.4	30700		
TOHX 090202EL	W30 14060.022710	9.40	2.5	2.5	2.8	5.6	6	0.2		12800	
TOHX 090202EL	W30 14060.027615	9.40	2.5	2.5	2.8	5.6	6	0.2			82800
TOHX 090202EL	W30 14120.028425	9.40	2.5	2.5	2.8	5.6	12	0.2	31000		
TOHX 090204EL	W30 14060.042710	9.12	2.5	2.5	2.8	5.6	6	0.4		10409	
TOHX 090204EL	W30 14060.047615	9.12	2.5	2.5	2.8	5.6	6	0.4			80409
TOHX 090204EL	W30 14120.048425	9.12	2.5	2.5	2.8	5.6	12	0.4	31800		
TOHX 090208EL	W30 14060.087615	8.52	2.5	2.5	2.8	5.6	6	0.8			84000
TOHX 090208EL	W30 14120.088425	8.52	2.5	2.5	2.8	5.6	12	0.8	32000		
TOHX 140302EL	W30 26060.027615	13.92	4.5	3.0	3.8	8.2	6	0.2			85000
TOHX 140302EL	W30 26120.028425	13.92	4.5	3.0	3.8	8.2	12	0.2	32200		
TOHX 140304EL	W30 26060.042710	13.62	4.5	3.0	3.8	8.2	6	0.4		12600	
TOHX 140304EL	W30 26060.047615	13.62	4.5	3.0	3.8	8.2	6	0.4			82600
TOHX 140304EL	W30 26120.048425	13.62	4.5	3.0	3.8	8.2	12	0.4	32600		
TOHX 140305EL	W30 26060.052710	13.48	4.5	3.0	3.8	8.2	6	0.5		16000	
TOHX 140305EL	W30 26060.057615	13.48	4.5	3.0	3.8	8.2	6	0.5			86000
TOHX 140305EL	W30 26120.058425	13.48	4.5	3.0	3.8	8.2	12	0.5	33000		
TOHX 140308EL	W30 26060.082710	13.04	4.5	3.0	3.8	8.2	6	0.8		16600	
TOHX 140308EL	W30 26060.087615	13.04	4.5	3.0	3.8	8.2	6	0.8			86600
P									●	●	
M									●	●	
K									●	●	●
N									○		
S									●	●	
H									○		
O											

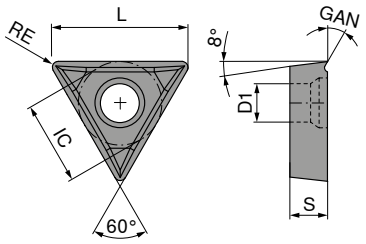
→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

Material group	Guideline recommendation	
	Chip breaker	Grade
UNI	**-G12**	BK8425
P	**-14**	BK60
M	**-G06**	BK2710
K	**-G06**	BK7615
N	**-12**	BK7710
S1.1 – S2.3	**-G06**	BK2710
S3.1 – S3.3	**-12**	BK7710
H		CBN40
O	**-12**	BK7710

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – HM indexable insert

TOGX



-12
BK7710



F
TOGX

Designation	Product Reference No.	L mm	S mm	D1 mm	IC mm	GAN	RE mm	IH 62 601 ...
TOGX 06T102FN	W57 04120.027710	6.64	1.8	2.2	4.0	30°	0.2	**70201**
TOGX 090204FN	W57 14120.047710	9.12	2.5	2.8	5.6	30°	0.4	**70401**
TOGX 140304FN	W57 26120.047710	13.62	3.0	3.8	8.2	30°	0.4	**71401**

P	
M	
K	
N	●
S	○
H	○
O	○

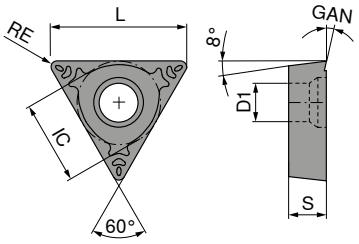
→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

Material group	Guideline recommendation	
	Chip breaker	Grade
UNI	**-G12**	BK8425
P	**-14**	BK60
M	**-G06**	BK2710
K	**-G06**	BK7615
N	**-12**	BK7710
S1.1 – S2.3	**-G06**	BK2710
S3.1 – S3.3	**-12**	BK7710
H		CBN40
O	**-12**	BK7710

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – HM indexable insert

TOGX



-14
BK60



F
TOGX

Designation	Product Reference No.	L mm	S mm	D1 mm	IC mm	GAN	RE mm	IH 62 601 ...
TOGX 06T102EN	W57 04140.0260	6.64	1.8	2.2	4.0	14°	0.2	**90206**
TOGX 06T104EN	W57 04140.0460	6.35	1.8	2.2	4.0	14°	0.4	**70400**
TOGX 090202EN	W57 14140.0260	9.41	2.5	2.8	5.6	14°	0.2	**70200**
TOGX 090204EN	W57 14140.0460	9.12	2.5	2.8	5.6	14°	0.4	**70409**
TOGX 140304EN	W57 26140.0460	13.62	3.0	3.8	8.2	14°	0.4	**70414**

P	●
M	●
K	●
N	
S	
H	
O	

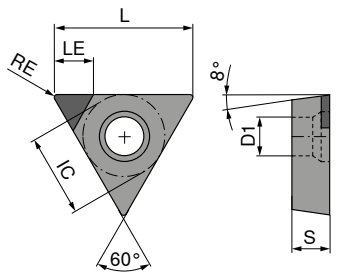
→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

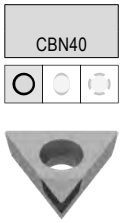
Material group	Guideline recommendation	
	Chip breaker	Grade
UNI	**-G12**	BK8425
P	**-14**	BK60
M	**-G06**	BK2710
K	**-G06**	BK7615
N	**-12**	BK7710
S1.1 – S2.3	**-G06**	BK2710
S3.1 – S3.3	**-12**	BK7710
H		CBN40
O	**-12**	BK7710

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – PcBN indexable insert

TOGX





F
CBN
TOGX

Designation	Product Reference No.	L mm	LE mm	S mm	D1 mm	IC mm	RE mm	PC 62 601 ...
TOGX 06T102TN	W30 04990.0240	6.64	1.8	1.8	2.2	4.0	0.2	**60206**
TOGX 090204TN	W30 14990.0440	9.12	2.7	2.5	2.8	5.6	0.4	**60409**
TOGX 140304TN	W30 26990.0440	13.62	2.7	3.0	3.8	8.2	0.4	**62600**

P	
M	
K	
N	
S	
H	●
O	

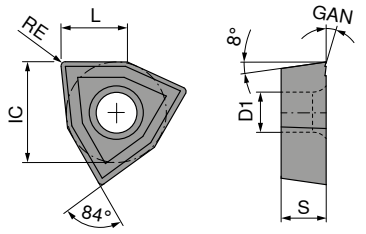
→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

Material group	Guideline recommendation	
	Chip breaker	Grade
UNI	**-G12**	BK8425
P	**-14**	BK60
M	**-G06**	BK2710
K	**-G06**	BK7615
N	**-12**	BK7710
S1.1 – S2.3	**-G06**	BK2710
S3.1 – S3.3	**-12**	BK7710
H		CBN40
O	**-12**	BK7710

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – Carbide drilling indexable insert

WOEX



-01 BK8425	-01 BK7935	-01 BK7615
		
WOEX	WOEX	WOEX

Designation	Product Reference No.	L mm	S mm	D1 mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.047615	3.2	2.3	2.30	5.00	12°	0.4			05301
WOEX 030204EN	W29 10010.047935	3.2	2.3	2.30	5.00	12°	0.4		50301	
WOEX 030204EN	W29 10010.048425	3.2	2.3	2.30	5.00	12°	0.4	30301		
WOEX 040304EN	W29 18010.047615	4.1	3.18	2.55	6.35	12°	0.4			05401
WOEX 040304EN	W29 18010.047935	4.1	3.18	2.55	6.35	12°	0.4		50401	
WOEX 040304EN	W29 18010.048425	4.1	3.18	2.55	6.35	12°	0.4	30401		
WOEX 05T304SN	W29 24010.047615	5.3	3.8	2.85	8.00	12°	0.4			05501
WOEX 05T304SN	W29 24010.047935	5.3	3.8	2.85	8.00	12°	0.4		50501	
WOEX 05T304SN	W29 24010.048425	5.3	3.8	2.85	8.00	12°	0.4	30501		
WOEX 05T308SN	W29 24010.087615	5.3	3.8	2.85	8.00	12°	0.8			07501
WOEX 05T308SN	W29 24010.087935	5.3	3.8	2.85	8.00	12°	0.8		52501	
WOEX 05T308SN	W29 24010.088425	5.3	3.8	2.85	8.00	12°	0.8	38501		
WOEX 06T304SN	W29 34010.047615	6.6	3.8	4.05	10.00	12°	0.4			05601
WOEX 06T304SN	W29 34010.047935	6.6	3.8	4.05	10.00	12°	0.4		50601	
WOEX 06T304SN	W29 34010.048425	6.6	3.8	4.05	10.00	12°	0.4	30601		
WOEX 06T308SN	W29 34010.087615	6.6	3.8	4.05	10.00	12°	0.8			07601
WOEX 06T308SN	W29 34010.087935	6.6	3.8	4.05	10.00	12°	0.8		52601	
WOEX 06T308SN	W29 34010.088425	6.6	3.8	4.05	10.00	12°	0.8	38601		
WOEX 080404SN	W29 42010.047615	7.9	4.8	4.90	12.00	12°	0.4			05801
WOEX 080404SN	W29 42010.047935	7.9	4.8	4.90	12.00	12°	0.4		50801	
WOEX 080404SN	W29 42010.048425	7.9	4.8	4.90	12.00	12°	0.4	30801		
WOEX 080408SN	W29 42010.087615	7.9	4.8	4.90	12.00	12°	0.8			07801
WOEX 080408SN	W29 42010.087935	7.9	4.8	4.90	12.00	12°	0.8		52801	
WOEX 080408SN	W29 42010.088425	7.9	4.8	4.90	12.00	12°	0.8	38801		
WOEX 100504SN	W29 50010.047615	9.9	5.3	4.90	15.00	12°	0.4			06001
WOEX 100504SN	W29 50010.047935	9.9	5.3	4.90	15.00	12°	0.4		51001	
WOEX 100504SN	W29 50010.048425	9.9	5.3	4.90	15.00	12°	0.4	31001		
WOEX 100508SN	W29 50010.087615	9.9	5.3	4.90	15.00	12°	0.8			08001
WOEX 100508SN	W29 50010.087935	9.9	5.3	4.90	15.00	12°	0.8		53001	
WOEX 100508SN	W29 50010.088425	9.9	5.3	4.90	15.00	12°	0.8	39001		
WOEX 120608SN	W29 58010.087615	11.6	6.0	5.95	17.60	12°	0.8			08201
WOEX 120608SN	W29 58010.087935	11.6	6.0	5.95	17.60	12°	0.8		53201	
WOEX 120608SN	W29 58010.088425	11.6	6.0	5.95	17.60	12°	0.8	31201		
P								●	●	
M								●	●	
K								●	●	●
N										
S									●	
H									●	
O										

→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

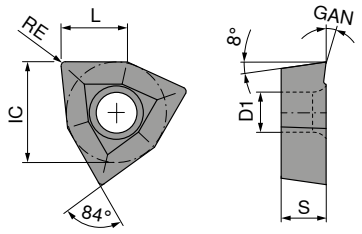
Material group	Guideline recommendation Chip breaker	Grade
P	**-01**	BK8425
M	**-01**	BK7935
K	**-01**	BK7615
N	**-11**	BK7710
S1.1 – S2.3	**-01**	BK7935
S3.1 – S3.3	**-11**	BK7710
O	**-11**	BK7710

Material group	WO.X 0302	WO.X 0403	WO.X 05T3	WO.X 06T3	WO.X 0804	WO.X 1005	WO.X 1206
	a_p max. (mm)						
P	1,5	2,5	4,5	6,0	7,5	9,0	9,0
M	1,0	1,5	3,5	4,0	6,0	9,0	9,0
K	1,5	3,0	5,0	6,0	7,5	9,0	9,0
N	2,0	3,0	5,0	6,0	7,5	9,0	9,0
S	1,0	1,5	3,5	4,0	6,0	9,0	9,0
O	1,0	1,5	3,5	4,0	7,5	9,0	9,0

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – Carbide drilling indexable insert

WOEX





WOEX

Designation	Product Reference No.	L mm	S mm	D1 mm	IC mm	GAN	RE mm	IH 10 821 ...
WOEX 030204EN	W29 10110.047710	3.2	2.3	2.30	5.00	20°	0.4	**90311**
WOEX 040304EN	W29 18110.047710	4.1	3.18	2.55	6.35	20°	0.4	**90411**
WOEX 05T304EN	W29 24110.047710	5.3	3.8	2.85	8.00	20°	0.4	**90511**
WOEX 06T304EN	W29 34110.047710	6.6	3.8	4.05	10.00	20°	0.4	**90611**
WOEX 080404EN	W29 42110.047710	7.9	4.8	4.90	12.00	20°	0.4	**90811**
WOEX 100504EN	W29 50110.047710	9.9	5.3	4.90	15.00	20°	0.4	**91011**

P	
M	
K	
N	●
S	●
H	
O	●

→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

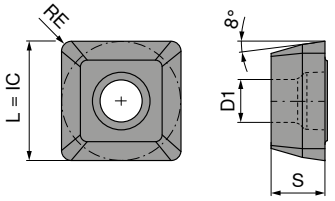
Material group	Guideline recommendation	
	Chip breaker	Grade
P	**-01**	BK8425
M	**-01**	BK7935
K	**-01**	BK7615
N	**-11**	BK7710
S1.1 – S2.3	**-01**	BK7935
S3.1 – S3.3	**-11**	BK7710
O	**-11**	BK7710

Material group	WO.X 0302	WO.X 0403	WO.X 05T3	WO.X 06T3	WO.X 0804	WO.X 1005	WO.X 1206
	a_p max. (mm)						
P	1,5	2,5	4,5	6,0	7,5	9,0	9,0
M	1,0	1,5	3,5	4,0	6,0	9,0	9,0
K	1,5	3,0	5,0	6,0	7,5	9,0	9,0
N	2,0	3,0	5,0	6,0	7,5	9,0	9,0
S	1,0	1,5	3,5	4,0	6,0	9,0	9,0
O	1,0	1,5	3,5	4,0	7,5	9,0	9,0

The guideline recommendation shown here is based on experience and serves only to make it easy to find the correct indexable insert for your application.

CoreLine – Carbide drilling indexable insert

SOEX



-01 BK8425	-01 BK7935	-01 BK7615
		
SOEX	SOEX	SOEX
IH	IH	IH
10 822 ...	10 822 ...	10 822 ...

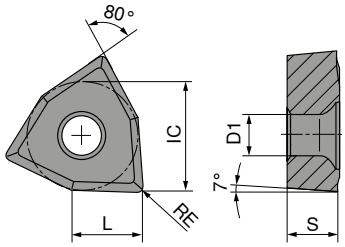
Designation	Product Reference No.	L mm	S mm	D1 mm	IC mm	RE mm			
SOEX 050204EN	W83 13010.047615	5.56	2.38	2.30	5.56	0.4			**05501**
SOEX 050204EN	W83 13010.047935	5.56	2.38	2.30	5.56	0.4		**50501**	
SOEX 050204EN	W83 13010.048425	5.56	2.38	2.30	5.56	0.4	**30501**		
SOEX 060306EN	W83 18010.067615	6.35	3.18	2.65	6.35	0.6			**05601**
SOEX 060306EN	W83 18010.067935	6.35	3.18	2.65	6.35	0.6		**50601**	
SOEX 060306EN	W83 18010.068425	6.35	3.18	2.65	6.35	0.6	**30601**		
SOEX 07T308EN	W83 23010.087615	7.94	3.58	2.85	7.94	0.8			**05701**
SOEX 07T308EN	W83 23010.087935	7.94	3.58	2.85	7.94	0.8		**50701**	
SOEX 07T308EN	W83 23010.088425	7.94	3.58	2.85	7.94	0.8	**30701**		
SOEX 090408EN	W83 32010.087615	9.52	4.37	4.10	9.52	0.8			**05901**
SOEX 090408EN	W83 32010.087935	9.52	4.37	4.10	9.52	0.8		**50901**	
SOEX 090408EN	W83 32010.088425	9.52	4.37	4.10	9.52	0.8	**30901**		
SOEX 120508EN	W83 44010.087615	12.70	5.16	5.20	12.70	0.8			**06201**
SOEX 120508EN	W83 44010.087935	12.70	5.16	5.20	12.70	0.8		**51201**	
SOEX 120508EN	W83 44010.088425	12.70	5.16	5.20	12.70	0.8	**31201**		
P							●	●	
M							●	●	
K							●	●	●
N									
S								●	
H								●	
O									

→ Find the cutting data standard values here.
→ Here you will find further indexable inserts.

Material group	SOEX 0502	SOEX 0603	SOEX 07T3	SOEX 0904		SOEX 1205	
				Ø 39 – 53 mm	Ø 51 – 71 mm	Ø 64 – 91 mm	Ø 83 – 124 mm
	a_p max. (mm)						
P	2,5	2,5	4,5	4,5	6,0	7,5	9,0
M	1,5	1,5	3,5	3,5	4,0	6,0	9,0
K	3,0	3,0	5,0	5,0	6,0	7,5	9,0
N	3,0	3,0	5,0	5,0	6,0	7,5	9,0
S	1,5	1,5	3,5	3,5	4,0	6,0	9,0
O	1,5	1,5	3,5	3,5	4,0	7,5	9,0

CoreLine – HM indexable insert

WCGT



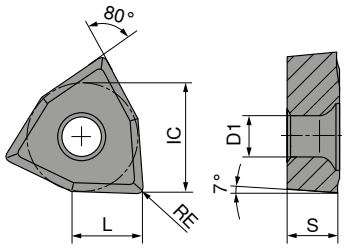
-SF20 CWN10	-SF16 CWP25
	
F WCGT	**F** WCGT

Designation	L mm	S mm	D1 mm	IC mm	RE mm	IH 70 295 ...	IH 70 295 ...
WCGT 020102	2.71	1.59	2.1	3.97	0.2	**850**	**500**
WCGT 020104	2.71	1.59	2.1	3.97	0.4	**852**	
P						●	●
M						●	●
K						●	○
N						●	●
S						●	
H						●	
O							

→ Find the cutting data standard values here.

CoreLine – CERMET indexable insert

WCMT



-SF30 CWC06

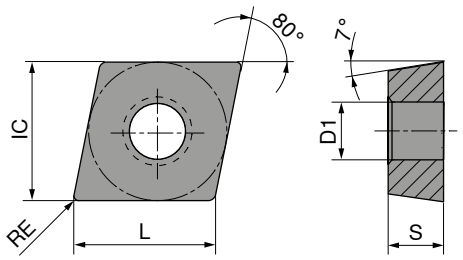
F CERMET WCMT

Designation	L mm	S mm	D1 mm	IC mm	RE mm	IH 70 294 ...
WCMT 020102	2.71	1.59	2.1	3.97	0.2	**850**
P						●
M						○
K						●
N						●
S						
H						
O						

→ Find the cutting data standard values here.

CoreLine – HM indexable insert

CCGT



-SF20
CWN10



F
CCGT

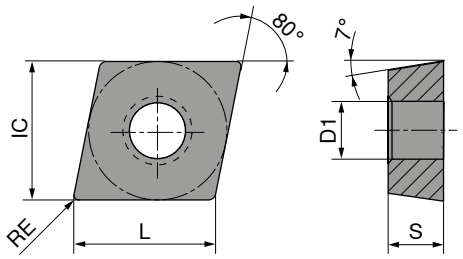
Designation	L mm	S mm	D1 mm	IC mm	RE mm	IH 70 296 ...
CCGT 060202L	6.4	2.38	2.8	6.35	0.2	**300**
CCGT 060204L	6.4	2.38	2.8	6.35	0.4	**302**
CCGT 09T302L	9.7	3.97	4.4	9.52	0.2	**304**
CCGT 09T304L	9.7	3.97	4.4	9.52	0.4	**306**

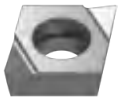
P	●
M	●
K	●
N	●
S	●
H	●
O	

→ Find the cutting data standard values here.

CoreLine – CERMET indexable insert

CCGT



-SF15 CWC06	-SF14 CWC10
	
F CERMET CCGT	**F** CERMET CCGT

Designation	L mm	S mm	D1 mm	IC mm	RE mm	IH 70 296 ...	IH 70 300 ...
CCGT 060202	6.4	2.38	2.8	6.35	0.2		**903**
CCGT 060202L	6.4	2.38	2.8	6.35	0.2	**850**	
CCGT 060204	6.4	2.38	2.8	6.35	0.4		**905**
CCGT 060204L	6.4	2.38	2.8	6.35	0.4	**852**	
CCGT 09T302	9.7	3.97	4.4	9.52	0.2		**911**
CCGT 09T302L	9.7	3.97	4.4	9.52	0.2	**854**	
CCGT 09T304	9.7	3.97	4.4	9.52	0.4		**913**
CCGT 09T304L	9.7	3.97	4.4	9.52	0.4	**856**	
P						●	●
M						○	●
K						●	●
N						●	
S							
H							
O							

→ Find the cutting data standard values here.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	Indexable inserts for …											
	Fine boring tools								Rough boring tools			
	62 800 …, 62 810 …, 62 811 …, 62 815 …								62 841 …, 62 843 …, 62 870 …, 62 881 …			
	K10	BK2710	BK60	BK7615	BK7710	BK8425	BK8440	CBN40	BK7615	BK7710	BK7935	BK8425
	v_c (m/min)								v_c (m/min)			
P.1.1		230	270			260	170				195-**250**-310	200-**260**-305
P.1.2		230	270			260	170				170-**220**-270	200-**260**-305
P.1.3		230	270			270	170				210-**270**-330	210-**270**-320
P.1.4		210	250			240	150				195-**250**-310	195-**250**-295
P.1.5		210	250			230	150				155-**200**-245	210-**270**-320
P.2.1		180	210			270	140				210-**270**-330	210-**270**-320
P.2.2		180	210			260	140				200-**260**-320	200-**260**-305
P.2.3		180	210			180	140				125-**160**-195	140-**180**-210
P.2.4		180	210			150	140				100-**130**-160	115-**150**-175
P.3.1		160	190			160	120				110-**140**-170	125-**160**-190
P.3.2		160	190			130	120				90-**120**-150	100-**130**-155
P.3.3		160	190			120	120				85-**110**-135	90-**120**-140
P.4.1		140	160			180	100				115-**150**-185	140-**180**-210
P.4.2		140	160			130	100				90-**120**-150	100-**130**-155
M.1.1		180	280			150	140				125-**160**-195	115-**150**-175
M.2.1		160	250			150	120				125-**160**-195	115-**150**-175
M.3.1		120	180			130	90				115-**150**-185	110-**140**-165
K.1.1		210	210	290		160	150		200-**260**-305		115-**150**-185	125-**160**-190
K.1.2		180	180	290		120	140		125-**160**-190		90-**120**-150	90-**120**-140
K.2.1		160	160	270		160	120		140-**180**-210		115-**150**-185	125-**160**-190
K.2.2		160	160	250		100	120		90-**120**-140		70-**90**-110	75-**100**-120
K.3.1		140	140	220		120	100		110-**140**-165		85-**110**-135	90-**120**-140
K.3.2		140	140	220		100	100		90-**120**-140		70-**90**-110	75-**100**-120
N.1.1	250				600	400				385-**500**-615		
N.1.2	250				500	400				385-**500**-615		
N.2.1	250				400	250				215-**280**-345		
N.2.2	250				300	250				215-**280**-345		
N.2.3	250				250	230				195-**250**-310		
N.3.1	230				400	200				195-**250**-310		
N.3.2	230				300	220				215-**280**-345		
N.3.3	230				300	330				300-**390**-480		
N.4.1	230				300	200				195-**250**-310		
S.1.1	20	60			60	60					45-**60**-75	
S.1.2	20	50			60	50					40-**50**-60	
S.2.1	20	60			60	60					45-**60**-75	
S.2.2	20	50			60	50					40-**50**-60	
S.2.3	20	30			60	30					25-**30**-35	
S.3.1	60	100			80	100				75-**100**-125		
S.3.2	30	80			80	80				60-**80**-100		
S.3.3	30	50			80	50				40-**50**-60		
H.1.1					80	100	90	160			40-**50**-60	
H.1.2					40	80	70	185			25-**35**-45	
H.1.3					40	50	40	215				
H.1.4					40			240				
H.2.1					80	100	90				60-**75**-90	
H.3.1					80	80	70				25-**35**-45	
O.1.1	100				100					75-**100**-125		
O.1.2	100				100					75-**100**-125		
O.2.1												
O.2.2	100				100					75-**100**-125		
O.3.1	100				100					75-**100**-125		

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline cutting data that can be adjusted by **± 20%** according to the usage conditions! It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	Indexable inserts for …											
	Fine boring tools								Rough boring tools			
	62 800 ..., 62 810 ..., 62 811 ..., 62 815 ..., 67 800 ...								62 841 ..., 62 843 ..., 62 870 ..., 62 881 ...			
	K10	BK2710	BK60	BK7615	BK7710	BK8425	BK8440	CBN40	BK7615	BK7710	BK7935	BK8425
	v_c (ft/min)								v_c (ft/min)			
P.1.1		755	885			850	560				640-**820**-1015	655-**855**-1000
P.1.2		755	885			850	560				560-**720**-885	655-**855**-1000
P.1.3		755	885			885	560				690-**885**-1085	690-**885**-1050
P.1.4		690	820			790	490				640-**820**-1015	640-**820**-970
P.1.5		690	820			755	490				510-**655**-805	690-**885**-1050
P.2.1		590	690			885	460				690-**885**-1085	690-**885**-1050
P.2.2		590	690			855	460				655-**855**-1050	655-**855**-1000
P.2.3		590	690			590	460				410-**525**-640	460-**590**-690
P.2.4		590	690			490	460				330-**425**-525	375-**490**-575
P.3.1		525	625			525	395				360-**460**-560	410-**525**-625
P.3.2		525	625			425	395				295-**395**-490	330-**425**-510
P.3.3		525	625			390	395				280-**360**-445	295-**395**-460
P.4.1		460	525			590	330				375-**490**-605	460-**590**-690
P.4.2		460	525			425	330				295-**395**-490	330-**425**-510
M.1.1		590	920			490	460				410-**525**-640	375-**490**-575
M.2.1		525	820			490	390				410-**525**-640	375-**490**-575
M.3.1		390	590			425	295				375-**490**-605	360-**460**-540
K.1.1		690	690	950		525	490		655-**855**-1000		375-**490**-605	410-**525**-625
K.1.2		590	590	950		390	460		410-**525**-625		295-**395**-490	295-**395**-460
K.2.1		525	525	885		525	395		460-**590**-690		375-**490**-605	410-**525**-625
K.2.2		525	525	820		330	395		295-**395**-460		230-**295**-360	245-**330**-395
K.3.1		460	460	720		395	330		360-**460**-540		280-**360**-445	295-**395**-460
K.3.2		460	460	720		330	330		295-**395**-460		230-**295**-360	245-**330**-395
N.1.1	820				1970	1310				1265-**1640**-2020		
N.1.2	820				1640	1310				1265-**1640**-2020		
N.2.1	820				1310	820				705-**920**-1130		
N.2.2	820				985	820				705-**920**-1130		
N.2.3	820				820	755				640-**820**-1015		
N.3.1	750				1310	655				640-**820**-1015		
N.3.2	750				985	720				705-**920**-1130		
N.3.3	750				985	1080				985-**1280**-1575		
N.4.1	750				985	655				640-**820**-1015		
S.1.1	65	200			200	200					150-**195**-245	
S.1.2	65	165			200	165					130-**165**-195	
S.2.1	65	200			200	200					150-**195**-245	
S.2.2	65	165			200	165					130-**165**-195	
S.2.3	65	100			200	100					80-**100**-115	
S.3.1	200	330			260	330				245-**330**-410		
S.3.2	100	260			260	260				195-**260**-330		
S.3.3	100	165			260	165				130-**165**-195		
H.1.1					260	330	295	525			130-**165**-195	
H.1.2					130	260	230	605			80-**115**-150	
H.1.3					130	165	130	705				
H.1.4					130			785				
H.2.1					260	330	295				195-**245**-295	
H.3.1					260	260	230				80-**115**-150	
O.1.1	330				330					245-**330**-410		
O.1.2	330				330					245-**330**-410		
O.2.1												
O.2.2	330				330					245-**330**-410		
O.3.1	330				330					245-**330**-410		

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline cutting data that can be adjusted by **± 20%** according to the usage conditions! It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for indexable inserts – guideline recommendation (ISO standard)

Index	Indexable inserts for …									Boring steel	Cutting insert Cutting insert
	62 295 …					62 303 …, 62 304 …, 62 305 …, 62 308 …, 62 326 …, 62 332 …, 62 333 …, 62 363 …, 62 372 …, 62 373 …, 62 392 …				62 346 …	62 383 …, 62 384 …
	CTCP125 (HCX1125)	CTCP115 (HCX1115)	CTCP135 (HCR1135)	CTC2135 (CWN2135)	H10T (CWK15)	CWN10	CWP25	CWC06	CWC10	HM uncoated	Solid carbide TiN
	v_c (m/min)					v_c (m/min)				v_c (m/min)	v_c (m/min)
P.1.1	295	370	210	360		185	185	250	175	175	190
P.1.2	250	315	175	360		185	185	250	140	175	200
P.1.3	210	270	145	360		185	185	250	140	175	170
P.1.4	200	250	135	375		185	185	250	140	175	170
P.1.5	180	230	120	375		185	185	250	140	175	160
P.2.1	260	325	180	385		185	185	250	140	175	180
P.2.2	195	250	130	385		185	185	250	175	175	150
P.2.3	180	230	120	385		185	185	250	140	175	160
P.2.4	130	170	85	385		185	185	250	140	175	160
P.3.1	170	200	150	310		185	185	250	175	175	120
P.3.2	105	140	95	310		135	135	165	140	65	100
P.3.3	40	85	35	310		135	135	165	140	65	100
P.4.1	170	200	155	320		125	125	120	120	100	80
P.4.2	135	170	125	320		125	125	120	120	100	80
M.1.1			155	300		120	120	120	120	100	80
M.2.1			95	310		100	100	100	110	70	80
M.3.1			135	325		120	120	120	120	100	80
K.1.1	170	255			140	160	160	160	225	135	200
K.1.2	160	235			115	160	160	160	225	135	150
K.2.1	180	270			150	160	160	160	125	135	120
K.2.2	160	205			110	140	140	140	125	115	110
K.3.1	200	250			170	140	140	140	125	115	180
K.3.2	160	210			140	140	140	140	125	115	150
N.1.1					1400	400	400	400		250	300
N.1.2					1100	400	400	400		250	240
N.2.1					950	400	400	400		250	240
N.2.2					950	400	400	400		250	240
N.2.3					500	400	400	400		250	240
N.3.1					425	400	400	400		250	290
N.3.2					400	400	400	400		250	290
N.3.3					275	400	400	400		250	290
N.4.1					225						220
S.1.1				30		55					60
S.1.2				25		55					40
S.2.1				15		55					30
S.2.2				10		55					30
S.2.3				10		55					30
S.3.1				105		55					30
S.3.2				25		55					25
S.3.3						55					25
H.1.1						125					110
H.1.2						100					80
H.1.3						80					70
H.1.4											
H.2.1						170					70
H.3.1						125					70
O.1.1					130						240
O.2.1											240
O.2.1					105						180
O.2.2											180
O.3.1											180

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline cutting data that can be adjusted by **± 20%** according to the usage conditions! It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for precision adjustment heads

Index	62 800 … hi.flex Fine machining with depth of cut a_p = 0.1 – 0.2 mm				● 1st choice ○ Suitable		
	Ø 0,5 – 5,6 mm	Ø 5,6 – 8 mm	Ø 8 – 12 mm	Ø 12 – 365 mm	Emulsion	Compressed air	MMS
	f (mm/rev)						
P.1.1	0,02–0,05	0,03–0,04	0,05–0,07	0,07–0,10	●	○	
P.1.2	0,02–0,05	0,03–0,04	0,05–0,07	0,08–0,12	●	○	
P.1.3	0,02–0,05	0,03–0,04	0,04–0,06	0,08–0,12	●	○	
P.1.4	0,02–0,05	0,03–0,04	0,04–0,06	0,07–0,10	●	○	
P.1.5	0,02–0,05	0,03–0,04	0,05–0,07	0,08–0,12	●	○	
P.2.1	0,02–0,05	0,03–0,04	0,04–0,06	0,08–0,12	●	○	
P.2.2	0,02–0,05	0,03–0,04	0,04–0,06	0,07–0,10	●	○	
P.2.3	0,02–0,05	0,02–0,03	0,04–0,06	0,07–0,10	●	○	
P.2.4	0,02–0,05	0,02–0,03	0,03–0,04	0,06–0,08	●	○	
P.3.1	0,02–0,05	0,02–0,03	0,04–0,06	0,06–0,08	●	○	
P.3.2	0,02–0,05	0,02–0,03	0,03–0,04	0,06–0,08	●	○	
P.3.3	0,02–0,05	0,02–0,03	0,03–0,04	0,06–0,08	●	○	
P.4.1	0,02–0,05	0,02–0,03	0,04–0,05	0,07–0,10	●	○	
P.4.2	0,02–0,05	0,02–0,03	0,03–0,04	0,06–0,08	●	○	
M.1.1	0,02–0,05	0,01–0,015	0,04–0,05	0,07–0,10	●	○	
M.2.1	0,02–0,05	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
M.3.1	0,02–0,05	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
K.1.1	0,02–0,05	0,04–0,05	0,06–0,08	0,11–0,15	○	●	
K.1.2	0,02–0,05	0,04–0,05	0,06–0,08	0,11–0,15	○	●	
K.2.1	0,02–0,05	0,03–0,04	0,06–0,08	0,11–0,15	○	●	
K.2.2	0,02–0,05	0,02–0,03	0,05–0,07	0,08–0,12	○	●	
K.3.1	0,02–0,05	0,03–0,04	0,06–0,08	0,11–0,15	○	●	
K.3.2	0,02–0,05	0,02–0,03	0,05–0,07	0,08–0,12	○	●	
N.1.1	0,02–0,05	0,01–0,02	0,04–0,06	0,07–0,10	●	○	
N.1.2	0,02–0,05	0,01–0,02	0,04–0,06	0,07–0,10	●	○	
N.2.1	0,02–0,05	0,04–0,05	0,06–0,08	0,08–0,12	●	○	
N.2.2	0,02–0,05	0,04–0,05	0,06–0,08	0,08–0,12	●	○	
N.2.3	0,02–0,05	0,04–0,05	0,06–0,08	0,08–0,12	●	○	
N.3.1	0,02–0,05	0,01–0,02	0,03–0,04	0,06–0,08	●	○	
N.3.2	0,02–0,05	0,01–0,02	0,03–0,04	0,06–0,08	●	○	
N.3.3	0,02–0,05	0,04–0,05	0,06–0,08	0,11–0,15	●	○	
N.4.1	0,02–0,05	0,01–0,02	0,03–0,04	0,06–0,08	●	○	
S.1.1	0,02–0,08	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
S.1.2	0,02–0,08	0,01–0,015	0,02–0,03	0,04–0,06	●	○	
S.2.1	0,02–0,08	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
S.2.2	0,02–0,08	0,01–0,015	0,02–0,03	0,04–0,06	●	○	
S.2.3	0,02–0,08	0,01–0,015	0,06–0,08	0,04–0,06	●	○	
S.3.1	0,02–0,08	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
S.3.2	0,02–0,08	0,01–0,015	0,03–0,04	0,06–0,08	●	○	
S.3.3	0,02–0,08	0,01–0,015	0,01–0,02	0,03–0,04	●	○	
H.1.1	0,02–0,05		0,04–0,05	0,06–0,08		●	
H.1.2	0,02–0,05		0,04–0,05	0,06–0,08		●	
H.1.3	0,02–0,05		0,02–0,03	0,03–0,04		●	
H.1.4							
H.2.1	0,02–0,05		0,04–0,05	0,06–0,08		●	
H.3.1	0,02–0,05		0,04–0,05	0,06–0,08		●	
O.1.1	0,02–0,05		0,06–0,08	0,06–0,08	○	●	
O.1.2	0,02–0,05		0,06–0,08	0,06–0,08	○	●	
O.2.1							
O.2.2	0,02–0,05		0,06–0,08	0,07–0,10		●	
O.3.1	0,02–0,05		0,06–0,08	0,07–0,10		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for precision adjustment heads

Index	67 800 … hi.flex Fine machining with depth of cut a_p = .004 – .008 inch				● 1st choice ○ Suitable		
	Ø .020" – .220"	Ø .220" – .315"	Ø .315" – .472"	Ø .472" – 14.37"	Emulsion	Compressed air	MMS
	f (inch/rev)						
P.1.1	.001 – .002	.001 – .002	.002 – .003	.003 – .004	●	○	
P.1.2	.001 – .002	.001 – .002	.002 – .003	.003 – .005	●	○	
P.1.3	.001 – .002	.001 – .002	.002 – .002	.003 – .005	●	○	
P.1.4	.001 – .002	.001 – .002	.002 – .002	.003 – .004	●	○	
P.1.5	.001 – .002	.001 – .002	.002 – .003	.003 – .005	●	○	
P.2.1	.001 – .002	.001 – .002	.002 – .002	.003 – .005	●	○	
P.2.2	.001 – .002	.001 – .002	.002 – .002	.003 – .004	●	○	
P.2.3	.001 – .002	.001 – .001	.002 – .002	.003 – .004	●	○	
P.2.4	.001 – .002	.001 – .001	.001 – .002	.002 – .003	●	○	
P.3.1	.001 – .002	.001 – .001	.002 – .002	.002 – .003	●	○	
P.3.2	.001 – .002	.001 – .001	.001 – .002	.002 – .003	●	○	
P.3.3	.001 – .002	.001 – .001	.001 – .002	.002 – .003	●	○	
P.4.1	.001 – .002	.001 – .001	.002 – .002	.003 – .004	●	○	
P.4.2	.001 – .002	.001 – .001	.001 – .002	.002 – .003	●	○	
M.1.1	.001 – .002	.0005 – .001	.002 – .002	.003 – .004	●	○	
M.2.1	.001 – .002	.0005 – .001	.001 – .002	.002 – .003	●	○	
M.3.1	.001 – .002	.0005 – .001	.001 – .002	.002 – .003	●	○	
K.1.1	.001 – .002	.002 – .002	.002 – .003	.004 – .006	○	●	
K.1.2	.001 – .002	.002 – .002	.002 – .003	.004 – .006	○	●	
K.2.1	.001 – .002	.001 – .002	.002 – .003	.004 – .006	○	●	
K.2.2	.001 – .002	.001 – .001	.002 – .003	.003 – .005	○	●	
K.3.1	.001 – .002	.001 – .002	.002 – .003	.004 – .006	○	●	
K.3.2	.001 – .002	.001 – .001	.002 – .003	.003 – .005	○	●	
N.1.1	.001 – .002	.0005 – .001	.002 – .002	.003 – .004	●	○	
N.1.2	.001 – .002	.0005 – .001	.002 – .002	.003 – .004	●	○	
N.2.1	.001 – .002	.002 – .002	.002 – .003	.003 – .005	●	○	
N.2.2	.001 – .002	.002 – .002	.002 – .003	.003 – .005	●	○	
N.2.3	.001 – .002	.002 – .002	.002 – .003	.003 – .005	●	○	
N.3.1	.001 – .002	.0005 – .001	.001 – .002	.002 – .003	●	○	
N.3.2	.001 – .002	.0005 – .001	.001 – .002	.002 – .003	●	○	
N.3.3	.001 – .002	.002 – .002	.002 – .003	.004 – .006	●	○	
N.4.1	.001 – .002	.0005 – .001	.001 – .002	.002 – .003	●	○	
S.1.1	.001 – .003	.0005 – .001	.001 – .002	.002 – .003	●	○	
S.1.2	.001 – .003	.0005 – .001	.001 – .001	.002 – .002	●	○	
S.2.1	.001 – .003	.0005 – .001	.001 – .002	.002 – .003	●	○	
S.2.2	.001 – .003	.0005 – .001	.001 – .001	.002 – .002	●	○	
S.2.3	.001 – .003	.0005 – .001	.002 – .003	.002 – .002	●	○	
S.3.1	.001 – .003	.0005 – .001	.001 – .002	.002 – .003	●	○	
S.3.2	.001 – .003	.0005 – .001	.001 – .002	.002 – .003	●	○	
S.3.3	.001 – .003	.0005 – .001	.0005 – .001	.001 – .002	●	○	
H.1.1	.001 – .002		.002 – .002	.002 – .003		●	
H.1.2	.001 – .002		.002 – .002	.002 – .003		●	
H.1.3	.001 – .002		.001 – .001	.001 – .002		●	
H.1.4							
H.2.1	.001 – .002		.002 – .002	.002 – .003		●	
H.3.1	.001 – .002		.002 – .002	.002 – .003		●	
O.1.1	.001 – .002		.002 – .003	.002 – .003	○	●	
O.1.2	.001 – .002		.002 – .003	.002 – .003	○	●	
O.2.1							
O.2.2	.001 – .002		.002 – .003	.003 – .004		●	
O.3.1	.001 – .002		.002 – .003	.003 – .004		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for precision adjustment heads

Index	62 815 … M03Speed Fine machining with depth of cut a_p = 0.1 – 0.2 mm		62 810 … FF precision adjustment head Fine machining with depth of cut a_p = 0.1 – 0.2 mm			62 811 … FZ precision adjustment head Fine machining with depth of cut a_p = 0.1 – 0.2 mm			● 1st choice ○ Suitable		
	Ø 24,8 – 63 mm	Ø 63 – 206 mm	Ø 29,5 – 50 mm	Ø 47 – 83 mm	Ø 79 – 199 mm	Ø 20 – 48 mm	Ø 45 – 76 mm	Ø 72 – 175 mm	Emulsion	Compressed air	MMS
	f (mm/rev)		f (mm/rev)			f (mm/rev)					
P.1.1	0,06–0,08	0,07–0,10	0,06–0,08	0,07–0,10	0,11–0,15	0,06–0,08	0,07–0,10	0,11–0,15	●	○	○
P.1.2	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
P.1.3	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,14–0,20	0,06–0,08	0,08–0,12	0,14–0,20	●	○	○
P.1.4	0,05–0,07	0,07–0,10	0,05–0,07	0,07–0,10	0,13–0,18	0,05–0,07	0,07–0,10	0,13–0,18	●	○	○
P.1.5	0,06–0,09	0,09–0,13	0,06–0,09	0,09–0,13	0,13–0,18	0,06–0,09	0,09–0,13	0,13–0,18	●	○	○
P.2.1	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,14–0,20	0,06–0,08	0,08–0,12	0,14–0,20	●	○	○
P.2.2	0,05–0,07	0,07–0,10	0,05–0,07	0,07–0,10	0,13–0,18	0,05–0,07	0,07–0,10	0,13–0,18	●	○	○
P.2.3	0,06–0,08	0,07–0,10	0,06–0,08	0,07–0,10	0,14–0,20	0,06–0,08	0,07–0,10	0,14–0,20	●	○	○
P.2.4	0,04–0,06	0,06–0,08	0,04–0,06	0,06–0,08	0,07–0,10	0,04–0,06	0,06–0,08	0,07–0,10	●	○	○
P.3.1	0,04–0,06	0,07–0,10	0,04–0,06	0,07–0,10	0,11–0,15	0,04–0,06	0,07–0,10	0,11–0,15	●	○	○
P.3.2	0,03–0,04	0,06–0,08	0,03–0,04	0,06–0,08	0,08–0,12	0,03–0,04	0,06–0,08	0,08–0,12	●	○	○
P.3.3	0,03–0,04	0,05–0,07	0,03–0,04	0,05–0,07	0,07–0,10	0,03–0,04	0,05–0,07	0,07–0,10	●	○	○
P.4.1	0,04–0,06	0,07–0,10	0,04–0,06	0,07–0,10	0,11–0,15	0,04–0,06	0,07–0,10	0,11–0,15	●	○	○
P.4.2	0,03–0,04	0,06–0,08	0,03–0,04	0,06–0,08	0,08–0,12	0,03–0,04	0,06–0,08	0,08–0,12	●	○	○
M.1.1	0,04–0,06	0,07–0,10	0,04–0,06	0,07–0,10	0,11–0,15	0,04–0,06	0,07–0,10	0,11–0,15	●	○	○
M.2.1	0,04–0,06	0,07–0,10	0,04–0,06	0,07–0,10	0,11–0,15	0,04–0,06	0,07–0,10	0,11–0,15	●	○	○
M.3.1	0,04–0,05	0,06–0,09	0,04–0,05	0,06–0,09	0,08–0,12	0,04–0,05	0,06–0,09	0,08–0,12	●	○	○
K.1.1	0,11–0,15	0,14–0,20	0,11–0,15	0,14–0,20	0,21–0,30	0,11–0,15	0,14–0,20	0,21–0,30	○	●	○
K.1.2	0,11–0,15	0,14–0,20	0,11–0,15	0,14–0,20	0,21–0,30	0,11–0,15	0,14–0,20	0,21–0,30	○	●	○
K.2.1	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,18–0,25	0,07–0,10	0,11–0,15	0,18–0,25	○	●	○
K.2.2	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,14–0,20	0,06–0,08	0,08–0,12	0,14–0,20	○	●	○
K.3.1	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,18–0,25	0,07–0,10	0,11–0,15	0,18–0,25	○	●	○
K.3.2	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,14–0,20	0,06–0,08	0,08–0,12	0,14–0,20	○	●	○
N.1.1	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,11–0,15	0,06–0,08	0,08–0,12	0,11–0,15	●	○	○
N.1.2	0,06–0,08	0,08–0,12	0,06–0,08	0,08–0,12	0,11–0,15	0,06–0,08	0,08–0,12	0,11–0,15	●	○	○
N.2.1	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
N.2.2	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
N.2.3	0,06–0,09	0,08–0,12	0,06–0,09	0,08–0,12	0,13–0,18	0,06–0,09	0,08–0,12	0,13–0,18	●	○	○
N.3.1	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
N.3.2	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,15–0,22	0,07–0,10	0,11–0,15	0,15–0,22	●	○	○
N.3.3	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
N.4.1	0,07–0,10	0,11–0,15	0,07–0,10	0,11–0,15	0,14–0,20	0,07–0,10	0,11–0,15	0,14–0,20	●	○	○
S.1.1	0,04–0,06	0,06–0,08	0,04–0,06	0,06–0,08	0,07–0,10	0,04–0,06	0,06–0,08	0,07–0,10	●	○	○
S.1.2	0,03–0,04	0,04–0,06	0,03–0,04	0,04–0,06	0,06–0,08	0,03–0,04	0,04–0,06	0,06–0,08	●	○	○
S.2.1	0,04–0,06	0,06–0,08	0,04–0,06	0,06–0,08	0,07–0,10	0,04–0,06	0,06–0,08	0,07–0,10	●	○	○
S.2.2	0,03–0,04	0,04–0,06	0,03–0,04	0,04–0,06	0,06–0,08	0,03–0,04	0,04–0,06	0,06–0,08	●	○	○
S.2.3	0,03–0,04	0,04–0,06	0,03–0,04	0,04–0,06	0,04–0,06	0,03–0,04	0,04–0,06	0,04–0,06	●	○	○
S.3.1	0,04–0,06	0,06–0,08	0,04–0,06	0,06–0,08	0,08–0,11	0,04–0,06	0,06–0,08	0,08–0,11	●	○	○
S.3.2	0,04–0,06	0,06–0,08	0,04–0,06	0,06–0,08	0,07–0,10	0,04–0,06	0,06–0,08	0,07–0,10	●	○	○
S.3.3	0,03–0,04	0,04–0,06	0,03–0,04	0,04–0,06	0,07–0,10	0,03–0,04	0,04–0,06	0,07–0,10	●	○	○
H.1.1	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,07–0,10	0,06–0,08	0,06–0,08	0,07–0,10		●	○
H.1.2	0,04–0,06	0,04–0,06	0,04–0,06	0,04–0,06	0,06–0,08	0,04–0,06	0,04–0,06	0,06–0,08		●	○
H.1.3	0,03–0,04	0,03–0,04	0,03–0,04	0,03–0,04	0,03–0,04	0,03–0,04	0,03–0,04	0,03–0,04		●	○
H.1.4											
H.2.1	0,04–0,05	0,04–0,06	0,04–0,05	0,04–0,06	0,07–0,10	0,04–0,05	0,04–0,06	0,07–0,10		●	○
H.3.1	0,04–0,05	0,04–0,06	0,04–0,05	0,04–0,06	0,06–0,08	0,04–0,05	0,04–0,06	0,06–0,08		●	○
O.1.1	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	○	●	○
O.1.2	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	○	●	○
O.2.1											
O.2.2	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08		●	
O.3.1	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08	0,06–0,08		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for finish boring heads

Index	62 303 ..., 62 308 ...	62 305 ...	● 1st choice ○ Suitable			62 382 ..., 62 386 ...	62 372 ..., 62 373 ...	62 326 ..., 62 332 ..., 62 333 ..., 62 363 ...	62 304 ...	● 1st choice ○ Suitable		
	Single point finish boring head		Emulsion	Compressed air	MMS	Micro boring head	Multi-Head boring and fine boring head	Single point boring head	Fine boring head	Emulsion	Compressed air	MMS
	a_p = 0,1 – 0,4 mm					a_p = 0,1 – 0,2 mm	a_p = 0,1 – 0,4 mm	a_p = 0,1 – 0,4 mm	a_p = 0,1 – 0,4 mm			
	Ø 23,9–116,1 mm	Ø 86 – 402 mm				Ø 0,3 – 19,1 mm	Ø 3 – 320 mm	Ø 3 – 88,1 mm	Ø 14,7 – 24,1 mm			
	f (mm/rev)					f (mm/rev)						
P.1.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.1.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.1.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.1.4	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.1.5	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.2.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.2.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.2.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.2.4	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.3.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.3.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.3.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.4.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
P.4.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
M.1.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
M.2.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
M.3.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
K.1.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
K.1.2	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
K.2.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
K.2.2	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
K.3.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
K.3.2	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
N.1.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.1.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.2.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.2.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.2.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.3.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.3.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.3.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
N.4.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.1.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.1.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.2.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.2.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.2.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.3.1	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.3.2	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
S.3.3	0,03–0,12	0,03–0,12	●	○		0,02	0,03–0,12	0,03–0,12	0,03–0,10	●	○	○
H.1.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
H.1.2	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
H.1.3	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
H.1.4												
H.2.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
H.3.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
O.1.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
O.1.2	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	○
O.2.1	0,03–0,12	0,03–0,12	○	●		0,02	0,03–0,12	0,03–0,12	0,03–0,10	○	●	
O.2.2	0,03–0,12	0,03–0,12		●		0,02	0,03–0,12	0,03–0,12	0,03–0,10		●	
O.3.1	0,03–0,12	0,03–0,12		●		0,02	0,03–0,12	0,03–0,12	0,03–0,10		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for boring heads for roughing

Index	62 843 ..., 62 870 ..., 62 881 ... Twin G01 / Twin G04 Cutting depth a_p = 1 – 9 mm							● 1st choice ○ Suitable		
	Ø 24 – 32 mm	Ø 30 – 41 mm	Ø 39 – 53 mm	Ø 51 – 71 mm	Ø 64 – 91 mm	Ø 83 – 124 mm	Ø 109 – 401 mm	Emulsion	Compressed air	MMS
	f (mm/rev)									
P.1.1	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.1.2	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.1.3	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.1.4	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.1.5	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.2.1	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.2.2	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.2.3	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.2.4	0,14–0,20	0,17–0,24	0,22–0,30	0,28–0,40	0,32–0,45	0,35–0,50	0,35–0,50	●	○	○
P.3.1	0,11–0,15	0,14–0,20	0,18–0,25	0,22–0,32	0,27–0,38	0,29–0,42	0,29–0,42	●	○	○
P.3.2	0,11–0,15	0,14–0,20	0,18–0,25	0,22–0,32	0,27–0,38	0,29–0,42	0,29–0,42	●	○	○
P.3.3	0,11–0,15	0,14–0,20	0,18–0,25	0,22–0,32	0,27–0,38	0,29–0,42	0,29–0,42	●	○	○
P.4.1	0,08–0,12	0,11–0,15	0,14–0,20	0,18–0,25	0,20–0,28	0,25–0,35	0,25–0,35	●	○	○
P.4.2	0,08–0,12	0,11–0,15	0,14–0,20	0,18–0,25	0,20–0,28	0,25–0,35	0,25–0,35	●	○	○
M.1.1	0,10–0,14	0,13–0,18	0,17–0,24	0,17–0,24	0,21–0,30	0,28–0,40	0,32–0,45	●	○	○
M.2.1	0,10–0,14	0,13–0,18	0,17–0,24	0,28–0,40	0,21–0,30	0,28–0,40	0,32–0,45	●	○	○
M.3.1	0,08–0,12	0,10–0,14	0,14–0,20	0,14–0,20	0,18–0,25	0,21–0,30	0,25–0,35	●	○	○
K.1.1	0,18–0,25	0,21–0,30	0,28–0,40	0,35–0,50	0,39–0,55	0,42–0,60	0,42–0,60	○	●	○
K.1.2	0,18–0,25	0,21–0,30	0,28–0,40	0,35–0,50	0,39–0,55	0,42–0,60	0,42–0,60	○	●	○
K.2.1	0,18–0,25	0,21–0,30	0,28–0,40	0,35–0,50	0,39–0,55	0,42–0,60	0,42–0,60	○	●	○
K.2.2	0,15–0,22	0,20–0,28	0,21–0,30	0,32–0,45	0,32–0,45	0,35–0,50	0,35–0,50	○	●	○
K.3.1	0,14–0,20	0,17–0,24	0,20–0,28	0,25–0,35	0,28–0,40	0,32–0,45	0,32–0,45	○	●	○
K.3.2	0,14–0,20	0,17–0,24	0,20–0,28	0,25–0,35	0,28–0,40	0,32–0,45	0,32–0,45	○	●	○
N.1.1	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.1.2	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.2.1	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.2.2	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.2.3	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.3.1	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.3.2	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.3.3	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
N.4.1	0,18–0,25	0,21–0,30	0,35–0,50	0,35–0,50	0,42–0,60	0,49–0,70	0,49–0,70	●	○	○
S.1.1	0,08–0,12	0,08–0,12	0,08–0,12	0,10–0,14	0,13–0,18	0,14–0,20	0,14–0,20	●	○	○
S.1.2	0,07–0,10	0,07–0,10	0,07–0,10	0,08–0,11	0,10–0,14	0,11–0,16	0,11–0,16	●	○	○
S.2.1	0,08–0,12	0,08–0,12	0,08–0,12	0,10–0,14	0,13–0,18	0,14–0,20	0,14–0,20	●	○	○
S.2.2	0,07–0,10	0,07–0,10	0,07–0,10	0,08–0,11	0,13–0,18	0,11–0,16	0,11–0,16	●	○	○
S.2.3	0,07–0,10	0,07–0,10	0,07–0,10	0,08–0,11	0,10–0,14	0,11–0,16	0,11–0,16	●	○	○
S.3.1	0,08–0,12	0,08–0,12	0,08–0,12	0,10–0,14	0,13–0,18	0,14–0,20	0,14–0,20	●	○	○
S.3.2	0,08–0,12	0,08–0,12	0,08–0,12	0,10–0,14	0,13–0,18	0,14–0,20	0,14–0,20	●	○	○
S.3.3	0,07–0,10	0,07–0,10	0,07–0,10	0,08–0,11	0,13–0,18	0,11–0,16	0,11–0,16	●	○	○
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	0,11–0,16	0,11–0,16	0,11–0,16	0,14–0,20	0,14–0,20	0,14–0,20	0,14–0,20	○	●	○
O.1.2	0,11–0,16	0,11–0,16	0,11–0,16	0,14–0,20	0,14–0,20	0,14–0,20	0,14–0,20	○	●	○
O.2.1										
O.2.2	0,06–0,08	0,06–0,08	0,07–0,10	0,07–0,10	0,08–0,12	0,08–0,12	0,10–0,14		●	
O.3.1	0,06–0,08	0,06–0,08	0,07–0,10	0,07–0,10	0,09–0,12	0,08–0,12	0,10–0,14		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for boring heads for roughing

Index	62 881 ... Twin G04 / WOEX, WOGX Cutting depth a_p = .039 – .354 inch Ø 1.181" – 1.614"	Ø 1.535" – 2.008"	Ø 1.929" – 2.795"	Ø 2.520" – 3.853"	Ø 3.268" – 4.764"	Ø 4.291" – 6.181"	Ø 5.472" – 8.031"	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	f (inch/rev)									
P.1.1	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.1.2	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.1.3	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.1.4	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.1.5	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.2.1	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.2.2	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.2.3	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.2.4	.009 – .012	.011 – .016	.011 – .016	.013 – .018	.014 – .020	.014 – .020	.014 – .020	●	○	○
P.3.1	.007 – .010	.009 – .013	.009 – .013	.011 – .015	.011 – .017	.011 – .017	.011 – .017	●	○	○
P.3.2	.007 – .010	.009 – .013	.009 – .013	.011 – .015	.011 – .017	.011 – .017	.011 – .017	●	○	○
P.3.3	.007 – .010	.009 – .013	.009 – .013	.011 – .015	.011 – .017	.011 – .017	.011 – .017	●	○	○
P.4.1	.006 – .008	.007 – .010	.007 – .010	.008 – .011	.010 – .014	.010 – .014	.010 – .014	●	○	○
P.4.2	.006 – .008	.007 – .010	.007 – .010	.008 – .011	.010 – .014	.010 – .014	.010 – .014	●	○	○
M.1.1	.007 – .009	.007 – .009	.007 – .009	.008 – .012	.011 – .016	.011 – .016	.013 – .018	●	○	○
M.2.1	.007 – .009	.011 – .016	.011 – .016	.008 – .012	.011 – .016	.011 – .016	.013 – .018	●	○	○
M.3.1	.006 – .008	.006 – .008	.006 – .008	.007 – .010	.008 – .012	.008 – .012	.010 – .014	●	○	○
K.1.1	.011 – .016	.014 – .020	.014 – .020	.015 – .022	.017 – .024	.017 – .024	.017 – .024	○	●	○
K.1.2	.011 – .016	.014 – .020	.014 – .020	.015 – .022	.017 – .024	.017 – .024	.017 – .024	○	●	○
K.2.1	.011 – .016	.014 – .020	.014 – .020	.015 – .022	.017 – .024	.017 – .024	.017 – .024	○	●	○
K.2.2	.008 – .012	.013 – .018	.013 – .018	.013 – .018	.014 – .020	.014 – .020	.014 – .020	○	●	○
K.3.1	.008 – .011	.010 – .014	.010 – .014	.011 – .016	.013 – .018	.013 – .018	.013 – .018	○	●	○
K.3.2	.008 – .011	.010 – .014	.010 – .014	.011 – .016	.013 – .018	.013 – .018	.013 – .018	○	●	○
N.1.1	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.1.2	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.2.1	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.2.2	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.2.3	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.3.1	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.3.2	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.3.3	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
N.4.1	.014 – .020	.014 – .020	.014 – .020	.017 – .024	.019 – .028	.019 – .028	.019 – .028	●	○	○
S.1.1	.003 – .005	.004 – .006	.004 – .006	.005 – .007	.006 – .008	.006 – .008	.006 – .008	●	○	○
S.1.2	.003 – .004	.003 – .004	.003 – .004	.004 – .006	.004 – .006	.004 – .006	.004 – .006	●	○	○
S.2.1	.003 – .005	.004 – .006	.004 – .006	.005 – .007	.006 – .008	.006 – .008	.006 – .008	●	○	○
S.2.2	.003 – .004	.003 – .004	.003 – .004	.005 – .007	.004 – .006	.004 – .006	.004 – .006	●	○	○
S.2.3	.003 – .004	.003 – .004	.003 – .004	.004 – .006	.004 – .006	.004 – .006	.004 – .006	●	○	○
S.3.1	.003 – .005	.004 – .006	.004 – .006	.005 – .007	.006 – .008	.006 – .008	.006 – .008	●	○	○
S.3.2	.003 – .005	.004 – .006	.004 – .006	.005 – .007	.006 – .008	.006 – .008	.006 – .008	●	○	○
S.3.3	.003 – .004	.003 – .004	.003 – .004	.005 – .007	.004 – .006	.004 – .006	.004 – .006	●	○	○
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	.004 – .006	.006 – .008	.006 – .008	.006 – .008	.006 – .008	.006 – .008	.006 – .008	○	●	○
O.1.2	.004 – .006	.006 – .008	.006 – .008	.006 – .008	.006 – .008	.006 – .008	.006 – .008	○	●	○
O.2.1										
O.2.2	.003 – .004	.003 – .004	.003 – .004	.003 – .005	.003 – .005	.003 – .005	.004 – .006		●	
O.3.1	.003 – .004	.003 – .004	.003 – .004	.004 – .005	.003 – .005	.003 – .005	.004 – .006		●	

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for boring heads for roughing

Index	62 881 ... Twin G04 / SOEX Cutting depth a_p = .039 – .354 inch Ø 1.181" – 1.614"	Ø 1.535" – 2.008"	Ø 1.929" – 2.795"	Ø 2.520" – 3.853"	Ø 3.268" – 4.764"	Ø 4.291" – 6.181"	Ø 5.472" – 8.031"	● 1st choice ○ Suitable Emulsion	Compressed air	MMS
	f (inch/rev)									
P.1.1	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.1.2	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.1.3	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.1.4	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.1.5	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.2.1	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.2.2	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.2.3	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.2.4	.007 – .011	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.019 – .031	●	○	○
P.3.1	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
P.3.2	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
P.3.3	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
P.4.1	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
P.4.2	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
M.1.1	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
M.2.1	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
M.3.1	.006 – .009	.007 – .012	.009 – .016	.012 – .020	.012 – .020	.014 – .024	.014 – .024	●	○	○
K.1.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
K.1.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
K.2.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
K.2.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
K.3.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
K.3.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	○	●	○
N.1.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.1.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.2.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.2.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.2.3	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.3.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.3.2	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.3.3	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
N.4.1	.009 – .016	.012 – .020	.014 – .024	.017 – .028	.019 – .031	.024 – .039	.024 – .039	●	○	○
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1										
O.1.2										
O.2.1										
O.2.2										
O.3.1										

→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Cutting data standard values for boring heads for roughing

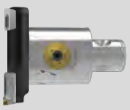
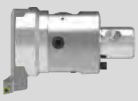
Index	62 295 … Boring head for roughing with 2 cutting edges Cutting depth a_p = 2.5 – 7 mm			● 1st choice ○ Suitable		
	Ø 23,5 – 40,5 mm	Ø 40,5 – 66,5 mm	Ø 66,5 – 87,5 mm	Emulsion	Compressed air	MMS
	f (mm/rev)					
P.1.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.1.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.1.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.1.4	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.1.5	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.2.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.2.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.2.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.2.4	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.3.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.3.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.3.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.4.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
P.4.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
M.1.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
M.2.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
M.3.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
K.1.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
K.1.2	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
K.2.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
K.2.2	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
K.3.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
K.3.2	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
N.1.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.1.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.2.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.2.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.2.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.3.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.3.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.3.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
N.4.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.1.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.1.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.2.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.2.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.2.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.3.1	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.3.2	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
S.3.3	0,3–0,4	0,4–0,5	0,5–0,7	●	○	
H.1.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
H.1.2	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
H.1.3	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
H.1.4						
H.2.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
H.3.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
O.1.1	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
O.1.2	0,3–0,4	0,4–0,5	0,5–0,7	○	●	
O.2.1	0,3–0,4	0,4–0,5	0,5–0,7	○		
O.2.2	0,3–0,4	0,4–0,5	0,5–0,7		●	
O.3.1	0,3–0,4	0,4–0,5	0,5–0,7		●	

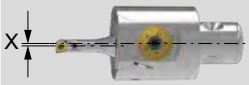
→ v_c
→ $n_{max.}$
→ LTA

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range according to the application conditions. It is essential to observe the v_c values of the grade used, the maximum speeds of the system, and the reduction of these maximum speeds depending on the type of overhang length used (LTA).

Fine boring tools

Maximum speeds

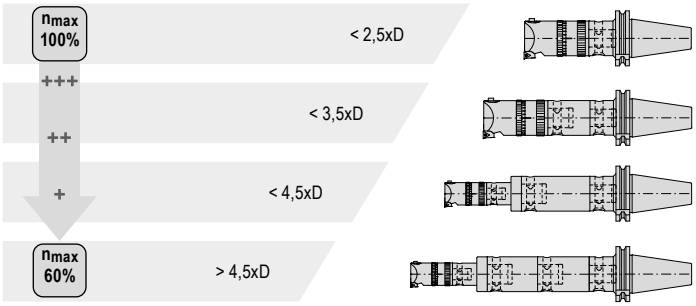
System / tool	Boring range Ø (mm)	Maximum speed in slide center position n_{max} (RPM)
 **62 800 ...** hi.flex	0,5–365	17.500
 **62 386 ..., 62 382 ...** Micro boring head	0,3–19,1	30.000
 **62 304 ...** Fine boring head	14,7–24,1	12.000
 **62 815 ...** M03Speed	24–39	40.000
	38–50	31.000
	49–63	24.000
	62–80	18.500
	79– 103	15.000
	100–130	11.500
	128–168	10.000
	166–206	8.000
 **62 810 ...** FF precision adjustment head	29,5–42	25.000
	39–50	18.000
	47–66	12.000
	58–83	9.000
 **62 811 ...** FZ precision adjustment head	79–108	6.000
	100–141	4.000
	138–179	3.500
	178–199	3.000
 **62 372 ..., 62 373 ...** Multi-Head boring and fine boring head with bridge	88–164	900
	164–320	250
 **62 305 ...** Single point finish boring head with insert holder	86–138	1.150
	136–220	720
	188–302	520
	242–402	400

System / tool 	Boring range Ø (mm)	Axial offset Maximum speed n_{max} (RPM) X ≤ 0,5 mm	Axial offset Maximum speed n_{max} (RPM) X > 0,5 mm
62 372 ..., 62 373 ... Multi-Head boring and fine boring head with boring bar	3–20	16.000	6.000
62 326 ..., 62 332 ..., 62 333 ..., 62 363 ... Single point boring head with boring bar	20–48	12.000	4.000
	48–88	8.000	2.000

System / tool 	Boring range Ø (mm)	Unbalanced Maximum speed n_{max} (RPM)	Balanced Maximum speed n_{max} (RPM)
62 308 ..., 62 303 ... Single point finish boring head with insert holder	24–31	9.000	12.000
	31–40	7.500	10.000
	40–51	5.250	8.000
	51–67	4.000	6.500
	67– 87	3.000	5.000
	87–116	2.500	4.000
	116–154,1	1.750	3.000

Selection of the maximum speed

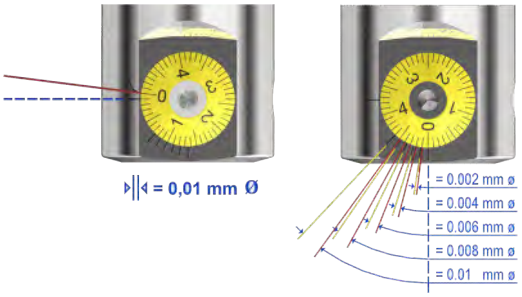
depending on the overhang length (LTA)



Scale accuracy

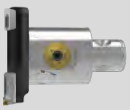
Large scale with 0.002 mm (.00008") adjustment

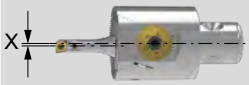
How it works:



Fine boring tools

Maximum speeds

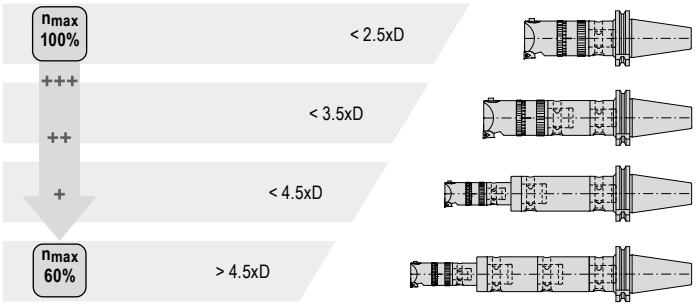
System / tool	Boring range Ø (mm)	Maximum speed in slide center position n_{max} (RPM)
 **62 800 ..., 67 800 ...** hi.flex	0.5–365	17,500
 **62 386 ..., 62 382 ...** Micro boring head	0.3–19.1	30,000
 **62 304 ...** Fine boring head	14.7–24.1	12,000
 **62 815 ...** M03Speed	24–39	40,000
	38–50	31,000
	49–63	24,000
	62–80	18,500
	79– 103	15,000
	100–130	11,500
	128–168	10,000
	166–206	8,000
 **62 810 ...** FF precision adjustment head	29.5–42	25,000
	39–50	18,000
	47–66	12,000
	58–83	9,000
 **62 811 ...** FZ precision adjustment head	79–108	6,000
	100–141	4,000
	138–179	3,500
	178–199	3,000
 **62 372 ..., 62 373 ...** Multi-Head boring and fine boring head with bridge	88–164	900
	164–320	250
 **62 305 ...** Single point finish boring head with insert holder	86–138	1,150
	136–220	720
	188–302	520
	242–402	400

System / tool 	Boring range Ø (mm)	Axial offset Maximum speed n_{max} (RPM) X ≤ 0.5 mm	Axial offset Maximum speed n_{max} (RPM) X > 0.5 mm
62 372 ..., 62 373 ... Multi-Head boring and fine boring head with boring bar	3–20	16,000	6,000
62 326 ..., 62 332 ..., 62 333 ..., 62 363 ... Single point boring head with boring bar	20–48	12,000	4,000
	48–88	8,000	2,000

System / tool 	Boring range Ø (mm)	Unbalanced Maximum speed n_{max} (RPM)	Balanced Maximum speed n_{max} (RPM)
62 308 ..., 62 303 ... Single point finish boring head with insert holder	24–31	9,000	12,000
	31–40	7,500	10,000
	40–51	5,250	8,000
	51–67	4,000	6,500
	67– 87	3,000	5,000
	87–116	2,500	4,000
	116–154.1	1,750	3,000

Selection of the maximum speed

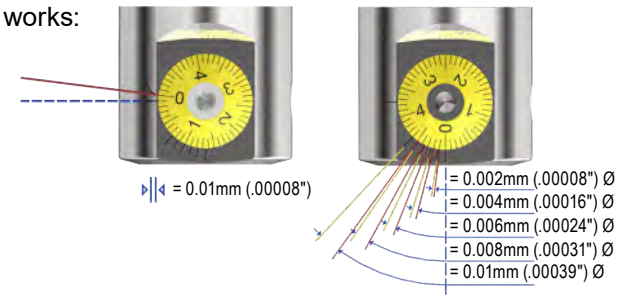
depending on the overhang length (LTA)



Scale accuracy

Large scale with 0.002 mm (.00008") adjustment

How it works:



Fine boring tools

Maximum overhang length LTA at 35 mm shank clamping depth



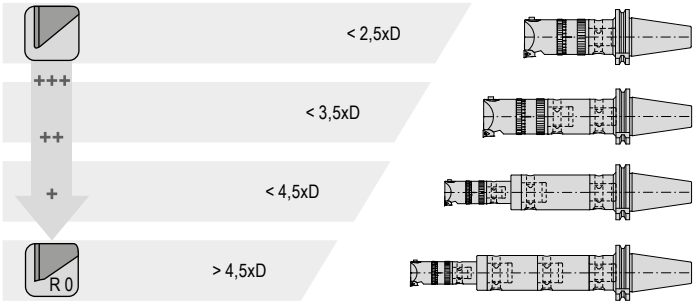




LTA (mm)	High-speed boring head 62 361 ...																Fine boring head 62 304 ...			Boring shank 62 353 ...
	014	015	016	017	018	019	020	021	022	023	025	027	030	033	037	040	017	020	024	
	56																			008
		63																		009
			70																	010
				77																011
					84															012
						91														013
							98	98									115			014
									112	112	112	112	112	112	112	112		125		016
																			105	018
																			145	118
																			185	218

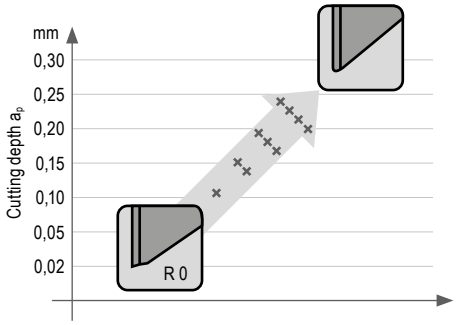
Selection of the cutting radius

depending on the overhang length (LTA)



Selection of the cutting radius

depending on the cutting depth a_p



Influence of the cutting forces of the cutting edge radius on internal machining

Resulting force

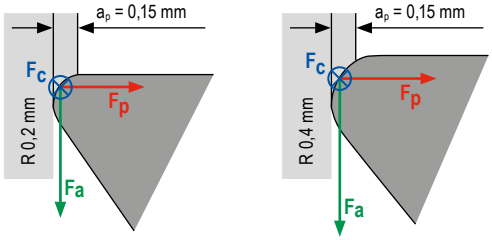
$$F_{res} = \sqrt{F_a^2 + F_p^2} = \sqrt{F_c^2 + F_f^2 + F_p^2}$$

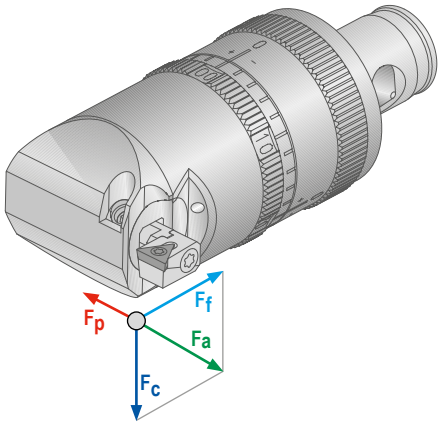
Cutting force (Fc)
- pushes the tool down from the vertical central axis
- is influenced by the cutting depth and the chip thickness
- reduces the clearance angle

Passive cutting force (Fp)
- pushes the tool away from the horizontal central axis
- increases the risk of vibrations and causes dimensional inaccuracies

Feed force (Ff)
- acts in the machining direction of the tool

Active cutting force (Fa)
- Determined by F_c and F_f





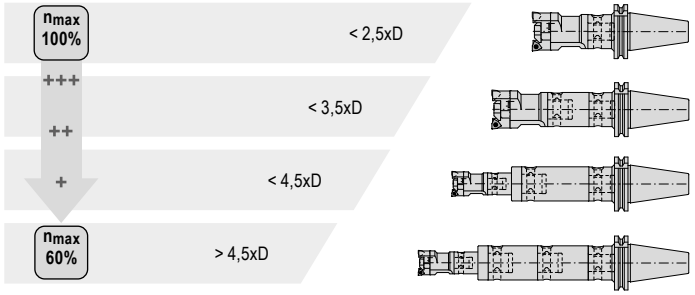
Rough boring tools

Maximum speeds

System / tool	Boring range Ø (mm)	Maximum speed n_{max} (RPM)
 **62 870 ..., 62 881 ..., 62 841 ..., 62 843 ...** Twin G01 / Twin G04	24–31	12.000
	31–40	10.000
	40–51	8.000
	51–68	6.500
	67–87	5.000
 **62 295 ...** Boring head for roughing with 2 cutting edges	87–116	4.000
	116–153	3.000
	153–215	2.200
	215–300	2.000
	300–401	1.800

Selection of the maximum speed

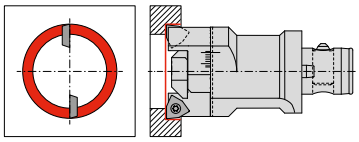
depending on the overhang length (LTA)



Twin G01 applications

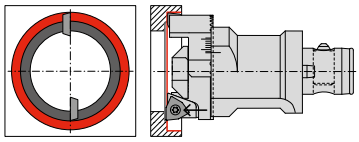
in pre-cast / premachined holes

Roughing as "true" twin cutter

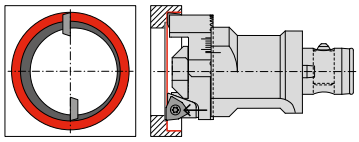


Axial adjustment required

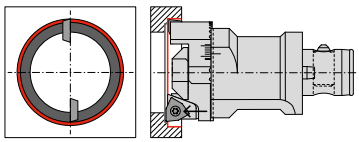
Roughing with large allowance



Roughing with large offset

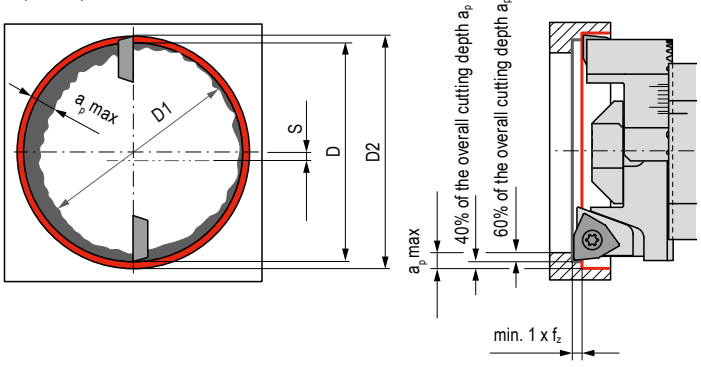


Roughing / Semi-Finishing



Cut distribution calculation

Example:
D2 (finished Ø) = 100 mm,
D1 (raw Ø) = 80 mm,
S (offset) = 3 mm



Calculation formula

$$D = D2 - [(\frac{D2 - D1}{2}) + S] \times 0{,}8$$

$$D = 100 - [(\frac{100 - 80}{2}) + 3] \times 0{,}8 = 89{,}6 \text{ mm}$$

Feed rate guide values for surface quality

Roughness range R_z in µm	R_{th}	Corresponds to R_a	Roughness index	ISO 1302	Corner radius RE in mm and feed f in mm/rev						
					RE = 0,1	RE = 0,2	RE = 0,4	RE = 0,8	RE = 1,2	RE = 1,6	RE = 2,4
63–100	$R_{th}63$	12,5–25	N11	25	0,22*	0,32*	0,45*	0,63	0,78	0,9	1,1
40–63	$R_{th}40$	6,3–12,5	N10	12,5	0,18*	0,25*	0,36	0,51	0,62	0,72	0,88
31,5–40	$R_{th}31,5$	4,9–6,3	N9	6,3	0,16*	0,22*	0,32	0,45	0,55	0,63	0,78
25–31,5	$R_{th}25$	4,0–4,9			0,14*	0,2*	0,28	0,4	0,49	0,57	0,69
16–25	$R_{th}16$	2,5–4,0	N8	3,2	0,11*	0,16	0,23	0,32	0,39	0,45	0,55
10–16	$R_{th}10$	1,6–2,5			0,09	0,13	0,18	0,25	0,31	0,36	0,44
6,3–10	$R_{th}6,3$	1,0–1,6	N7	1,6	0,07	0,1	0,14	0,2	0,25	0,28	0,35
4–6,3	$R_{th}4$	0,8–1,0	N6	0,8	0,06	0,08	0,11	0,16	0,2	0,23	0,28
2,5–4	$R_{th}2,5$	0,4–0,8	N5	0,4	0,04	0,06	0,09	0,13	0,15	0,18	0,22
1,6–2,5	$R_{th}1,6$	0,2–0,4	N4	0,2	0,04	0,05	0,07	0,1	0,12	0,14	0,18
1–1,6	$R_{th}1$	0,1–0,2	N3	0,1	0,03	0,04	0,06	0,08	0,1	0,11	0,14

*Please ensure that the feed rate values used do not exceed the corner radius (RE).

The feed rate values shown are recommended values and are based on purely theoretical calculations using the above-mentioned formula. These may however deviate in practice.

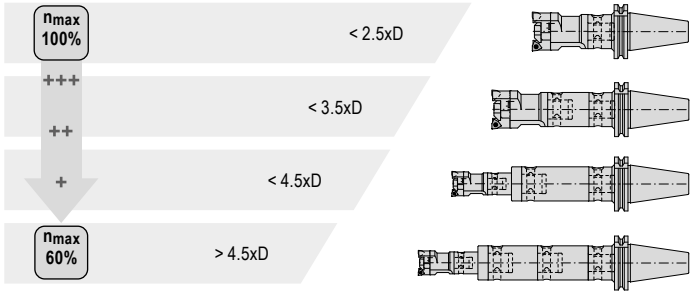
Rough boring tools

Maximum speeds

System / tool	Boring range Ø (mm)	Boring range Ø (inch)	Maximum speed n_{max} (RPM)
 **62 870 ..., 62 881 ..., 62 841 ..., 62 843 ...** Twin G01 / Twin G04	24–31		12,000
	31–40	1.181–1.614	10,000
	40–51	1.535–2.008	8,000
	51–68	1.929–2.795	6,500
	67–87	2.520–3.853	5,000
	87–116	3.268–4.764	4,000
	116–153	4.291–6.181	3,000
	153–215	5.472–8.031	2,200
	215–300		2,000
	300–401		1,800
 **62 295 ...** Boring head for roughing with 2 cutting edges			

Selection of the maximum speed

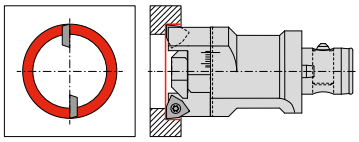
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Twin G01 applications

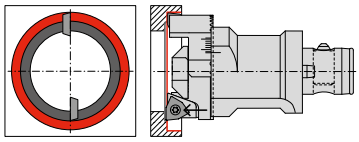
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Roughing as "true" twin cutter

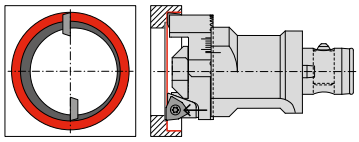


Axial adjustment required

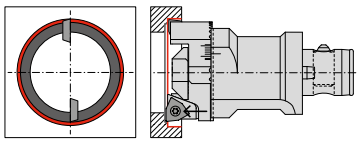
Roughing with large allowance



Roughing with large offset

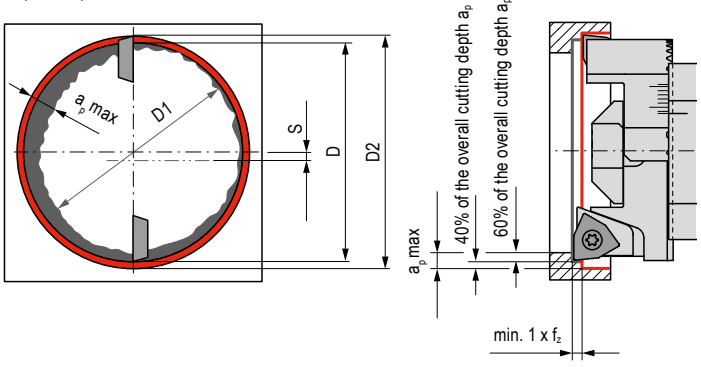


Roughing / Semi-Finishing



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Calculation formula

$$D = D2 - [(\frac{D2 - D1}{2}) + S] \times 0{,}8$$

$$D = 100 - [(\frac{100 - 80}{2}) + 3] \times 0.8 = 89.6 \text{ mm}$$

Feed rate guide values for surface quality

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63–100	$R_{th}63$	12.5–25	N11	25	0.22*	0.32*	0.45*	0.63	0.78	0.9	1.1
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31.5–40	$R_{th}31.5$	4.9–6.3	N9	6.3	0.16*	0.22*	0.32	0.45	0.55	0.63	0.78
25–31.5	$R_{th}25$	4.0–4.9			0.14*	0.2*	0.28	0.4	0.49	0.57	0.69
16–25	$R_{th}16$	2.5–4.0	N8	3.2	0.11*	0.16	0.23	0.32	0.39	0.45	0.55
10–16	$R_{th}10$	1.6–2.5			0.09	0.13	0.18	0.25	0.31	0.36	0.44
6.3–10	$R_{th}6.3$	1.0–1.6	N7	1.6	0.07	0.1	0.14	0.2	0.25	0.28	0.35
4–6.3	$R_{th}4$	0.8–1.0	N6	0.8	0.06	0.08	0.11	0.16	0.2	0.23	0.28
2.5–4	$R_{th}2.5$	0.4–0.8	N5	0.4	0.04	0.06	0.09	0.13	0.15	0.18	0.22
1.6–2.5	$R_{th}1.6$	0.2–0.4	N4	0.2	0.04	0.05	0.07	0.1	0.12	0.14	0.18
1–1.6	$R_{th}1$	0.1–0.2	N3	0.1	0.03	0.04	0.06	0.08	0.1	0.11	0.14

*Please ensure that the feed rate values used do not exceed the corner radius (RE).

The feed rate values shown are recommended values and are based on purely theoretical calculations using the above-mentioned formula. These may however deviate in practice.

Indexable inserts

Selection of the rake angle

Recommendations for the usage of indexable inserts with ground chip breakers

	Rounded E	Sharp F	Chamfered T
0°	P	P	P
	M	M	M
	K	K	**K**
	N	**N**	N
	S	S	S
	H	H	**H**
≤ 6°	**P**	P	P
	M	M	M
	K	K	K
	N	N	N
	S	S	S
	H	H	H
≤ 12°	**P**	P	P
	M	M	M
	K	K	K
	N	**N**	N
	S	**S**	S
	H	H	H
≤ 20°	P	P	P
	M	M	M
	K	K	K
	N	**N**	N
	S	**S**	S
	H	H	H

→ Here you will find a detailed chip groove description.

Number key

for indexable inserts according to factory standard

W	2	9	2	4	0	1	0	.	0	4	8	4	2	5
	2	3	4	5	6	7	8		9	10	11	12	13	14

2 – 3 Type / shape

00	W...	84°	Regular version, periphery ground
29	W...	84°	Reinforced version
30	T...	60°	Periphery ground, clearance angle 8°
57	T...	60°	Periphery ground, clearance angle 11°
80	S...	90°	Periphery sintered

4 – 5 Size / IC

04	4,0 mm	**18**	6,2 mm 6,35 mm	**28**	8,9 mm	**42**	12,0 mm
10	4,8 mm 5,0 mm	**20**	7,0 mm 7,1 mm	**32**	9,52 mm 9,8 mm	**46**	13,2 mm
12	5,5 mm	**24**	8,0 mm	**34**	10,0 mm	**50**	15,0 mm
14	5,6 mm	**26**	8,2 mm	**38**	10,9 mm 11,1 mm	**58**	17,6 mm

6 – 7 Topography

Ground code

06	Left-hand cutting, 6°
12	Left-hand cutting, 12°
34	High-feed geometry, chamfered and rounded

Sintered code

01	Double grooves, cutting edge chamfered and rounded
02	Stepped geometry, cutting edge chamfered and rounded
03	Calotte geometry, cutting edge rounded
11	20° chip former, cutting edge rounded
12	Alu / finishing geometry
13	Shaft geometry, cutting edge rounded
14	Finishing topography
15	Semi-finishing topography
18	Finishing topography with wiper corner
32	Burr-minimized, periphery ground
33	Burr-minimized, periphery sintered

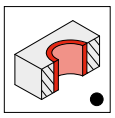
9 – 10 Corner radius

01	R 0,1	**04**	R 0,4
02	R 0,2	**06**	R 0,6
03	R 0,3	**08**	R 0,8

11 – 14 Grade

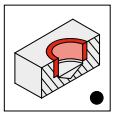
→ Here you will find the detailed grade description.

Notes on boring technology – Twin G01

1. 

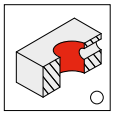
Boring a through hole

- Possible without any problems

2. 

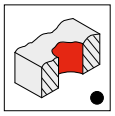
Boring a blind hole

- Possible without any problems

3. 

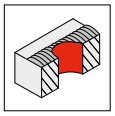
Drilling through a cross hole

- Reduce feed by up to 50%, if necessary
- Check for chip jamming on the periphery of the tool
- Use tough indexable inserts
- Use stable corner radius

4. 

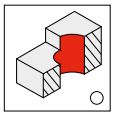
Boring uneven surfaces (casting surfaces)

- Feed must reduce by up to 40% when spot drilling
- Use tough indexable inserts
- Use stable corner radius

5. 

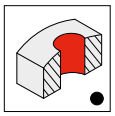
Boring a seam (forging/welding/casting seam)

- Reduce feed
- Use max. 3xD tools

6. 

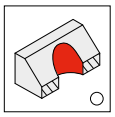
Entering on an edge

- Reduce feed to 50%
- Use tough indexable inserts
- Use stable corner radius

7. 

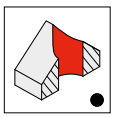
Entering on convex surfaces

- Possible without any problems
- If necessary, reduce feed

8. 

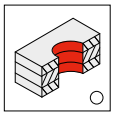
Boring angled surfaces

- From the interrupted cut, reduce the feed by up to 50%
- Use tough indexable inserts
- Use stable corner radius

9. 

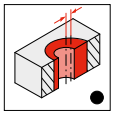
Boring a pointed contour

- Reduce the feed by up to 40% in the area where cutting is interrupted

10. 

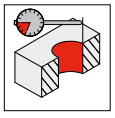
Stack plate boring

- Use holder with 80° positioning
- Good workpiece clamping required
- Max. gap size = 1 mm

11. 

Large hole offset

- Possible without any problems
- Axial-radial cut distribution, see graphic: Cut distribution

12. 

Adjustable in diameter

- Possible without any problems

Problems / possible causes / solutions – rough boring and fine boring

1. No chip breakage

▲ Cutting depth a_p too low for cutting edge topography used	→ If necessary, increase the cutting depth a_p → Use cutting edge topography for small to medium cutting depths
▲ Cutting depth a_p too big for cutting edge topography used	→ Reduce cutting depth a_p → Axial-radial cut distribution → Use cutting edge topography for larger cutting depths
▲ Feed/tooth too low	→ Increase feed/tooth
▲ RPM too high	→ Reduce RPM
▲ Cutting edges not same length axially	→ Correct axial offset: Use holder with axial length compensation

2. Chip jam

▲ Unfavorable chip shape	→ Increase feed → Use cutting edge topography with chip breaker → Axial-radial cut distribution → See measures: 1. No chip breakage
▲ Workpiece clamping	→ In the case of through holes, check there is sufficient space for pecking behind the component
▲ Cooling lubricant pressure / quantity too low	→ Improve cooling lubricant pressure / quantity

3. Conical hole

→ See measures: 1. No chip breakage

4. Poor surface quality

▲ Feed too high	→ Reduce feed
▲ Cutting speed too low	→ Increase cutting speed
▲ Cutting radius too small	→ Use indexable insert with a larger cutting radius → Use indexable insert with wiper geometry
▲ Rake angle of the indexable insert too small	→ Use indexable insert with positive cutting edge geometry
▲ Built-up edge	→ Use indexable insert with positive cutting edge geometry → Use indexable insert with wider chip breaker groove
▲ Unfavorable chip shape	→ See measures: 1. No chip breakage → See measures: 2. Chip jam

5. Vibrations

▲ Tool design – high L/D ratio	→ If necessary, check tool design → If possible, consistently avoid the same boring bar Ø → If possible, stepped tool design; design tool to be as stable as possible → Check axial-radial cutting settings → Use vibration-optimized boring bar, if necessary → Use HMD damping element, if necessary
▲ Feed too high	→ Reduce feed
▲ Cutting speed too high	→ Reduce cutting speed, see graphic: Selection of the cutting speed depending on the overhang length
▲ Depth of cut too big	→ Reduce depth of cut → Axial-radial cut distribution
▲ Cutting edge geometry too blunt	→ Use indexable insert with positive cutting edge geometry → Use indexable insert with wider chip breaker groove
▲ Cutting radius too big	→ Use indexable insert with a smaller cutting radius, see graphic: Selection of the cutting radius depending on the overhang length and the depth of cut

Types of wear

Flank wear



Abrasion on the flank: normal wear after a certain period of operation.

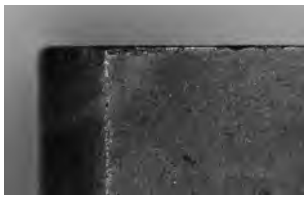
Cause

- Cutting speed too high
- Carbide grade does not have enough wear resistance
- Feed not adapted to application

Solution

- Reduce cutting speed
- Select a carbide grade with high wear resistance
- Bring feed into the right relationship with cutting speed and cutting depth

Chipping



Increased mechanical stress on the cutting edge may result in carbide particles breaking off.

Cause

- Grade with too high a wear resistance
- Vibrations on tool or workpiece
- Feed rate or cutting depth is too high
- Built-up edge
- Interrupted cut
- Chip stroke

Solution

- Use tougher grade
- Improve stability (tool, workpiece)
- Avoid built-up edges

Crater wear



The outgoing hot chip is causing cratering of the cutting insert on the clamping flat.

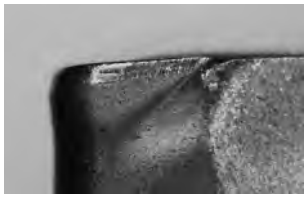
Cause

- Cutting speed too high, feed too high
- Rake angle too low
- Grade does not have enough wear resistance
- Incorrectly supplied cooling

Solution

- Reduce cutting speed and/or feed rate
- Choose carbide grade with greater wear resistance
- Increase quantity and/or pressure of coolant, check supply
- Use a more crater-resistant grade

Plastic deformation



High machining temperature with simultaneous mechanical stress can lead to plastic deformation.

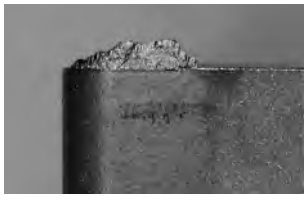
Cause

- Working temperature too high, softening of the base material
- Damage to the coating
- Grade does not have enough wear resistance
- Incorrectly supplied cooling

Solution

- Reduce cutting speed
- Select more wear-resistant, more thermally stable carbide grade
- Make provisions for cooling / check supply

Built-up edge formation



Material builds up on the cutting edge if the chip does not flow correctly due to the cutting temperature being too low.

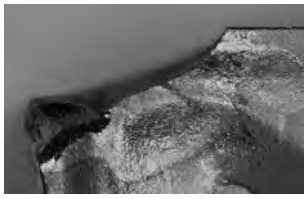
Cause

- Cutting speed too low
- Rake angle too small
- Incorrect cutting material
- Missing cooling/lubrication

Solution

- Increase cutting speed
- Increase rake angle
- Use TiN coating
- Make provisions for cooling / increase oil content of emulsion

Edge breakage



If a cutting insert is overloaded, edge breakage may occur.

Cause

- Cutting material overloaded (extreme values)
- Lack of stability
- Wedge angle too small
- Interference contours were not taken into account
- Interrupted cut

Solution

- Use a tougher cutting material
- Use chamfer for edge protection
- Increase rounding of cutting edge
- Use more stable geometry
- Check cutting data
- Check interference contours

Chip breakers

-SF14

- Rake angle 14°
- Specially developed chip breakers with remarkable chip control for a range of applications, from fine finishing to medium machining

-SF15

- Rake angle 15°
- Balanced geometry: high stability with high cutting edge sharpness
- Excellent chip control with minimum susceptibility to built-up edge formation
- Particularly good chip breakage with small and medium feeds
- Initial recommendation for machining C-steel, alloyed and stainless steels

-SF16

- Rake angle 15°
- Balanced geometry: high stability with high cutting edge sharpness
- Large chip chamber, therefore good chip control at low feeds
- Initial recommendation for machining C-steel, alloyed and stainless steels

-SF20

- Rake angle 20°
- Particularly smooth cutting thanks to the extremely positive rake angle
- Excellent chip control with minimum susceptibility to built-up edge formation
- Perfect cutting performance thanks to the extremely positive rake angle, particularly with low depths of cut and feeds
- Initial recommendation for machining stainless steel, alloy steels, carbon steel, and non-ferrous metals

-SF30

- Rake angle 15°
- Balanced geometry: high stability with high cutting edge sharpness
- Chip breaker geometry: Very good chip breakage for small and medium feeds
- Initial recommendation for machining C-steel, alloyed and stainless steels

-01

- Rake angle 12°
- All-round topography chamfered, rounded
- Very smooth-cutting thanks to positive cutting edge geometry
- Also suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation also in less solid materials

-02

- Rake angle 0°
- Roughing topography, extremely stable (significant wedge angle)
- Excellent chip formation for chips that are difficult to control
- Only suitable for small cutting depths < 1.5 mm under certain circumstances

-11

- Rake angle 20°
- Highly positive, minimally rounded chip breaker
- For soft-cutting usage
- Main application in aluminum

-12

- Rake angle 30°
- Peripheral ground indexable insert with pressed chip breaker
- Highly positive, sharp, and all-round cutting edge, therefore extremely smooth-cutting
- Peripheral ground flanks guarantee controlled chip formation and best surface quality at low cutting forces

-14

- Rake angle 14°
- Peripheral ground and sintered topography
- Controlled chip formation in fine and extremely fine machining

-15

- Rake angle 15°
- Semi-finishing chip breaker; peripheral ground, sintered
- Controlled chip formation in fine and extremely fine machining

-18

- Rake angle 14°
- Peripheral ground and sintered topography
- Controlled chip formation in fine and extremely fine machining
- Positive wiper geometry for maximum demands on surface quality

-G06

- Rake angle 6°
- For P / M / K materials
- High stability due to significant wedge angle

-G12

- Rake angle 12°
- For P / N / S materials
- Extremely smooth-cutting thanks to positive cutting edge geometry
- Particularly suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation also in less solid materials

Grades

K10

- Carbide, uncoated
- ISO | **K10**
- Uncoated carbide grade for machining grey cast iron or non-ferrous metals, depending on the cutting edge geometry

BK2710

- Carbide, TiAlN-coated
- ISO | P10 | M10 | **K10**
- Extremely wear-resistant carbide grade for machining stainless steels, structural steels, and tool steels as well as cast iron materials

BK60

- Carbide, TiC-TiCN-TiN-coated
- ISO | P25 | **M10**
- Multi-layer coating for long service life even in the upper cutting speed range

BK6110

- Carbide, TiCN-TiN-Al_2O_3-coated
- ISO | P10 | **K10**
- Wear-resistant carbide grade for machining cast iron and steel materials

BK6115

- Carbide, TiCN-TiN-Al_2O_3-coated
- ISO | **P20** | **K20** | H20
- High-quality, surface-treated coating for machining cast iron materials in normal to stable conditions and at high cutting speeds

BK6440

- Carbide, CVD TiCN-Al_2O_3-TiN-coated
- ISO | **M25** | **K35**
- Extremely tough standard grain grade; good wear resistance in steel and stainless steel materials, even in unfavorable cutting conditions / interrupted cut

BK7615

- Carbide, TiCN-Al_2O_3-coated
- ISO | **K15**
- Highly productive cutting material grade with extreme edge stability for wet and dry machining of all cast iron materials

BK77

- Carbide, TiN-coated
- ISO | **S10** | H10 | O10
- The wear-resistant carbide grade for machining aluminum alloys, super alloys, and plastics at medium cutting speeds

BK7710

- Carbide, TiB_2-coated
- ISO | **N10** | S10 | O10
- The wear-resistant grade with optimum cutting characteristics to prevent built-up edge formation for machining aluminum and titanium alloys

BK7935

- Carbide, AlTiN-coated
- ISO | **P35** | **M30** | **K30** | N30 | **S30** | O30
- The tough carbide grade for machining stainless steel and acid-resistant steels as well as special alloys

BK8425

- Carbide, TiAlN/TiN-coated
- ISO | **P25** | **M25** | **K25**
- Universal grade with greater wear resistance thanks to innovative PVD multi-layer coating

BK8430

- Carbide, TiAlN/TiN-coated
- ISO | **P25** | **M25**
- Fine-grain grade with high wear resistance
- Extreme edge stability and maximum wear resistance in the middle and top speed range

BK8440

- Carbide, TiCN/TiN-coated
- ISO | **P35** | M10
- Very tough carbide grade for medium cutting speeds and interrupted cut

Grades

CBN40

- Cubic boron nitride, uncoated
- ISO | **H05**
- Uncoated cutting material made of cubic boron nitride for machining hardened steels over 45 HRC, heat-resistant nickel-based or cobalt-based alloys

CK32

- Cermet, uncoated
- ISO | **P10** | **M15** | K05 | N15
- For fine and finish turning
- Less wear and greater cutting speed result in longer tool life and high surface quality
- Cutting material for high productivity in the top cutting speed range

CK3230

- Cermet, uncoated
- ISO | **P20** | **M20** | K10 | N20
- Extremely tough behavior with good wear resistance suitable for use also in interrupted cut

CTDPU20

- Polycrystalline diamond cutting material with mixed grain, uncoated
- ISO | **N15**
- Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements
- Used in plastics and fiber composites (GFK, CFK)

CWC06

- Cermet, TiC/TiN-coated
- ISO | **P10** | M10 | **K10** | N10
- Coated cermet grade for fine boring at high cutting speed and with a uniform cut

CWC10

- Cermet, uncoated
- ISO | **P15** | **M10** | K10
- The uncoated cermet grade for finish machining of stainless and hardened steel
- Particularly wear-resistant due to high heat resistance

CWN10

- Carbide, TiN-coated
- ISO | **K10**
- The carbide grade for machining steels, stainless steels and non-ferrous metals

CWP25

- Carbide, uncoated
- ISO | **P25** | **M25** | K25 | **N25** | S25
- Uncoated carbide grade for fine boring with large hole depths and small machining allowances

Coatings

TiN

- TiN coating
- Maximum application temperature: 450 °C or 842 °F

Overview – Installation inserts

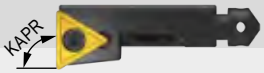
Short clamping holders

WO.X



→ 93° → 90° → 75°
→ 45° I → 45° II
→ 30° → 30° I
→ 0°

TO.X



→ 90°
→ 45°
→ 30°
→ 15°

TP..



→ 90°

SOEX



→ 87°
→ 45°

SOGX



→ 87°
→ 75°
→ 45°

CCMT



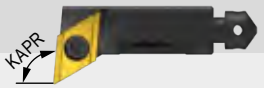
→ 90°

CP..



→ 90°

DO.T



→ 107,5°
→ 95°
→ 5°

RCMT



→ 0°

Axially adjustable WO.X



→ 90°

Axially and radially adjustable WO.X



→ 90°

Precision turning inserts

Radial installation



→ **M31** TO.X → **M31** TP..

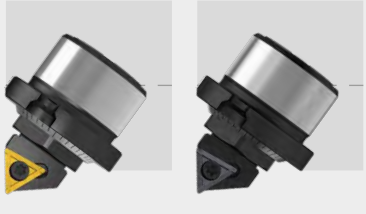


→ **FF** TO.X → **FF** TP..

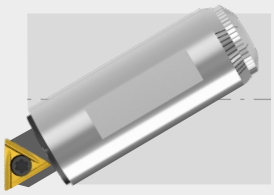


→ **FZ** Cutting form 2

Angled installation



→ **M31** TO.X → **M31** TP..



→ **FZ** Cutting form 5



→ **FZ** Cutting form 3

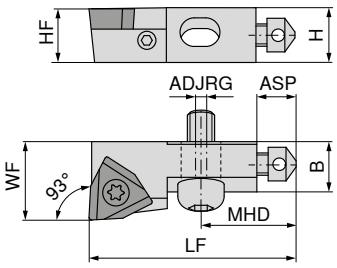


→ **FZ** Cutting form 4

CoreLine – Short clamping holder 93° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ... Left	FI 62 839 ... Right
KH.10	D40 50020	9.6	14	37	9	10	2	7	17	WO.X 06T3..	2,8	**20693**	
KH.10	D40 55020	9.6	14	37	9	10	2	7	17	WO.X 06T3..	2,8		**10693**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert
Left-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 20693	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 10693	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**


Key

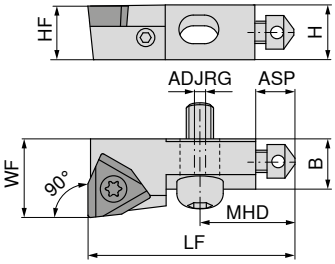

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 20693	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 10693	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**

CoreLine – Short clamping holder 90° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...	FI 62 839 ...
KH.8	D40 55170	7.6	10.98	32	7.5	8	2	7	17	WO.X 0403..	1,01		**10490**
KH.8	D40 55111	7.6	11.00	32	7.5	8	2	7	17	WO.X 05T3..	1,28		**10590**
KH.10	D40 50120	9.6	14.00	37	9.0	10	2	7	17	WO.X 06T3..	2,8	**20690**	
KH.10	D40 55120	9.6	14.00	37	9.0	10	2	7	17	WO.X 06T3..	2,8		**10690**
KH.16	D40 50140	15.6	18.00	50	12.0	16	2	8	25	WO.X 0804..	6,25	**20790**	
KH.16	D40 55140	15.6	18.00	50	12.0	16	2	8	25	WO.X 0804..	6,25		**10790**
KH.20	D40 55150	19.6	22.00	57	15.0	20	2	10	27	WO.X 1005..	6,25		**10890**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert
Left-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10490	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 839 10590	M4x11	**50400**	M4x7	**50100**		
62 839 20690	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 10690	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 20790	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**
62 839 10790	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**
62 839 10890	M8x22	**50700**	M6x10	**50200**	M5x14 - SW2,5	**51800**


Key

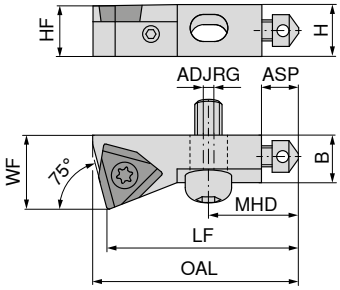

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10490	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 839 10590	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
62 839 20690	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 10690	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 20790	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
62 839 10790	T15 - IP	**063**	M4,5x9 - 15IP	**12700**
62 839 10890	T15 - IP	**063**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 75° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.8	D40 55211	7.6	11	32	7.5	8	2	7	17	33.0	WO.X 05T3..	1,28	**10575**
KH.10	D40 55220	9.6	14	37	9.0	10	2	7	17	40.0	WO.X 06T3..	2,8	**10675**
KH.16	D40 55240	16.6	18	50	12.0	16	2	8	25	53.5	WO.X 0804..	6,25	**10775**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.



Fixing screw



Backstop screw



Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10575	M4x11 **50400**	M4x7	**50100**		
62 839 10675	M5x15 **50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 10775	M6x18 **50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**



Key



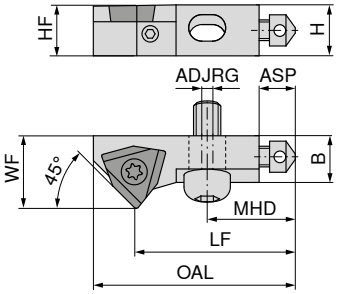
Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10575	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
62 839 10675	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 10775	T15 - IP	**063**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 45° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.8	D40 55470	7.6	11	26.5	7.5	8	2	7	17	33	WO.X 0403..	1,01	**10445**
KH.8	D40 55411	7.6	11	26.5	7.5	8	2	7	17	33	WO.X 05T3..	1,28	**10545**
KH.10	D40 55420	9.6	14	37.0	9.0	10	2	7	17	46	WO.X 06T3..	2,8	**10645**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10445	M4x11 **50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 839 10545	M4x11 **50400**	M4x7	**50100**		
62 839 10645	M5x15 **50500**	M4x7	**50100**	M4x8 - SW2	**51600**


Key

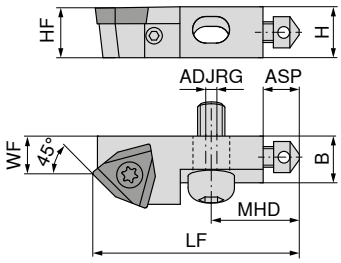

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10445	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 839 10545	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
62 839 10645	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**

CoreLine – Short clamping holder 45° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.8	D40 55511	7.6	5.6	33	7.5	8	2	7	17	WO.X 05T3..	1,28	**10546**
KH.16	D40 55540	15.6	9.6	50	12.0	16	2	8	25	WO.X 0804..	6,25	**10745**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10546	M4x11	**50400**	M4x7	**50100**		
62 839 10745	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**


Key

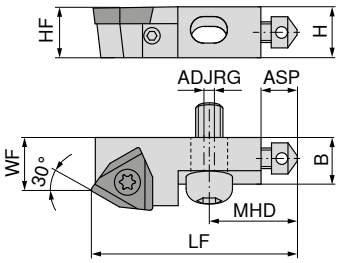

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10546	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
62 839 10745	T15 - IP	**063**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 30° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.8	D40 55611	7.6	8.11	33	7.5	8	2	7	17	WO.X 05T3..	1,28	**10530**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert

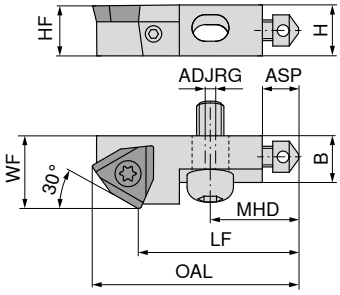
The installation dimensions are available for download in the online shop next to the product.

	 Key	 Clamping screw	 Fixing screw	 Backstop screw
	AS	AS	FI	FI
Spare parts for article number	**80 950 ...**	**10 950 ...**	**62 950 ...**	**62 950 ...**
62 839 10530	T08 - IP **060**	M2,5x7,2 - 08IP **10500**	M4x11 **50400**	M4x7 **50100**

CoreLine – Short clamping holder 30° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.10	D40 55720	9.6	14	31	9	10	2	7	17	40.38	WO.X 06T3..	2,8	**10630**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.



Fixing screw



Backstop screw



Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10630	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**



Key



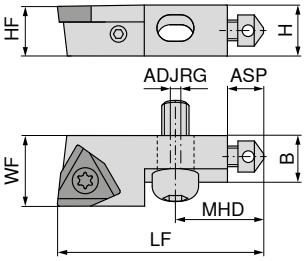
Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10630	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**

CoreLine – Short clamping holder 0° – WO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...	FI 62 839 ...
KH.8	D40 55911	7.6	11	33	7.5	8	2	7	17	WO.X 05T3..	1,28		**10500**
KH.10	D40 55920	9.6	14	37	9.0	10	2	7	17	WO.X 06T3..	2,8		**10600**
KH.10	D40 50920	9.6	14	37	9.0	10	2	7	17	WO.X 06T3..	2,8	**20600**	
KH.16	D40 55940	15.6	18	50	12.0	16	2	8	25	WO.X 0804..	6,25		**10700**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert
Left-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 10500	M4x11 **50400**	M4x7	**50100**		
62 839 10600	M4x11 **50400**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 20600	M4x11 **50400**	M4x7	**50100**	M4x8 - SW2	**51600**
62 839 10700	M6x18 **50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**


Key

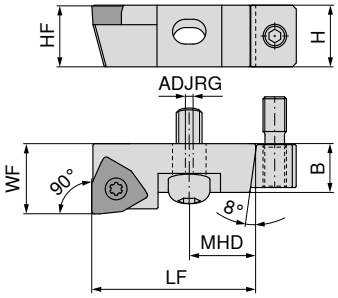

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 839 10500	T08 - IP	**060**	M2,5x7,2 - 08IP	**10500**
62 839 10600	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 20600	T10 - IP	**062**	M3,5x7,3 - 10IP	**10600**
62 839 10700	T15 - IP	**063**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 90° – WO.X

▲ Axially adjustable
▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with installation parts
Please order indexable insert separately





Neutral

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.15,8	D40 65180	15.6	18	42	12.5	15.8	17	WO.X 0804..	6,25	**30791**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.



Differential screw



Fixing screw



Axial wedge

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 839 30791	M6x0,75 - SW3	**50800**	M6x18	**50600**	**53200**



Key



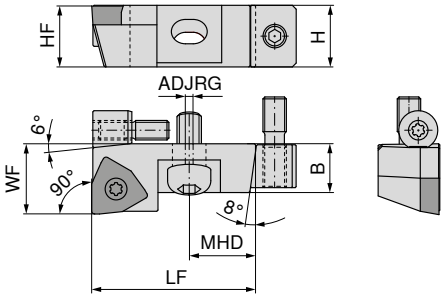
Clamping screw

Spare parts for article number	AS 80 950 ...		AS 10 950 ...
62 839 30791	T15 - IP	**063**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 90° – WO.X

▲ Axially and radially adjustable
▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with installation parts
Please order indexable insert separately





Neutral

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 839 ...
KH.A.R.9,8	D40 55190	7.6	14.5	29.5	10.0	9.8	10.5	WO.X 05T3..	1,28	**30591**
KH.A.R.15,8	D40 65190	15.6	18.0	42.0	12.5	15.8	17.0	WO.X 0804..	6,25	**30790**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Differential screw


Fixing screw


Axial wedge

Spare parts for article number		FI 62 950 ...		FI 62 950 ...	FI 62 950 ...
62 839 30591	M5x18 - 15IP	**50900**	M5x15	**50500**	**53100**
62 839 30790	M6x0,75 - SW3	**50800**	M6x18	**50600**	**53200**


Key


Radial wedge

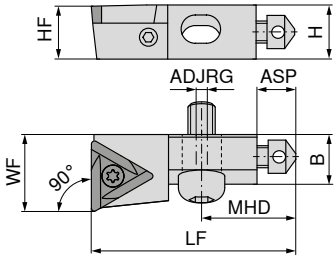

Clamping screw

Spare parts for article number		AS 80 950 ...	FI 62 950 ...		AS 10 950 ...
62 839 30591	T08 - IP	**060**	**53000**	M2,5x7,2 - 08IP	**10500**
62 839 30790	T15 - IP	**063**	**53000**	M4,5x9 - 15IP	**12700**

CoreLine – Short clamping holder 90° – TO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 837 ...	FI 62 837 ...
KH.6	D40 05160	5.8	7.00	24.5	4.5	6	1	4.5	12	TO.X 06T1..	0,62		**10990**
KH.8	D40 05170	7.6	10.00	32.0	6.5	8	2	7.0	17	TO.X 0902..	1,28		**11090**
KH.8	D40 00170	7.6	10.00	32.0	6.5	8	2	7.0	17	TO.X 0902..	1,28	**21090**	
KH.10	D40 07130	9.6	14.08	37.0	9.0	10	2	7.0	17	TO.X 1103..	1,28		**11190**
KH.10	D40 05180	9.6	14.00	37.0	9.0	10	2	7.0	17	TO.X 1403..	2,8		**11390**
KH.16	D40 07140	15.6	18.22	50.0	12.0	16	2	8.0	25	TO.X 1604..	2,8		**11290**
KH.20	D40 05190	19.6	22.00	57.0	15.0	20	2	10.0	27	TO.X 22T3..	6,25		**11490**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert
Left-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 10990	M3x8	**50300**	M3x4,5	**50000**	M3x5 - SW1,5	**51300**
62 837 11090	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 837 21090	M5x15	**50500**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 837 11190	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 11390	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 11290	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**
62 837 11490	M8x22	**50700**	M6x10	**50200**	M5x14 - SW2,5	**51800**


TORX® screw

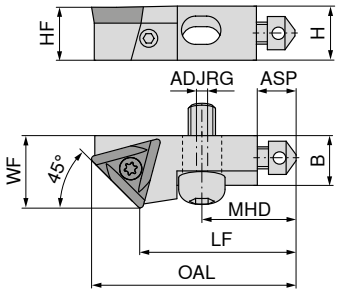

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 837 10990	M2x4,9/IP6	**09700**	T06 - IP	**058**
62 837 11090	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 837 21090	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
62 837 11190	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 837 11390	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**
62 837 11290	M3,5x10,25 - 10IP	**52600**	T10 - IP	**062**
62 837 11490	M5x13,4 - 20IP	**52200**	T20 - IP	**064**

CoreLine – Short clamping holder 45° – TO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 837 ...
KH.6	D40 05460	5.8	7	19.5	4.5	6	1	4.5	12	24.5	TO.X 06T1..	0,62	**10945**
KH.8	D40 05470	7.6	10	26.5	6.5	8	2	7.0	17	33.0	TO.X 0902..	1,28	**11045**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 10945	M3x8	**50300**	M3x4,5	**50000**	M3x4 - SW1,5	**51400**
62 837 11045	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**


TORX® screw

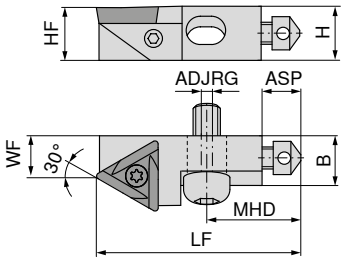

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 837 10945	M2x4,9/IP6	**09700**	T06 - IP	**058**
62 837 11045	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**

CoreLine – Short clamping holder 30° – TO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 837 ...
KH.8	D40 05670	7.6	5.23	33	6.5	8	2	7	17	TO.X 0902..	1,28	**11030**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 11030	M4x11 **50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**


TORX® screw

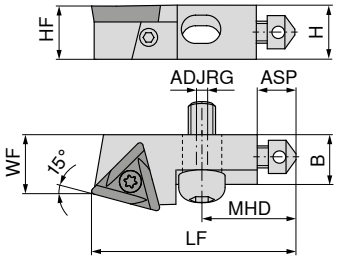

Key

Spare parts for article number	FI 62 950 ...		AS 80 950 ...
62 837 11030	M2,6x6,2 - 08IP	**09900**	T08 - IP **060**

CoreLine – Short clamping holder 15° – TO.X

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 837 ...
KH.8	D40 05870	7.6	7.6	33	6.5	8	2	7	17	TO.X 0902..	1,28	**11015**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 11015	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**


TORX® screw

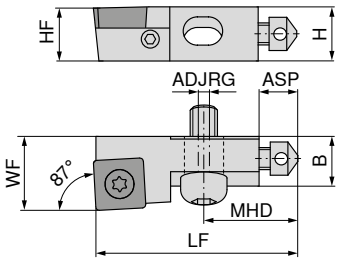

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 837 11015	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**

CoreLine – Short clamping holder 87° – SOEX

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 837 ...
KH.10	D40 06801	9.6	14	37	9	10.0	2	7	17	SOEX 0904..	2,8	**12287**
KH.15,7	D40 06901	15.6	18	50	12	15.7	2	8	25	SOEX 1205..	6,25	**12387**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 12287	M5x15	**50500**	M4x7	**50100**		
62 837 12387	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**


Key

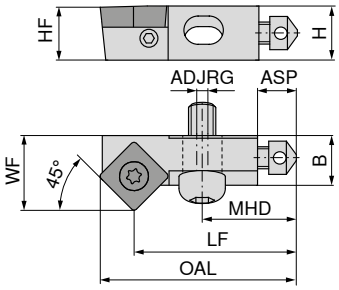

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 837 12287	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 12387	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

CoreLine – Short clamping holder 45° – SOEX

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 837 ...
KH.10	D40 06821	9.6	13.9	32	9	10	2	7	17	SOEX 07T3..	1,28	**12145**

→ Find suitable indexable inserts here.

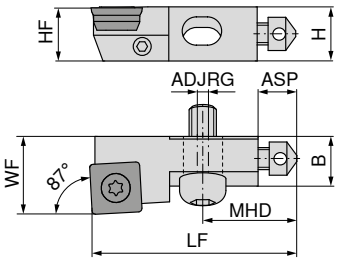
The installation dimensions are available for download in the online shop next to the product.

Spare parts for article number		 Key AS **80 950 ...**		 Clamping screw AS **10 950 ...**		 Fixing screw FI **62 950 ...**		 Backstop screw FI **62 950 ...**
62 837 12145	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**	M5x15	**50500**	M4x7	**50100**

CoreLine – Short clamping holder 87° – SOGX

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	FI 62 837 ...
KH.7,7	D40 08100	7.6	11	32	7.5	7.7	2	7	10	SOGX 0602..	**12487**
KH.7,7	D40 08130	7.6	11	32	7.5	7.7	2	7	10	SOGX 07T2..	**12587**
KH.9,7	D40 08160	9.6	14	37	9.0	9.7	2	7	10	SOGX 0803..	**12687**
KH.9,7	D40 08190	9.6	14	37	9.0	9.7	2	7	10	SOGX 09T3..	**12787**
KH.9,7	D40 08220	9.6	14	37	9.0	9.7	2	7	10	SOGX 1004..	**12887**
KH.15,7	D40 08250	15.6	18	50	12.0	15.7	2	8	17	SOGX 1104..	**12987**
KH.15,7	D40 08280	15.6	18	50	12.0	15.7	2	8	17	SOGX 1204..	**13087**
KH.15,7	D40 08310	15.6	18	50	12.0	15.7	2	8	17	SOGX 1305..	**13187**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.



Fixing screw



Backstop screw



Set screw

Spare parts for article number	Fixing screw FI 62 950 ...		Backstop screw FI 62 950 ...		Set screw FI 62 950 ...
62 837 12487	M4x11	**50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12587	M4x11	**50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12687	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12787	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12887	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12987	M6x18	**50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13087	M6x18	**50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13187	M6x18	**50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**



Key



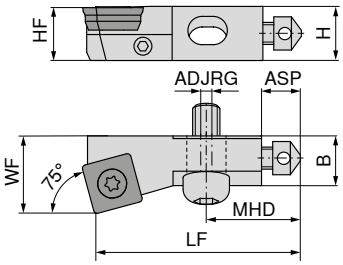
Clamping screw

Spare parts for article number	Key AS 80 950 ...		Clamping screw AS 10 950 ...
62 837 12487	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12587	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12687	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**
62 837 12787	T08 - IP	**060**	M3,0x7,6 - 08IP	**10200**
62 837 12887	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 12987	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 13087	T20 - IP	**064**	M4,5x10 - 20IP	**10400**
62 837 13187	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

CoreLine – Short clamping holder 75° – SOGX

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	FI 62 837 ...
KH.7,7	D40 08110	7.6	11	32	7.5	7.7	2	7	10	SOGX 0602..	**12475**
KH.7,7	D40 08140	7.6	11	32	7.5	7.7	2	7	10	SOGX 07T2..	**12575**
KH.9,7	D40 08170	9.6	14	37	9.0	9.7	2	7	10	SOGX 0803..	**12675**
KH.9,7	D40 08200	9.6	14	37	9.0	9.7	2	7	10	SOGX 09T3..	**12775**
KH.9,7	D40 08230	9.6	14	37	9.0	9.7	2	7	10	SOGX 1004..	**12875**
KH.15,7	D40 08260	15.6	18	50	12.0	15.7	2	8	17	SOGX 1104..	**12975**
KH.15,7	D40 08290	15.6	18	50	12.0	15.7	2	8	17	SOGX 1204..	**13075**
KH.15,7	D40 08320	15.6	18	50	12.0	15.7	2	8	17	SOGX 1305..	**13175**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 12475	M4x11 **50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12575	M4x11 **50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12675	M5x15 **50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12775	M5x15 **50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12875	M5x15 **50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 837 12975	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13075	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13175	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**


Key

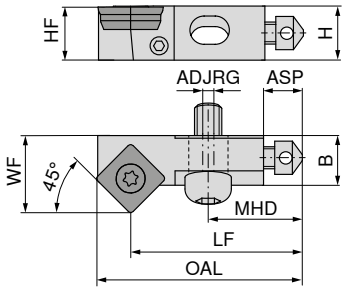

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 837 12475	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12575	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12675	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**
62 837 12775	T08 - IP	**060**	M3,0x7,6 - 08IP	**10200**
62 837 12875	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 12975	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 13075	T20 - IP	**064**	M4,5x10 - 20IP	**10400**
62 837 13175	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

CoreLine – Short clamping holder 45° – SOGX

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	OAL mm	Indexable insert	FI 62 837 ...
KH.7,7	D40 08120	7.6	11	26.5	7.5	7.7	2	7	10	23.40	SOGX 0602..	**12445**
KH.7,7	D40 08150	7.6	11	26.5	7.5	7.7	2	7	10	30.90	SOGX 07T2..	**12545**
KH.9,7	D40 08180	9.6	14	32.0	9.0	9.7	2	7	10	37.00	SOGX 0803..	**12645**
KH.9,7	D40 08210	9.6	14	32.0	9.0	9.7	2	7	10	37.60	SOGX 09T3..	**12745**
KH.9,7	D40 08240	9.6	14	32.0	9.0	9.7	2	7	10	38.30	SOGX 1004..	**12845**
KH.15,7	D40 08270	15.6	18	50.0	12.0	15.7	2	8	17	57.04	SOGX 1104..	**12945**
KH.15,7	D40 08300	15.6	18	50.0	12.0	15.7	2	8	17	57.80	SOGX 1204..	**13045**
KH.15,7	D40 08330	15.6	18	50.0	12.0	15.7	2	8	17	58.70	SOGX 1305..	**13145**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number	FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 837 12445	M4x11 **50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12545	M4x11 **50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 837 12645	M5x15 **50500**	M4x7	**50100**	M4x6 - SW2	**55800**
62 837 12745	M5x15 **50500**	M4x7	**50100**	M4x6 - SW2	**55800**
62 837 12845	M5x15 **50500**	M4x7	**50100**	M4x6 - SW2	**55800**
62 837 12945	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13045	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**
62 837 13145	M6x18 **50600**	M6x10	**50200**	M5x10 - SW2,5	**55700**


Key

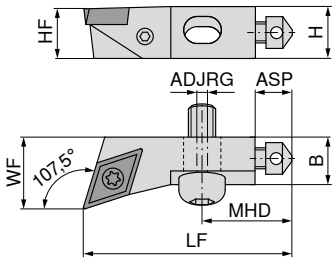

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 837 12445	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12545	T06 - IP	**058**	M2,2x5,5 - 06IP	**10700**
62 837 12645	T08 - IP	**060**	M2,5x6,3 - 08IP	**10800**
62 837 12745	T08 - IP	**060**	M3,0x7,6 - 08IP	**10200**
62 837 12845	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 12945	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**
62 837 13045	T20 - IP	**064**	M4,5x10 - 20IP	**10400**
62 837 13145	T20 - IP	**064**	M4,5x10 - 20IP	**10400**

CoreLine – Short clamping holder 107.5° – DO.T

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 835 ...	FI 62 835 ...
KH.10	D40 01020	9.6	14	37	9	10	2	7	17	DO.T 0702..	1,28	**20276**	
KH.16	D40 01040	15.6	18	50	12	16	2	8	25	DO.T 11T3..	2,8	**20376**	
KH.16	D40 06040	15.6	18	50	12	16	2	8	25	DO.T 11T3..	2,8		**10376**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 835 20276	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 835 20376	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**
62 835 10376	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**


TORX® screw

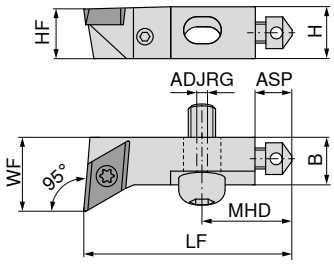

Key

Spare parts for article number			FI 62 950 ...		AS 80 950 ...
62 835 20276		M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 835 20376		M3,5x7,4 - 10IP	**52500**	T10 - IP	**062**
62 835 10376		M3,5x7,4 - 10IP	**52500**	T10 - IP	**062**

CoreLine – Short clamping holder 95° – DO.T

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Left Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 835 ...	FI 62 835 ...
KH.8	D40 06110	7.6	12	32	7.5	8	2	7	17	DO.T 0702..	1,28		**10295**
KH.10	D40 01120	9.6	14	37	9.0	10	2	7	17	DO.T 0702..	1,28	**20295**	
KH.16	D40 01140	15.6	18	50	12.0	16	2	8	25	DO.T 11T3..	2,8	**20395**	

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert
Left-hand short clamping holder → right-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 835 10295	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 835 20295	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 835 20395	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**


TORX® screw

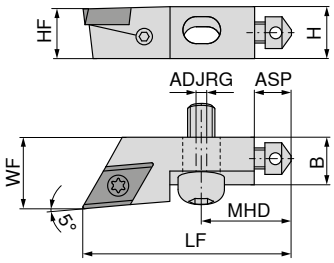

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 835 10295	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 835 20295	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 835 20395	M3,5x7,4 - 10IP	**52500**	T10 - IP	**062**

CoreLine – Short clamping holder 5° – DO.T

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately




Left


Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 835 ... Left	FI 62 835 ... Right
KH.8	D40 06210	7.6	11	32	7.5	8	2	7	17	DO.T 0702..	1,28		**10205**
KH.10	D40 01220	9.6	14	37	9.0	10	2	7	17	DO.T 0702..	1,28	**20205**	
KH.16	D40 06240	15.6	18	50	12.0	16	2	8	25	DO.T 11T3..	2,8		**10305**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → right-hand or neutral indexable insert
Left-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.

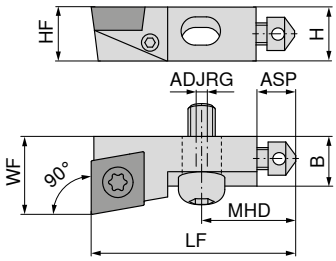
Spare parts for article number	Fixing screw	FI 62 950 ...	Backstop screw	FI 62 950 ...	Set screw	FI 62 950 ...
62 835 10205	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 835 20205	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 835 10305	M6x18	**50600**	M6x10	**50200**	M5x12 - SW2,5	**51700**

Spare parts for article number	TORX® screw	FI 62 950 ...	Key	AS 80 950 ...
62 835 10205	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 835 20205	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 835 10305	M3,5x7,4 - 10IP	**52500**	T10 - IP	**062**

CoreLine – Short clamping holder 90° – CCMT

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 833 ...
KH.7,8	D40 06600	7.6	11	32	7.5	7.8	2	7	17	CCMT 0602..	1,28	**11890**
KH.9,8	D40 06610	9.6	14	37	9.0	9.8	2	7	17	CCMT 09T3..	2,8	**11990**

The installation dimensions are available for download in the online shop next to the product.
Suitable indexable inserts can be found in → indexable insert turning tools.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 833 11890	M4x11	**50400**	M4x7	**50100**	M3x5 - SW1,5	**51300**
62 833 11990	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**


TORX® screw

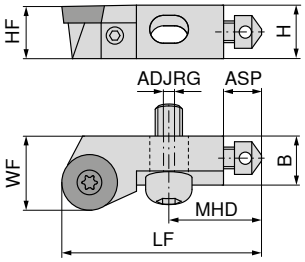

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 833 11890	M2,5x6 - 08IP	**52400**	T08 - IP	**060**
62 833 11990	M3,5x7,4 - 10IP	**52500**	T10 - IP	**062**

CoreLine – Short clamping holder 0° – RCMT

▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

FI

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	62 836 ...
KH.6	D40 06500	5.8	7	24.5	4.5	6	1	4.5	12	RCMT 0502..	1,01	**10100**

The installation dimensions are available for download in the online shop next to the product.
Suitable indexable inserts can be found in → indexable insert turning tools.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 836 10100	M3x8	**50300**	M3x4,5	**50000**	M3x5 - SW1,5	**51300**


TORX® screw

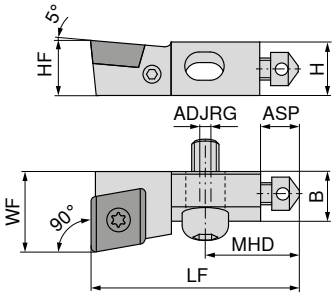

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 836 10100	M2,2x4,7 - 06IP	**52300**	T06 - IP	**058**

CoreLine – Short clamping holder 90° – CP..

▲ **Insert inclination across cutting edge +5°**
▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 834 ...
KH.9,8	D40 06430	9.6	14	37	9	9.8	2	7	17	CP.. 09T3..	2,8	**12090**

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 834 12090	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**


Key

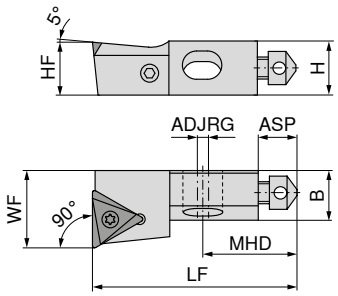

Clamping screw

Spare parts for article number		AS 80 950 ...		AS 10 950 ...
62 834 12090	T15 - IP	**063**	M3,5x7,5 - 15IP	**10300**

CoreLine – Short clamping holder 90° – TP..

▲ **Insert inclination across cutting edge +5°**
▲ Tightening torque refers to the clamping screw

Scope of supply:
Short clamping holder with clamping screw, fixing screw, set screw, and backstop screw
Please order indexable insert separately





Right

Size	Product Reference No.	HF mm	WF mm	LF mm	B mm	H mm	ADJRG mm	ASP mm	MHD mm	Indexable insert	Tightening torque Nm	FI 62 838 ...
KH.7,8	D40 07010	7.6	10	32	6.5	7.8	2	7	17	TP.. 0902..	1,28	**11590**
KH.9,8	D40 07020	9.6	14	37	9.0	9.8	2	7	17	TP.. 1102..	1,28	**11691**
KH.9,8	D40 07030	9.6	14	37	9.0	9.8	2	7	17	TP.. 1303..	2,8	**11790**

→ Find suitable indexable inserts here.

Right-hand short clamping holder → left-hand or neutral indexable insert

The installation dimensions are available for download in the online shop next to the product.


Fixing screw


Backstop screw


Set screw

Spare parts for article number		FI 62 950 ...		FI 62 950 ...		FI 62 950 ...
62 838 11590	M4x11	**50400**	M4x7	**50100**	M3x6 - SW1,5	**51500**
62 838 11691	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**
62 838 11790	M5x15	**50500**	M4x7	**50100**	M4x8 - SW2	**51600**


TORX® screw

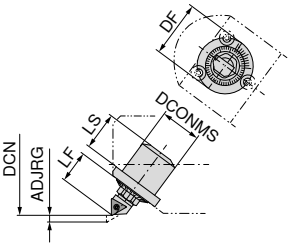

Key

Spare parts for article number		FI 62 950 ...		AS 80 950 ...
62 838 11590	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**
62 838 11691	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**
62 838 11790	M3,5x6,2 - 10IP	**00003**	T10 - IP	**062**

CoreLine – Precision turning insert (angled installation) – M31

▲ Easily adjustable from the front
▲ Precise micrometric dimension setting

Scope of supply:
Precision turning insert with installation parts
Please order indexable insert separately





DCN mm	Product Reference No.	ADJRG mm	LF mm	LS mm	DCONMS H6 mm	DF mm	Indexable insert	Tightening torque Nm	FI 62 848 ...
43	M31 01032	3.1	18.4	21.6	22	30	TO.X 0902..	1,28	**43000**
61	M31 01042	4.6	27.2	27.6	32	46	TO.X 1403..	2,8	**61000**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Clamping key T


Countersunk screw

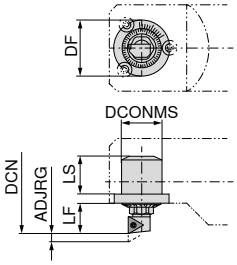

Key

Spare parts for article number		FI 62 950 ...		AS 80 397 ...		FI 62 950 ...		AS 80 950 ...
62 848 43000	M2,6x6,2 - 08IP	**09900**	SW2,5	**025**	M4x10 - SW2,5	**52800**	T08 - IP	**060**
62 848 61000	M3,5x6,2 - 10IP	**00003**	SW3	**030**	M5x12 - SW3	**52900**	T10 - IP	**062**

CoreLine – Precision turning insert (radial installation) – M31

▲ Easily adjustable from the front
▲ Precise micrometric dimension setting

Scope of supply:
Precision turning insert with installation parts
Please order indexable insert separately





DCN mm	Product Reference No.	ADJRG mm	LF mm	LS mm	DCONMS $_{H6}$ mm	DF mm	Indexable insert	Tightening torque Nm	FI 62 849 ...
49.5	M31 00032	3.40	16.9	21.20	22	30	TO.X 0902..	1,28	**49500**
70.0	M31 00042	5.22	25.5	27.72	32	46	TO.X 1403..	2,8	**70000**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Clamping key T


Countersunk screw

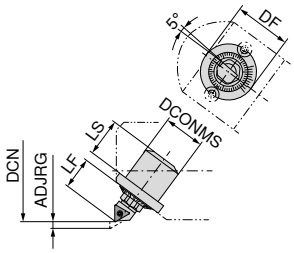

Key

Spare parts for article number		FI 62 950 ...		AS 80 397 ...		FI 62 950 ...		AS 80 950 ...
62 849 49500	M2,6x5,2 - 08IP	**12000**	SW2,5	**025**	M4x10 - SW2,5	**52800**	T08 - IP	**060**
62 849 70000	M3,5x6,2 - 10IP	**00003**	SW3	**030**	M5x12 - SW3	**52900**	T10 - IP	**062**

CoreLine – Precision turning insert (angled installation) – M31

- ▲ **Insert inclination across cutting edge +5°**
- ▲ Easily adjustable from the front
- ▲ Precise micrometric dimension setting

Scope of supply:
Precision turning insert with installation parts
Please order indexable insert separately





DCN mm	Product Reference No.	ADJRG mm	LF mm	LS mm	DCONMS H6 mm	DF mm	Indexable insert	Tightening torque Nm	FI 62 848 ...
25.4	M31 01122	0.8	11.10	9.20	15.00	19.0	TP.. 0601..	0,62	**25400** [1]
36.5	M31 01153	1.3	14.94	14.84	19.05	24.6	TP.. 0902..	1,28	**36500**

1) Not in stock

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Clamping key T


Countersunk screw

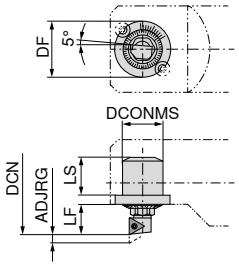

Key

Spare parts for article number		TORX® screw FI 62 950 ...		Clamping key T AS 80 397 ...		Countersunk screw FI 62 950 ...		Key AS 80 950 ...
62 848 25400	M2x3,8 - 06IP	**12800**					T06 - IP	**058**
62 848 36500	M2,6x5,2 - 08IP	**12000**	SW2	**020**	M3x8 - SW2	**52700**	T08 - IP	**060**

CoreLine – Precision turning insert (radial installation) – M31

- ▲ **Insert inclination across cutting edge +5°**
- ▲ Easily adjustable from the front
- ▲ Precise micrometric dimension setting

Scope of supply:
Precision turning insert with installation parts
Please order indexable insert separately





DCN mm	Product Reference No.	ADJRG mm	LF mm	LS mm	DCONMS $_{H6}$ mm	DF mm	Indexable insert	Tightening torque Nm	FI 62 849 ...
36.5	M31 00153	1.1	13.5	14.84	19.05	24.6	TP.. 0902..	1,28	**36500**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.



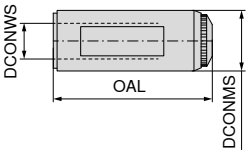






Spare parts for article number		FI 62 950 ...		AS 80 397 ...		FI 62 950 ...		AS 80 950 ...
62 849 36500	M2,6x5,2 - 08IP	**12000**	SW2	**020**	M3x8 - SW2	**52700**	T08 - IP	**060**

CoreLine – Precision turning insert housing – FZ

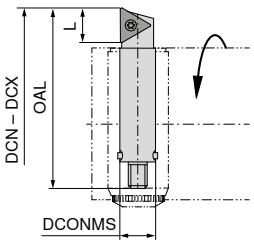




DCONWS mm	Product Reference No.	DCONMS g6 mm	OAL mm	FI 62 847 ...
8.6	M30 00071	16	42	**05300**
8.6	M30 00081	16	48	**05900**

CoreLine – Precision turning insert – FZ

Scope of supply:
Precision turning insert with clamping screw
Please order housing and indexable insert separately




Cutting form 2

for	DCN mm	DCX mm	Product Reference No.	DCONMS mm	L mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 846 ...
62 847 05300 / 62 847 05900	53	79	M30 51041	8.6	9	39.7	TO.X 0902..	1,28	**05300**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Key

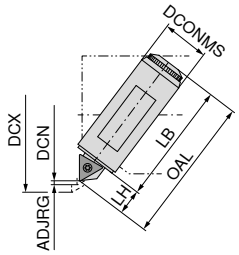
Spare parts
Indexable insert

		FI 62 950 ...		AS 80 950 ...
TO.X 0902..	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**

CoreLine – Precision turning insert – FZ

▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Complete precision turning insert (housing and insert) with clamping screw
Please order indexable insert separately




Cutting form 3

DCN mm	DCX mm	Product Reference No.	ADJRG mm	LH mm	LB mm	OAL mm	DCONMS $_{g6}$ mm	Indexable insert	Tightening torque Nm	FI 62 869 ...
28	38	M30 02231	4.0	6.0	25.5	31.5	10	TO.X 06T1..	0,62	**02800**
32	44	M30 02241	4.0	6.0	29.5	35.5	10	TO.X 06T1..	0,62	**03200**
36	48	M30 02251	5.0	6.8	33.5	40.3	12	TO.X 06T1..	0,62	**03600**
40	55	M30 02261	5.0	6.8	38.5	45.3	12	TO.X 06T1..	0,62	**04000**
45	60	M30 02271	6.0	9.0	42.0	51.0	16	TO.X 0902..	1,28	**04500**
50	68	M30 02281	6.0	9.0	48.0	57.0	16	TO.X 0902..	1,28	**05000**
56	78	M30 02291	7.5	12.0	51.0	63.0	20	TO.X 0902..	1,28	**05600**
64	90	M30 02301	7.5	12.0	59.0	71.0	20	TO.X 0902..	1,28	**06400**
72	100	M30 02311	10.0	16.5	64.5	81.0	25	TO.X 1403..	2,8	**07200**
80	114	M30 02321	10.0	16.5	74.5	91.0	25	TO.X 1403..	2,8	**08000**
90	126	M30 02331	15.0	18.0	84.0	102.0	32	TO.X 1403..	2,8	**09000**
100	140	M30 02341	15.0	18.0	94.0	112.0	32	TO.X 1403..	2,8	**10000**
110	150	M30 02351	15.0	18.0	109.0	127.0	32	TO.X 1403..	2,8	**11000**
125	175	M30 02361	15.0	18.0	124.0	142.0	32	TO.X 1403..	2,8	**12500**

→ Find suitable indexable inserts here.

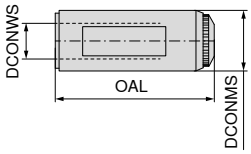
The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TO.X 06T1..	M2x4,9 - 06IP	**09700**	T06 - IP	**058**
TO.X 0902..	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
TO.X 1403..	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**

CoreLine – Precision turning insert housing – FZ

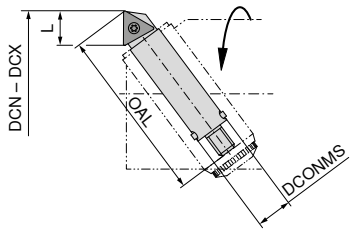




DCONWS mm	Product Reference No.	DCONMS g6 mm	OAL mm	FI 62 847 ... 04500
8.6	M30 02071	16	42	

CoreLine – Precision turning insert – FZ

Scope of supply:
Precision turning insert with clamping screw
Please order housing and indexable insert separately





Cutting form 4

for	DCN mm	DCX mm	Product Reference No.	DCONMS mm	L mm	OAL mm	Indexable insert	Tightening torque Nm	FI 62 846 ... 04500
62 847 04500	45	60	M30 53041	8.6	9	39.7	TO.X 0902..	1,28	

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.



TORX® screw



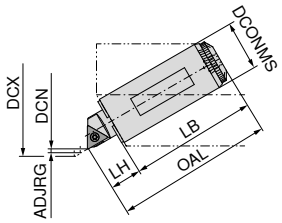
Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TO.X 0902..	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**

CoreLine – Precision turning insert – FZ

▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Complete precision turning insert (housing and insert) with clamping screw
Please order indexable insert separately





Cutting form 5

DCN mm	DCX mm	Product Reference No.	ADJRG mm	LH mm	LB mm	OAL mm	DCONMS $_{g6}$ mm	Indexable insert	Tightening torque Nm	FI 62 869 ...
20	26	M30 04111	2	4.8	23.7	28.5	10	TO.X 06T1..	0,62	**02000**
26	33	M30 04121	4	8.4	25.5	33.9	10	TO.X 06T1..	0,62	**03100**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.



TORX® screw



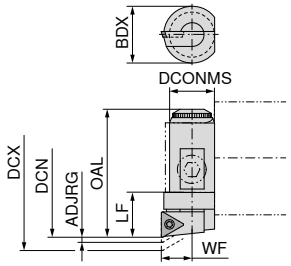
Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TO.X 06T1..	M2x3,8 - 06IP	**12800**	T06 - IP	**058**

CoreLine – Precision turning insert – FF

▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Precision turning insert with fixing screw
Please order indexable insert separately





DCN mm	DCX mm	DCONMS mm	Product Reference No.	LF mm	WF mm	BDX mm	OAL mm	ADJRG mm	Indexable insert	Tightening torque Nm	FI 62 855 ...
29.5	42	10	M30 20011	11.0	7.5	14	28.5	3.5	TO.. 06T1	0,62	**03000**
39.0	50	12	M30 20021	12.5	9.0	16	37.5	3.5	TO.. 06T1	0,62	**03900**
47.0	66	16	M30 20031	16.0	11.0	20	45.0	5.0	TO.. 0902	1,28	**04700**
58.0	83	20	M30 20041	18.0	14.5	25	56.0	7.0	TO.. 0902	1,28	**05800**
79.0	108	25	M30 20051	21.6	16.0	32	77.5	8.0	TO.. 1403	2,8	**07900**
100.0	141	32	M30 20061	25.5	19.0	40	97.0	11.0	TO.. 1403	2,8	**10000**
138.0	199	32	M30 20071	25.5	19.0	40	131.0	11.0	TO.. 1403	2,8	**13800**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw

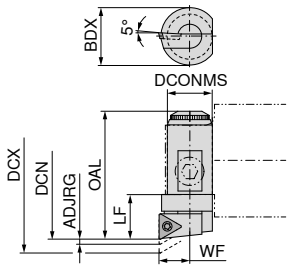

Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TO.. 06T1	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
TO.. 0902	M2,6x6,2 - 08IP	**09900**	T08 - IP	**060**
TO.. 0902	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**
TO.. 1403	M3,5x7,3 - 10IP	**12600**	T10 - IP	**062**

CoreLine – Precision turning insert – FF

▲ **Insert inclination across cutting edge +5°**
▲ ADJRG = fine adjustment of the insert
▲ DCX = cutting diameter maximum (rough and fine adjustment of the insert)

Scope of supply:
Precision turning insert with clamping screw
Please order indexable insert separately





DCN mm	DCX mm	DCONMS mm	Product Reference No.	LF mm	WF mm	BDX mm	OAL mm	ADJRG mm	Indexable insert	Tightening torque Nm	FI 62 855 ...
39	50	12	M30 20211	37.75	9	16	37.75	3.5	TP.. 0601..	0,62	**13900**
47	66	16	M30 20221	45.40	11	20	45.40	5.0	TP.. 0902..	1,28	**14700**

→ Find suitable indexable inserts here.

The installation dimensions are available for download in the online shop next to the product.


TORX® screw


Key

Spare parts Indexable insert		FI 62 950 ...		AS 80 950 ...
TP.. 0601..	M2x3,8 - 06IP	**12800**	T06 - IP	**058**
TP.. 0902..	M2,6x5,2 - 08IP	**12000**	T08 - IP	**060**

Overview – Indexable inserts

60°	TOHX, TOEX, TOGX		
	TOHX ... L → -G06 → -G12 → -G20	For core drilling and fine boring tools, and installation sets	▲ Peripheral ground precision indexable insert ▲ Through accurate 2-sided contact very high repeatability when turning
	TOHX ... R → -G06 → -G12 → -G20	For installation sets	▲ Peripheral ground precision indexable insert ▲ Through accurate 2-sided contact very high repeatability when turning
	TOHX ... N →	For core drilling and fine boring tools	▲ Peripheral ground precision indexable insert ▲ Through accurate 2-sided contact very high repeatability when turning
	TOHX ... L → -UF06 → -UF12	For core drilling and fine boring tools	▲ High-precision indexable insert with wiper geometry for best surface quality at high feed rates ▲ Ideal cutting depths: Steel a_p = 0.1 – 0.25 mm, cast iron a_p = 0.15 – 0.3 mm
	TOHX ... L → -US12	For core drilling and fine boring tools	▲ High-precision indexable insert for improved chip control ▲ Deeper, narrow chip former ensures optimum chip control even for long-chipping materials and low cutting depths ▲ Flat ground secondary cutting edge ensures greater corner stability
	TOHX ... L → -39G12	For core drilling and fine boring tools	▲ High-precision indexable insert with low lateral deflection forces for tools with a long overhang ▲ Totally sharp-edged with tip radius 0.05 mm
	TOEX ... → PCD	For core drilling and fine boring tools	▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK) ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	TOEX ... → PCD	For core drilling and fine boring tools	▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK) ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	TOEX ... → PcBN	For core drilling and fine boring tools	▲ For machining cast materials, powder metallurgical materials and high temperature alloys ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	TOEX / TOGX → PcBN	For core drilling and fine boring tools	▲ For machining cast materials, powder metallurgical materials and high temperature alloys ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	TOEX ... → PCD	For core drilling and fine boring tools	▲ Version with chip breaker particularly suitable for long-chipping non-ferrous metals, especially aluminum, wrought and die cast alloys ▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK) ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	TOHX ... → -G06 → -U877 → -G12	For insert countersinks and in special tools as chamfer cutting edge	▲ Ground through chip breaker for countersinking and chamfering operations ▲ Peripheral ground precision indexable insert ▲ Through accurate 2-sided contact very high repeatability when turning

Overview – Indexable inserts

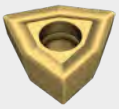
60°	TOGX, TOHT, TPHX, TPHB		
	TOGX ... → -12	For core drilling and fine boring tools	▲ All-round, highly positive and sharp topography for fine machining materials including aluminum and non-ferrous metals ▲ Compatible with TOHX indexable inserts ▲ Controlled chip formation and top surface quality at low cutting forces
	TOGX ... → -14	For core drilling and fine boring tools	▲ Chip breakage topography for very low cutting depths ▲ Controlled chip formation in fine and extremely fine machining ▲ Compatible with TOHX indexable inserts
	TOGX ... → -14 CK3210	For core drilling and fine boring tools	▲ Chip breakage topography for very low cutting depths ▲ Controlled chip formation in fine and extremely fine machining ▲ Compatible with TOHX indexable inserts ▲ Unbeatable wear resistance
	TOGX ... → -14 CK3230	For core drilling and fine boring tools	▲ Chip breakage topography for very low cutting depths ▲ Controlled chip formation in fine and extremely fine machining ▲ Compatible with TOHX indexable inserts ▲ Optimum toughness, suitable for interrupted cut
	TOGX ... → -18	For core drilling and fine boring tools	▲ Chip breakage topography for very low cutting depths ▲ Setting angle KAPR = 90° ▲ With wiper geometry for best surface quality at high feed rates
	TOHT ... → -05	For core drilling and fine boring tools	▲ All-round positive chip former for roughing, chamfering, and plunging operations
	TPHX ... L → -P15	For core drilling and fine boring tools, and installation sets	▲ Highly positive, polish-ground chip geometry for softer aluminum materials and other non-ferrous metals ▲ 10° – 15° rake angle due to axial and radial inclination
	TPHB ... →	For core drilling and fine boring tools, and installation sets	▲ Polished clamping flat for low-friction chip removal and prevention of built-up edge formation ▲ 5° rake angle due to axial inclination for the cutting speed range ≤ 300 m/min
	TPGX ... → -12	For core drilling and fine boring tools, and installation sets	▲ All-round, highly positive and sharp topography for fine machining materials including aluminum and non-ferrous metals ▲ Compatible with TPHX / TPHB indexable inserts

Overview – Indexable inserts

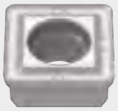
84°	WOHX, WOEX, WNHX		
	WOHX ... L → -G06 → -G12	For hi.flex boring bar (Ø 6 – 8 mm) and special tools	▲ Very smooth-cutting thanks to positive cutting edge geometry ▲ Especially suitable for less powerful machines and unstable workpieces ▲ Easily controllable chip formation even in less solid materials
	WOHX ... R → -G06 → -G12 → -G20	For special tools	▲ Very smooth-cutting thanks to positive cutting edge geometry ▲ Especially suitable for less powerful machines and unstable workpieces ▲ Easily controllable chip formation even in less solid materials
	WOHX ... N →	For special tools	▲ For K-materials ▲ Roughing and medium machining under difficult conditions
	WOHX ... L → -G06 → -G12	For Twin cutter, special tools, and installation sets	▲ Very smooth-cutting thanks to positive cutting edge geometry ▲ Especially suitable for less powerful machines and unstable workpieces ▲ Easily controllable chip formation even in less solid materials
	WOHX ... R → -G06 → -G12	For installation sets	▲ Very smooth-cutting thanks to positive cutting edge geometry ▲ Especially suitable for less powerful machines and unstable workpieces ▲ Easily controllable chip formation even in less solid materials
	WOHX ... N →	For Twin cutter, special tools, and installation sets	▲ Roughing and medium machining under difficult conditions (interrupted cut or fluctuations in allowance) ▲ Outstanding performance thanks to the high cutting values ▲ Core drilling of materials including GJL and GJS
	WOEX ... → PCD	For Twin cutter, special tools, and installation sets	▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK) ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	WOEX ... → PcBN	For Twin cutter, special tools, and installation sets	▲ For machining cast materials, powder metallurgical materials and high temperature alloys ▲ TCE(NOI) = Version and number of equipped cutting edge corners
	WOHX ... L → KAPR 90°	For Twin cutter, special tools, and installation sets	▲ For clockwise rotating tools ▲ Setting angle KAPR = 90° ▲ High-precision indexable insert with support chamfer ▲ For roughing and finish machining of GJL, GJS and GJV materials ▲ Extremely good geometric accuracy and surface qualities at high feed rate values
	WOHX ... L → KAPR 75°	For special tools and installation sets	▲ For clockwise rotating tools ▲ Setting angle KAPR = 75° ▲ High-precision indexable insert with support chamfer ▲ For roughing and finish machining of GJL, GJS and GJV materials ▲ Extremely good geometric accuracy and surface qualities at high feed rate values
	WNHX ... L → -G18	For internal and external turning tools	▲ Positively ground chip former ▲ Six usable cutting edges ▲ As a result of the negative bedding of the indexable insert, six cutting edges can be used
	WNHX ... R → -G18	For internal and external turning tools	▲ Positively ground chip former ▲ Six usable cutting edges ▲ As a result of the negative bedding of the indexable insert, six cutting edges can be used

Overview – Indexable inserts

84° WOEX, WOGX

	WOEX ... → -00	For drilling tools Trigon (outer cutting edge only), Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Soft-cutting rounded cutting edge ▲ Especially suitable for less powerful machines and unstable workpieces
	WOEX ... → -01	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Universal topography with stable, chamfered cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	WOEX ... → -02	For Twin cutter, special tools (boring step)	▲ Extremely stable, chamfered, and rounded cutting edge ▲ Thanks to 82° wedge angle, ideal for interrupted cuts ▲ Raised chip breaker ensures good chip formation even with problematic materials ▲ Depth of cut a_p < 1.5 mm
	WOEX ... → -03	For drilling tools Trigon (outer cutting edge only), Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	WOEX ... → -11	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Three-edged alternative to PCD-equipped cutting inserts
	WOEX ... → -13	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	WOGX ... → -15	For Twin cutter, special tools (boring step)	▲ Semi-finishing chip breakage topography ▲ Optimum chip control from depth of cut > 0.25 mm
	WOGX ... → -16	For Twin cutter, special tools (boring step)	▲ Semi-finishing chip breakage topography with wiper geometry ▲ Setting angle KAPR = 90° ▲ Optimum chip control from depth of cut > 0.25 mm
	WOEX ... → -20	For drilling tools Trigon, Centron, Twin cutter, special tools (solid drilling, boring step)	▲ Rounded, partially chamfered cutting edge ▲ Indexable insert geometry for corrosion and acid-resistant steels with increased tensile strength

Overview – Indexable inserts

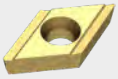
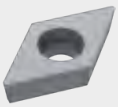
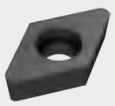
90°	SOGX		
	SOGX ... → -01	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Universal topography with stable cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	SOGX ... → -03	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	SOGX ... → -13	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	SOGX ... → -21 BK7710	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Four-edged alternative to PCD-equipped cutting inserts
	SOGX ... → -21 BK7935	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.
	SOGX ... → -21 BK8430	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded
	SOGX ... → -32	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for burr-minimizing drill exit for steel materials ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm
	SOGX ... → -34	For drilling tools Pentron, special tools (solid drilling, boring step)	▲ High-feed geometry ▲ Extremely stable, chamfered, and rounded cutting edge ▲ Main application area: short-chipping steel materials and cast iron materials

Overview – Indexable inserts

90°	SOEX, SOHX		
	SOEX ... → -01	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Universal topography with stable cutting edge ▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials
	SOEX ... → -03	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Dome-shaped chip former with extremely good chip breakage characteristics ▲ Excellent chip control even at low feeds ▲ Main application area: Steel materials, corrosion and acid-resistant materials
	SOEX ... → -13	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels ▲ Reduced feed forces due to positive rake angle
	SOEX ... → -21 BK7710	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc. ▲ Extremely sharp cutting edge ▲ Extremely good chip formation in aluminum with low silicon content ▲ Four-edged alternative to PCD-equipped cutting inserts
	SOEX ... → -21 BK7935	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.
	SOEX ... → -21 BK8430	For drilling tools Quatron, Centron Powerline, Twin cutter, special tools (solid drilling, boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded
	SOEX ... → -32, -33	For drilling tools Quatron, special tools (solid drilling, boring step)	▲ Cutting edge geometry for burr-minimizing drill exit for steel materials ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm
	SOHX ... → -21	For special tools (boring step)	▲ Positive geometry for steel materials ▲ Cutting edge rounded, periphery ground ▲ Compatible with SOEX indexable inserts

Overview – Indexable inserts

55° DCGW, DOHT, DOHW

	DOHT ... L → -G12	For installation sets and internal / external copy milling turning tools	▲ Extremely smooth-cutting thanks to the positive cutting edge geometry ▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces
	DOHT ... R → -G12	For installation sets and internal / external copy milling turning tools	▲ Extremely smooth-cutting thanks to the positive cutting edge geometry ▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces
	DOHW ... →	For installation sets and internal / external copy milling turning tools	▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces
	DOHT ... → -06	For installation sets and internal / external copy milling turning tools	▲ Universal usage thanks to the sintered chip former ▲ Positive cutting edge geometry and periphery-ground flanks ensure low cutting pressures
	DCGW ... →	For special tools and copy milling turning tools	

35° VOHT

	VOHT ... → -07	For internal / external copy milling turning tools	▲ Universal usage thanks to the sintered chip former ▲ Positive cutting edge geometry and periphery-ground flanks ensure low cutting pressures

Overview – Indexable inserts

XOHX



XOHX ...
→

For drilling tools Duon

▲ Tangential, stable geometry for cast iron materials

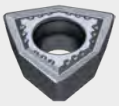
84° WCGT



WCGT ...
→

For drilling tools
MaxiDrill Classic

84° XOMT



XOMT ...
→

For drilling tools
MaxiDrill Classic

90° SOXX



SOXX ...
→

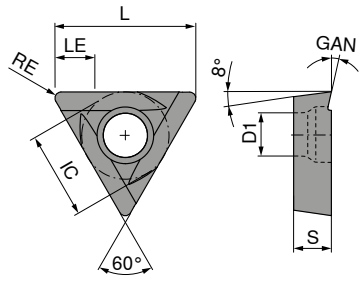
For special tools (boring step)

▲ Segment-specific special indexable insert
▲ Only indexable inserts that match the holder can be used
▲ Full tool design and details of operating conditions on request

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Left indexable insert

-G06 BK8425	-G06 BK6440	-G06 BK6425
		
TOHX	TOHX	TOHX
IH	IH	IH
62 602 ...	62 602 ...	62 602 ...

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm			
TOHX 06T100EL	W30 04060.306425	6.50	1.0	2.20	1.8	4.0	6°	0.0			**10202**
TOHX 06T102EL	W30 04060.026425	6.64	1.0	2.20	1.8	4.0	6°	0.2			**10402**
TOHX 06T102EL	W30 04060.028425	6.64	1.0	2.20	1.8	4.0	6°	0.2	**30400**		
TOHX 06T103EL	W30 04060.036425	6.50	1.0	2.20	1.8	4.0	6°	0.3			**10802**
TOHX 06T103EL	W30 04060.036440	6.50	1.0	2.20	1.8	4.0	6°	0.3		**20802**	
TOHX 06T103EL	W30 04060.038425	6.50	1.0	2.20	1.8	4.0	6°	0.3	**30800**		
TOHX 06T104EL	W30 04060.046425	6.34	1.0	2.20	1.8	4.0	6°	0.4			**11402**
TOHX 090200EL	W30 14060.308425	9.10	2.5	2.80	2.5	5.6	6°	0.0	**32600**		
TOHX 090202EL	W30 14060.026425	9.40	2.5	2.80	2.5	5.6	6°	0.2			**12802**
TOHX 090202EL	W30 14060.026440	9.40	2.5	2.80	2.5	5.6	6°	0.2		**22802**	
TOHX 090202EL	W30 14060.028425	9.40	2.5	2.80	2.5	5.6	6°	0.2	**32800**		
TOHX 090204EL	W30 14060.046425	9.12	2.5	2.80	2.5	5.6	6°	0.4			**13402**
TOHX 090204EL	W30 14060.046440	9.12	2.5	2.80	2.5	5.6	6°	0.4		**23402**	
TOHX 090204EL	W30 14060.048425	9.12	2.5	2.80	2.5	5.6	6°	0.4	**33400**		
TOHX 090208EL	W30 14060.086425	8.52	2.5	2.80	2.5	5.6	6°	0.8			**14002**
TOHX 090208EL	W30 14060.088425	8.52	2.5	2.80	2.5	5.6	6°	0.8	**34000**		
TOHX 140302EL	W30 26060.026425	13.92	4.5	3.80	3.0	8.2	6°	0.2			**15002**
TOHX 140304EL	W30 26060.046425	13.62	4.5	3.80	3.0	8.2	6°	0.4			**15602**
TOHX 140304EL	W30 26060.046440	13.62	4.5	3.80	3.0	8.2	6°	0.4		**25602**	
TOHX 140304EL	W30 26060.048425	13.62	4.5	3.80	3.0	8.2	6°	0.4	**35600**		
TOHX 140305EL	W30 26060.056425	13.48	4.5	3.80	3.0	8.2	6°	0.5			**16002**
TOHX 140305EL	W30 26060.056440	13.48	4.5	3.80	3.0	8.2	6°	0.5		**26002**	
TOHX 140305EL	W30 26060.058425	13.48	4.5	3.80	3.0	8.2	6°	0.5	**36000**		
TOHX 140308EL	W30 26060.086425	13.04	4.5	3.80	3.0	8.2	6°	0.8			**16602**
TOHX 140308EL	W30 26060.088425	13.04	4.5	3.80	3.0	8.2	6°	0.8	**36600**		
TOHX 22T308EL	W30 44060.088425	20.82	10.5	7.05	4.3	12.7	6°	0.8	**37400**		

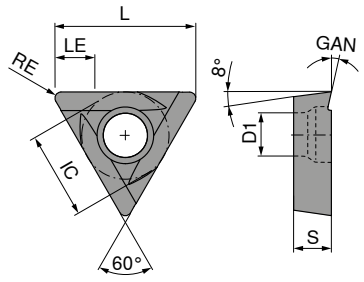
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K	●		●
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H	○		
O			

→ Find the recommended values for cutting speeds here.

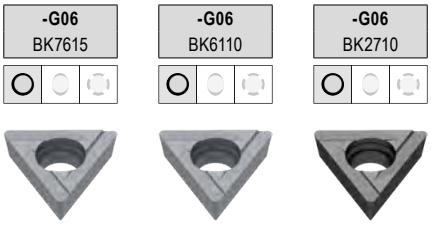
CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Left indexable insert



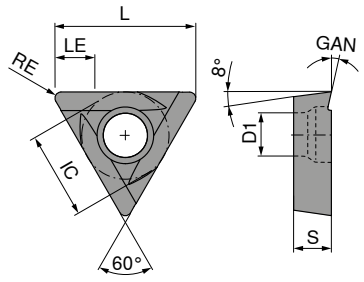
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	F TOHX IH 62 602 ...	F TOHX IH 62 602 ...	F TOHX IH 62 602 ...
TOHX 06T102EL	W30 04060.022710	6.64	1.0	2.2	1.8	4.0	6°	0.2			**10400**
TOHX 06T102EL	W30 04060.026110	6.64	1.0	2.2	1.8	4.0	6°	0.2		**40400**	
TOHX 06T102EL	W30 04060.027615	6.64	1.0	2.2	1.8	4.0	6°	0.2	**80400**		
TOHX 06T103EL	W30 04060.032710	6.50	1.0	2.2	1.8	4.0	6°	0.3			**10606**
TOHX 06T103EL	W30 04060.036110	6.50	1.0	2.2	1.8	4.0	6°	0.3		**40606**	
TOHX 06T103EL	W30 04060.037615	6.50	1.0	2.2	1.8	4.0	6°	0.3	**80606**		
TOHX 090202EL	W30 14060.022710	9.40	2.5	2.8	2.5	5.6	6°	0.2			**12800**
TOHX 090202EL	W30 14060.027615	9.40	2.5	2.8	2.5	5.6	6°	0.2	**82800**		
TOHX 090204EL	W30 14060.042710	9.12	2.5	2.8	2.5	5.6	6°	0.4			**10409**
TOHX 090204EL	W30 14060.046110	9.12	2.5	2.8	2.5	5.6	6°	0.4		**40409**	
TOHX 090204EL	W30 14060.047615	9.12	2.5	2.8	2.5	5.6	6°	0.4	**80409**		
TOHX 090208EL	W30 14060.086110	8.52	2.5	2.8	2.5	5.6	6°	0.8		**44000**	
TOHX 090208EL	W30 14060.087615	8.52	2.5	2.8	2.5	5.6	6°	0.8	**84000**		
TOHX 140302EL	W30 26060.027615	13.92	4.5	3.8	3.0	8.2	6°	0.2	**85000**		
TOHX 140304EL	W30 26060.042710	13.62	4.5	3.8	3.0	8.2	6°	0.4			**12600**
TOHX 140304EL	W30 26060.046110	13.62	4.5	3.8	3.0	8.2	6°	0.4		**40414**	
TOHX 140304EL	W30 26060.047615	13.62	4.5	3.8	3.0	8.2	6°	0.4	**82600**		
TOHX 140305EL	W30 26060.052710	13.48	4.5	3.8	3.0	8.2	6°	0.5			**16000**
TOHX 140305EL	W30 26060.056110	13.48	4.5	3.8	3.0	8.2	6°	0.5		**46000**	
TOHX 140305EL	W30 26060.057615	13.48	4.5	3.8	3.0	8.2	6°	0.5	**86000**		
TOHX 140308EL	W30 26060.082710	13.04	4.5	3.8	3.0	8.2	6°	0.8			**16600**
TOHX 140308EL	W30 26060.086110	13.04	4.5	3.8	3.0	8.2	6°	0.8		**46600**	
TOHX 140308EL	W30 26060.087615	13.04	4.5	3.8	3.0	8.2	6°	0.8	**86600**		
P										●	●
M										●	●
K									●	●	●
N											
S											●
H										●	
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Left indexable insert



-G06
P25M

TOHX



-G06
P25M

TOHX



-G06
K10

TOHX

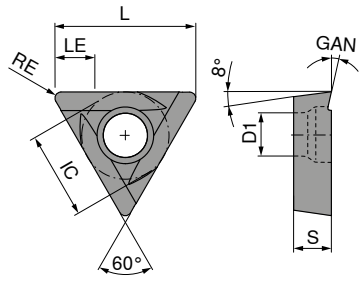
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 634 ...	IH 62 602 ...	IH 62 602 ...
TOHX 06T100FL	W30 04060.3021	6.50	1.0	2.2	1.8	4.0	6°	0.0			**50200**
TOHX 06T102EL	W30 04060.0203	6.64	1.0	2.2	1.8	4.0	6°	0.2		**40402**	
TOHX 06T102FL	W30 04060.0221	6.64	1.0	2.2	1.8	4.0	6°	0.2			**50600**
TOHX 06T103EL	W30 04060.0303	6.50	1.0	2.2	1.8	4.0	6°	0.3		**40802**	
TOHX 06T103FL	W30 04060.0321	6.50	1.0	2.2	1.8	4.0	6°	0.3			**51100**
TOHX 090202EL	W30 14060.0203	9.40	2.5	2.8	2.5	5.6	6°	0.2		**82802**	
TOHX 090202EL	W30 14060.0221	9.40	2.5	2.8	2.5	5.6	6°	0.2			**52800**
TOHX 090204EL	W30 14060.0403	9.12	2.5	2.8	2.5	5.6	6°	0.4		**43402**	
TOHX 090204EL	W30 14060.0421	9.12	2.5	2.8	2.5	5.6	6°	0.4			**53400**
TOHX 090208EL	W30 14060.0821	8.52	2.5	2.8	2.5	5.6	6°	0.8			**54000**
TOHX 140302EL	W30 26060.0203	13.92	4.5	3.8	3.0	8.2	6°	0.2		**45002**	
TOHX 140302EL	W30 26060.0221	13.92	4.5	3.8	3.0	8.2	6°	0.2			**55000**
TOHX 140304EL	W30 26060.0421	13.62	4.5	3.8	3.0	8.2	6°	0.4			**55600**
TOHX 140305EL	W30 26060.0503	13.48	4.5	3.8	3.0	8.2	6°	0.5	**43202**		
TOHX 140305EL	W30 26060.0521	13.48	4.5	3.8	3.0	8.2	6°	0.5			**56000**
P									●	●	
M									●	●	
K											
N											●
S											●
H											
O											●

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



Left indexable insert



-G12 BK8425	-G12 BK6440	-G12 BK6425
F		
TOHX	TOHX	TOHX
IH	IH	IH

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	62 603 ...	62 603 ...	62 603 ...
TOHX 06T100EL	W30 04120.306425	6.50	1.0	2.2	1.8	4.0	12°	0.0			**10002**
TOHX 06T102EL	W30 04120.026425	6.64	1.0	2.2	1.8	4.0	12°	0.2			**14602**
TOHX 06T102EL	W30 04120.026440	6.64	1.0	2.2	1.8	4.0	12°	0.2		**24602**	
TOHX 06T102EL	W30 04120.028425	6.64	1.0	2.2	1.8	4.0	12°	0.2	**34600**		
TOHX 06T103EL	W30 04120.036425	6.50	1.0	2.2	1.8	4.0	12°	0.3			**10202**
TOHX 06T103EL	W30 04120.036440	6.50	1.0	2.2	1.8	4.0	12°	0.3		**20202**	
TOHX 06T103EL	W30 04120.038425	6.50	1.0	2.2	1.8	4.0	12°	0.3	**30200**		
TOHX 06T104EL	W30 04120.046425	6.34	1.0	2.2	1.8	4.0	12°	0.4			**10702**
TOHX 06T104EL	W30 04120.048425	6.34	1.0	2.2	1.8	4.0	12°	0.4	**30700**		
TOHX 090202EL	W30 14120.026425	9.40	2.5	2.8	2.5	5.6	12°	0.2			**11002**
TOHX 090202EL	W30 14120.026440	9.40	2.5	2.8	2.5	5.6	12°	0.2		**21002**	
TOHX 090202EL	W30 14120.028425	9.40	2.5	2.8	2.5	5.6	12°	0.2	**31000**		
TOHX 090204EL	W30 14120.046425	9.12	2.5	2.8	2.5	5.6	12°	0.4			**11802**
TOHX 090204EL	W30 14120.046440	9.12	2.5	2.8	2.5	5.6	12°	0.4		**21802**	
TOHX 090204EL	W30 14120.048425	9.12	2.5	2.8	2.5	5.6	12°	0.4	**31800**		
TOHX 090208EL	W30 14120.086425	8.52	2.5	2.8	2.5	5.6	12°	0.8			**12002**
TOHX 090208EL	W30 14120.088425	8.52	2.5	2.8	2.5	5.6	12°	0.8	**32000**		
TOHX 140302EL	W30 26120.026425	13.92	4.5	3.8	3.0	8.2	12°	0.2			**12202**
TOHX 140302EL	W30 26120.026440	13.92	4.5	3.8	3.0	8.2	12°	0.2		**22202**	
TOHX 140302EL	W30 26120.028425	13.92	4.5	3.8	3.0	8.2	12°	0.2	**32200**		
TOHX 140304EL	W30 26120.046425	13.62	4.5	3.8	3.0	8.2	12°	0.4			**12602**
TOHX 140304EL	W30 26120.048425	13.62	4.5	3.8	3.0	8.2	12°	0.4	**32600**		
TOHX 140305EL	W30 26120.056425	13.48	4.5	3.8	3.0	8.2	12°	0.5			**13002**
TOHX 140305EL	W30 26120.056440	13.48	4.5	3.8	3.0	8.2	12°	0.5		**23002**	
TOHX 140305EL	W30 26120.058425	13.48	4.5	3.8	3.0	8.2	12°	0.5	**33000**		
TOHX 140308EL	W30 26120.086425	13.04	4.5	3.8	3.0	8.2	12°	0.8			**13802**

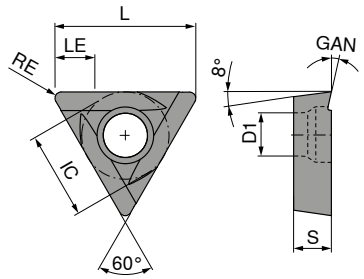
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



Left indexable insert



-G12
P25M

TOHX



-G12
K10

TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 603 ...	IH 62 603 ...
TOHX 06T102EL	W30 04120.0203	6.64	1.0	2.2	1.8	4.0	12°	0.2	**44602**	
TOHX 06T102FL	W30 04120.0221	6.64	1.0	2.2	1.8	4.0	12°	0.2		**55000**
TOHX 06T103EL	W30 04120.0303	6.50	1.0	2.2	1.8	4.0	12°	0.3	**40202**	
TOHX 06T103FL	W30 04120.0321	6.50	1.0	2.2	1.8	4.0	12°	0.3		**50500**
TOHX 090200EL	W30 14120.3021	9.10	2.5	2.8	2.5	5.6	12°	0.0		**55400**
TOHX 090202EL	W30 14120.0203	9.40	2.5	2.8	2.5	5.6	12°	0.2	**41002**	
TOHX 090202FL	W30 14120.0221	9.40	2.5	2.8	2.5	5.6	12°	0.2		**51200**
TOHX 090204EL	W30 14120.0403	9.12	2.5	2.8	2.5	5.6	12°	0.4	**41802**	
TOHX 090204FL	W30 14120.0421	9.12	2.5	2.8	2.5	5.6	12°	0.4		**51700**
TOHX 090208FL	W30 14120.0821	8.52	2.5	2.8	2.5	5.6	12°	0.8		**52000**
TOHX 140302FL	W30 26120.0221	13.92	4.5	3.8	3.0	8.2	12°	0.2		**52400**
TOHX 140304EL	W30 26120.0403	13.62	4.5	3.8	3.0	8.2	12°	0.4	**42602**	
TOHX 140304FL	W30 26120.0421	13.62	4.5	3.8	3.0	8.2	12°	0.4		**52700**
TOHX 140305FL	W30 26120.0521	13.48	4.5	3.8	3.0	8.2	12°	0.5		**53300**

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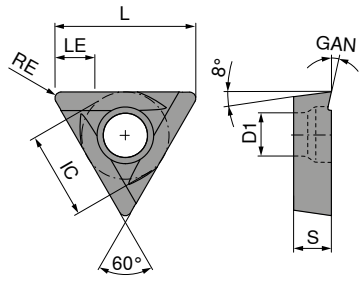


→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOHX

- ▲ Peripheral ground precision indexable insert
- ▲ Through accurate 2-sided contact very high repeatability when turning



Left indexable insert



-G12 CK30	-G12 CK32	-G12 CK37	-G12 CK38
CERMET TOHX	CERMET TOHX	CERMET TOHX	CERMET TOHX

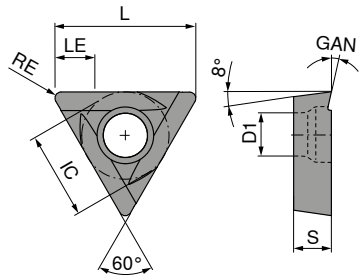
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 603 ...	IH 62 603 ...	IH 62 603 ...	IH 62 603 ...
TOHX 06T102EL	W30 04120.0232	6.64	1.0	2.2	1.8	4.0	12°	0.2		**24601**		
TOHX 06T102EL	W30 04120.0238	6.64	1.0	2.2	1.8	4.0	12°	0.2				**64603**
TOHX 06T102EL	W30 04120.0237	6.64	1.0	2.2	1.8	4.0	12°	0.2			**54603**	
TOHX 06T102FL	W30 04820.0232	6.64	1.0	2.2	1.8	4.0	12°	0.2		**25001**		
TOHX 06T103EL	W30 04120.0332	6.50	1.0	2.2	1.8	4.0	12°	0.3		**20201**		
TOHX 06T103EL	W30 04120.0337	6.50	1.0	2.2	1.8	4.0	12°	0.3			**50203**	
TOHX 06T104EL	W30 04120.0438	6.34	1.0	2.2	1.8	4.0	12°	0.4				**60703**
TOHX 090202EL	W30 14120.0232	9.40	2.5	2.8	2.5	5.6	12°	0.2		**21001**		
TOHX 090202EL	W30 14120.0238	9.40	2.5	2.8	2.5	5.6	12°	0.2				**61003**
TOHX 090202EL	W30 14120.0237	9.40	2.5	2.8	2.5	5.6	12°	0.2			**51003**	
TOHX 090202EL	W30 14120.0230	9.40	2.5	2.8	2.5	5.6	12°	0.2	**41003**			
TOHX 090202FL	W30 14820.0232	9.40	2.5	2.8	2.5	5.6	12°	0.2		**21201**		
TOHX 090204EL	W30 14120.0432	9.12	2.5	2.8	2.5	5.6	12°	0.4		**21801**		
TOHX 090204EL	W30 14120.0438	9.12	2.5	2.8	2.5	5.6	12°	0.4				**61803**
TOHX 090204EL	W30 14120.0437	9.12	2.5	2.8	2.5	5.6	12°	0.4			**51803**	
TOHX 090204EL	W30 14120.0430	9.12	2.5	2.8	2.5	5.6	12°	0.4	**41803**			
TOHX 090204FL	W30 14820.0432	9.12	2.5	2.8	2.5	5.6	12°	0.4		**21701**		
TOHX 090204FL	W30 14820.0438	9.12	2.5	2.8	2.5	5.6	12°	0.4				**61703**
TOHX 140302EL	W30 26120.0232	13.92	4.5	3.8	3.0	8.2	12°	0.2		**22201**		
TOHX 140302FL	W30 26820.0232	13.92	4.5	3.8	3.0	8.2	12°	0.2		**22401**		
TOHX 140304EL	W30 26120.0438	13.62	4.5	3.8	3.0	8.2	12°	0.4				**62603**
TOHX 140304FL	W30 26820.0438	13.62	4.5	3.8	3.0	8.2	12°	0.4				**62703**
TOHX 140305EL	W30 26120.0532	13.48	4.5	3.8	3.0	8.2	12°	0.5		**23001**		
TOHX 140305EL	W30 26120.0537	13.48	4.5	3.8	3.0	8.2	12°	0.5			**53003**	
TOHX 140305FL	W30 26820.0532	13.48	4.5	3.8	3.0	8.2	12°	0.5		**23301**		
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



Left indexable insert

-G20 K10	-G20 BK6425
	
TOHX	TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 620 ...	IH 62 620 ...
TOHX 06T102FL	W30 04200.0221	6.64	1.0	2.2	1.8	4.0	20°	0.2	**50600**	
TOHX 06T103EL	W30 04200.036425	6.50	1.0	2.2	1.8	4.0	20°	0.3		**10802**
TOHX 090202FL	W30 14200.0221	9.40	2.5	2.8	2.5	5.6	20°	0.2	**53100**	
TOHX 090204FL	W30 14200.0421	9.12	2.5	2.8	2.5	5.6	20°	0.4	**53700**	
TOHX 090204EL	W30 14200.046425	9.12	2.5	2.8	2.5	5.6	20°	0.4		**13402**
TOHX 140305FL	W30 26200.0521	13.48	4.5	3.8	3.0	8.2	20°	0.5	**56300**	

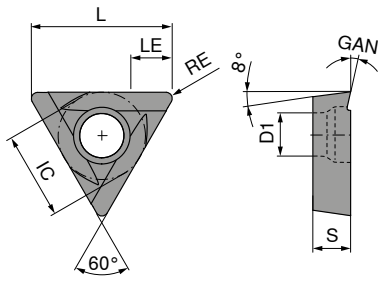
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Right indexable insert

	-G06 BK8425	-G06 BK6425	-G06 BK6440	-G06 BK7615
				
				F
	TOHX	TOHX	TOHX	TOHX
	IH	IH	IH	IH

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	62 602 ...	62 602 ...	62 602 ...	62 602 ...
TOHX 06T102ER	W30 04360.026425	6.64	1.0	2.2	1.8	4.0	6°	0.2		**10502**		
TOHX 06T103ER	W30 04360.036425	6.50	1.0	2.2	1.8	4.0	6°	0.3		**11002**		
TOHX 06T103ER	W30 04360.036440	6.50	1.0	2.2	1.8	4.0	6°	0.3			**21002**	
TOHX 06T103ER	W30 04360.038425	6.50	1.0	2.2	1.8	4.0	6°	0.3	**31000**			
TOHX 090202ER	W30 14360.026425	9.40	2.5	2.8	2.5	5.6	6°	0.2		**13002**		
TOHX 090204ER	W30 14360.046425	9.12	2.5	2.8	2.5	5.6	6°	0.4		**13602**		
TOHX 090204ER	W30 14360.046440	9.12	2.5	2.8	2.5	5.6	6°	0.4			**23602**	
TOHX 090204ER	W30 14360.047615	9.12	2.5	2.8	2.5	5.6	6°	0.4				**83600**
TOHX 090204ER	W30 14360.048425	9.12	2.5	2.8	2.5	5.6	6°	0.4	**33600**			
TOHX 140305ER	W30 26360.058425	13.48	4.5	3.8	3.0	8.2	6°	0.5	**36200**			

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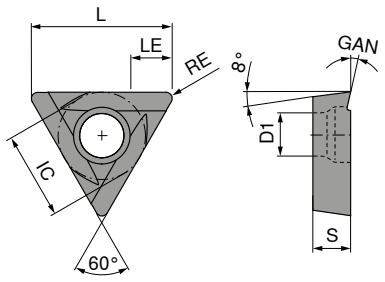


→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Right indexable insert

-G06 P25M	-G06 K10
	
TOHX	TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 602 ...	IH 62 602 ...
TOHX 06T102ER	W30 04360.0221	6.64	1.0	2.2	1.8	4.0	6°	0.2		**50500**
TOHX 06T103ER	W30 04360.0303	6.50	1.0	2.2	1.8	4.0	6°	0.3	**41002**	
TOHX 06T103ER	W30 04360.0321	6.50	1.0	2.2	1.8	4.0	6°	0.3		**51000**
TOHX 090202ER	W30 14360.0221	9.40	2.5	2.8	2.5	5.6	6°	0.2		**53000**
TOHX 090204ER	W30 14360.0403	9.12	2.5	2.8	2.5	5.6	6°	0.4	**43602**	
TOHX 090204ER	W30 14360.0421	9.12	2.5	2.8	2.5	5.6	6°	0.4		**53600**
TOHX 140305ER	W30 26360.0503	13.48	4.5	3.8	3.0	8.2	6°	0.5	**46202**	
TOHX 140305ER	W30 26360.0521	13.48	4.5	3.8	3.0	8.2	6°	0.5		**56200**

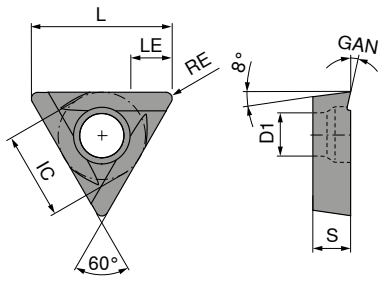
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Right indexable insert



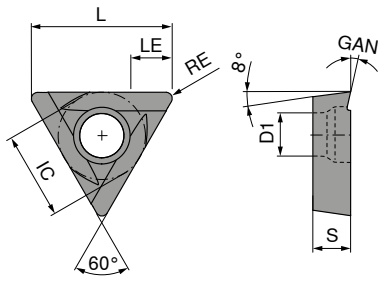
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	-G12 BK8425	-G12 BK8425	-G12 BK6425	-G12 BK7615
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									TOHX	TOHX	TOHX	TOHX
									IH	IH	IH	IH
									62 602 ...	62 603 ...	62 603 ...	62 603 ...
TOHX 06T102ER	W30 04420.026425	6.64	1.0	2.2	1.8	4.0	12°	0.2			**14802**	
TOHX 06T102ER	W30 04420.028425	6.64	1.0	2.2	1.8	4.0	12°	0.2		**34800**		
TOHX 06T103ER	W30 04420.036425	6.50	1.0	2.2	1.8	4.0	12°	0.3			**10402**	
TOHX 06T103ER	W30 04420.038425	6.50	1.0	2.2	1.8	4.0	12°	0.3	**30606**			
TOHX 06T104ER	W30 04420.048425	6.34	1.0	2.2	1.8	4.0	12°	0.4		**30800**		
TOHX 090202ER	W30 14420.026425	9.40	2.5	2.8	2.5	5.6	12°	0.2			**11102**	
TOHX 090202ER	W30 14420.028425	9.40	2.5	2.8	2.5	5.6	12°	0.2		**31100**		
TOHX 090204ER	W30 14420.046425	9.12	2.5	2.8	2.5	5.6	12°	0.4			**11502**	
TOHX 090204ER	W30 14420.047615	9.12	2.5	2.8	2.5	5.6	12°	0.4				**81500**
TOHX 090204ER	W30 14420.048425	9.12	2.5	2.8	2.5	5.6	12°	0.4		**31500**		
TOHX 140302ER	W30 26420.026425	13.92	4.5	3.8	3.0	8.2	12°	0.2			**12302**	
TOHX 140305ER	W30 26420.056425	13.48	4.5	3.8	3.0	8.2	12°	0.5			**13202**	
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- ▲ Peripheral ground precision indexable insert
- ▲ Through accurate 2-sided contact very high repeatability when turning



Right indexable insert

-G12
K10



TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 603 ...
TOHX 090202FR	W30 14420.0221	9.40	2.5	2.8	2.5	5.6	12°	0.2	**51300**
TOHX 140302FR	W30 26420.0221	13.92	4.5	3.8	3.0	8.2	12°	0.2	**52500**

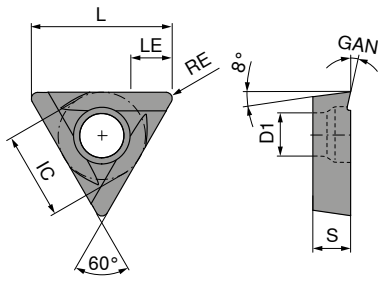
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→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOHX

- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



Right indexable insert

-G12 CK37	-G12 CK38
	
CERMET TOHX	CERMET TOHX
IH	IH

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 603 ...	IH 62 603 ...
TOHX 06T102ER	W30 04420.0238	6.64	1.0	2.2	1.8	4.0	12°	0.2		**64803**
TOHX 06T103ER	W30 04420.0337	6.50	1.0	2.2	1.8	4.0	12°	0.3	**50403**	
TOHX 090202ER	W30 14420.0238	9.40	2.5	2.8	2.5	5.6	12°	0.2		**61103** [1]
TOHX 090204ER	W30 14420.0437	9.12	2.5	2.8	2.5	5.6	12°	0.4	**51503**	
TOHX 090204ER	W30 14420.0438	9.12	2.5	2.8	2.5	5.6	12°	0.4		**61503**
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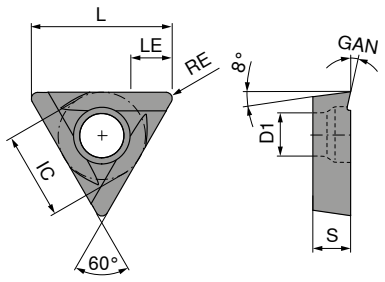
1) Not in stock

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning



Right indexable insert

-G20 BK6425	-G20 K10
	
TOHX	TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 620 ...	IH 62 620 ...
TOHX 06T102FR	W30 04500.0221	6.64	1.0	2.2	1.8	4.0	20°	0.2		**50700**
TOHX 06T103FR	W30 04500.0321	6.50	1.0	2.2	1.8	4.0	20°	0.3		**51300**
TOHX 090204FR	W30 14500.0421	9.12	2.5	2.8	2.5	5.6	20°	0.4		**53800**
TOHX 090204FR	W30 14500.046425	9.12	2.5	2.8	2.5	5.6	20°	0.4	**13802**	

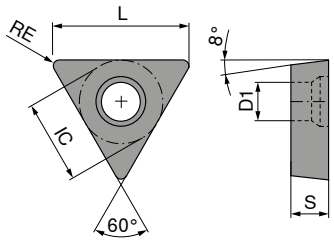
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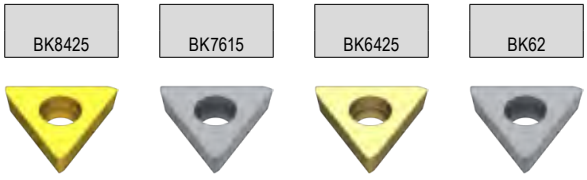
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning





TOHX TOHX TOHX TOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 621 ...	IH 62 621 ...	IH 62 621 ...	IH 62 621 ...
TOHX 06T103EN	W30 04600.036425	6.5	2.2	1.8	4.0	0.3			**10902**	
TOHX 06T103EN	W30 04600.037615	6.5	2.2	1.8	4.0	0.3		**80900**		
TOHX 06T103EN	W30 04600.038425	6.5	2.2	1.8	4.0	0.3	**30900**			
TOHX 090204EN	W30 14600.0462	9.1	2.8	2.5	5.6	0.4				**03503**
TOHX 090204EN	W30 14600.046425	9.1	2.8	2.5	5.6	0.4			**13502**	
TOHX 090204EN	W30 14600.047615	9.1	2.8	2.5	5.6	0.4		**83500**		
TOHX 090204EN	W30 14600.048425	9.1	2.8	2.5	5.6	0.4	**33500**			
TOHX 090208EN	W30 14600.087615	8.5	2.8	2.5	5.6	0.8		**84100**		
TOHX 140304EN	W30 26600.047615	13.6	3.8	3.0	8.2	0.4		**85700**		
TOHX 140305EN	W30 26600.057615	13.5	3.8	3.0	8.2	0.5		**86100**		
TOHX 140305EN	W30 26600.058425	13.5	3.8	3.0	8.2	0.5	**36100**			
TOHX 140308EN	W30 26600.086425	13.0	3.8	3.0	8.2	0.8			**16702**	
TOHX 140308EN	W30 26600.087615	13.0	3.8	3.0	8.2	0.8		**86700**		
TOHX 22T308EN	W30 44600.087615	20.8	4.2	4.3	12.7	0.8		**87500**		

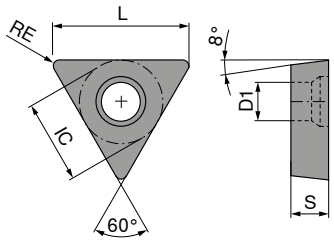
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K	●	●	●	●
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ Peripheral ground precision indexable insert
▲ Through accurate 2-sided contact very high repeatability when turning





TOHX TOHX TOHX

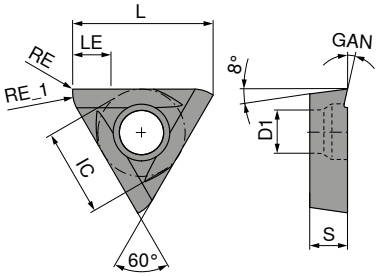
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 635 ...	IH 62 621 ...	IH 62 621 ...
TOHX 06T103EN	W30 04600.0321	6.5	2.2	1.8	4.0	0.3			**50900**
TOHX 090204EN	W30 14600.0421	9.1	2.8	2.5	5.6	0.4			**53500**
TOHX 090204EN	W30 14600.046110	9.1	2.8	2.5	5.6	0.4	**41400**		
TOHX 140304EN	W30 26600.046110	13.6	3.8	3.0	8.2	0.4		**45700**	
TOHX 140305EN	W30 26600.0521	13.5	3.8	3.0	8.2	0.5			**56100**
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ High-precision indexable insert with wiper geometry for best surface quality at high feed rates
▲ Ideal cutting depths: Steel a_p = 0.1 – 0.25 mm, cast iron a_p = 0.15 – 0.3 mm



Left indexable insert

-UF06 BK76	-UF06 BK6425	-UF06 BK6440
		
TOHX	TOHX	TOHX
IH	IH	IH
62 622 ...	62 622 ...	62 622 ...

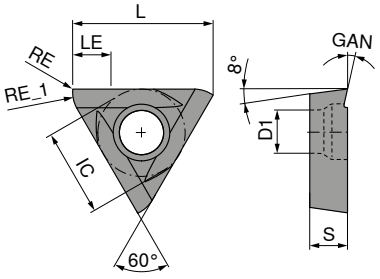
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	RE_1 mm			
TOHX 090202EL	W30 14060.316425	9.12	4.0	2.8	2.5	5.6	6°	0.2	3		**12602**	
TOHX 090202EL	W30 14060.317615	9.12	4.0	2.8	2.5	5.6	6°	0.2	3	**12803**		
TOHX 140302EL	W30 26060.316425	13.62	5.5	3.8	3.0	8.2	6°	0.2	3		**15002**	
TOHX 140302EL	W30 26060.316440	13.62	5.5	3.8	3.0	8.2	6°	0.2	3			**25002**
TOHX 140302EL	W30 26060.317615	13.62	5.5	3.8	3.0	8.2	6°	0.2	3	**15003**		
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M											●	●
K										●	●	
N												
S												
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ High-precision indexable insert with wiper geometry for best surface quality at high feed rates
▲ Ideal cutting depths: Steel a_p = 0.1 – 0.25 mm, cast iron a_p = 0.15 – 0.3 mm



Left indexable insert

-UF06 K10	-UF06 BK27
	
TOHX	TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	RE_1 mm	IH 62 622 ...	IH 62 633 ...
TOHX 090202EL	W30 14060.3121	9.12	4	2.8	2.5	5.6	6°	0.2	3	**52800**	
TOHX 090202EL	W30 14060.3127	9.12	4	2.8	2.5	5.6	6°	0.2	3		**91403**

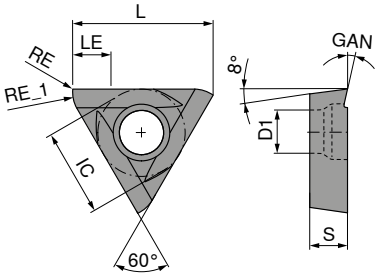
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ High-precision indexable insert with wiper geometry for best surface quality at high feed rates
▲ Ideal cutting depths: Steel a_p = 0.1 – 0.25 mm, cast iron a_p = 0.15 – 0.3 mm



Left indexable insert

-UF12 BK8425	-UF12 BK6425
	
TOHX	TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	RE_1 mm	IH 62 623 ...	IH 62 623 ...
TOHX 06T102EL	W30 04120.316425	6.50	2.8	2.2	1.8	4.0	12°	0.2	2		**10402**
TOHX 090202EL	W30 14120.316425	9.12	4.0	2.8	2.5	5.6	12°	0.2	3		**12802**
TOHX 090202EL	W30 14120.318425	9.12	4.0	2.8	2.5	5.6	12°	0.2	3	**32803**	
TOHX 140302EL	W30 26120.316425	13.62	5.5	3.8	3.0	8.2	12°	0.2	3		**15002**
TOHX 140302EL	W30 26120.318425	13.62	5.5	3.8	3.0	8.2	12°	0.2	3	**35003**	

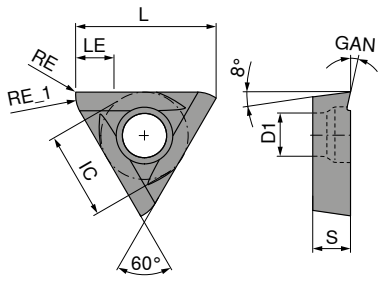
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O		

→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOHX

▲ High-precision indexable insert with wiper geometry for best surface quality at high feed rates
▲ Ideal cutting depths: Steel a_p = 0.1 – 0.25 mm



Left indexable insert

-UF12
CK30



CERMET
TOHX

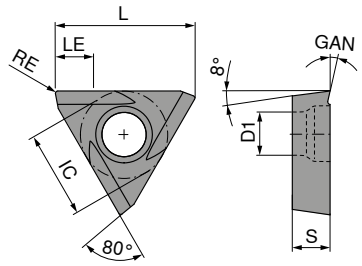
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	RE_1 mm	IH 62 623 ...
TOHX 090202EL	W30 14120.3130	9.12	4	2.8	2.5	5.6	12°	0.2	3	**42803**
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- High-precision indexable insert for improved chip control
- Deeper, narrow chip former ensures optimum chip control even for long-chipping materials and low cutting depths
- Flat ground secondary cutting edge ensures greater corner stability



Left indexable insert



-US12
BK8425

TOHX



-US12
BK6440

TOHX



-US12
BK6425

TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 625 ...	IH 62 625 ...	IH 62 625 ...
TOHX 06T102EL	W30 04120.326425	6.50	1.5	2.2	1.8	4.0	12°	0.2			**10402**
TOHX 06T102EL	W30 04120.326440	6.50	1.5	2.2	1.8	4.0	12°	0.2		**20402**	
TOHX 06T102EL	W30 04120.328425	6.50	1.5	2.2	1.8	4.0	12°	0.2	**30400**		
TOHX 090202EL	W30 14120.326425	9.12	2.0	2.8	2.5	5.6	12°	0.2			**12802**
TOHX 090202EL	W30 14120.326440	9.12	2.0	2.8	2.5	5.6	12°	0.2		**22802**	
TOHX 090202EL	W30 14120.328425	9.12	2.0	2.8	2.5	5.6	12°	0.2	**32800**		
TOHX 140302EL	W30 26120.326425	13.62	2.0	3.8	3.0	8.2	12°	0.2			**15002**
TOHX 140302EL	W30 26120.326440	13.62	2.0	3.8	3.0	8.2	12°	0.2		**25002**	

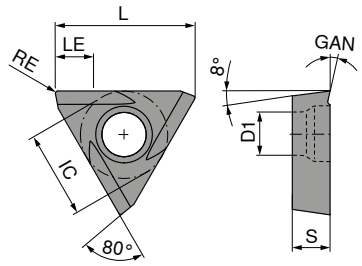
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→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOHX

- High-precision indexable insert for improved chip control
- Deeper, narrow chip former ensures optimum chip control even for long-chipping materials and low cutting depths
- Flat ground secondary cutting edge ensures greater corner stability



Left indexable insert

-US12 CK30	-US12 CK32	-US12 CK37	-US12 CK38
			
CERMET TOHX	CERMET TOHX	CERMET TOHX	CERMET TOHX
IH	IH	IH	IH
62 625 ...	62 625 ...	62 625 ...	62 625 ...

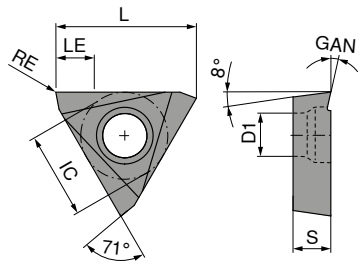
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	-US12 CK30 IH 62 625 ...	-US12 CK32 IH 62 625 ...	-US12 CK37 IH 62 625 ...	-US12 CK38 IH 62 625 ...
TOHX 06T102EL	W30 04120.3238	6.50	1.5	2.2	1.8	4.0	12°	0.2				**60403**
TOHX 06T102FL	W30 04820.3230	6.50	1.5	2.2	1.8	4.0	12°	0.2	**40603**			
TOHX 06T102FL	W30 04820.3238	6.50	1.5	2.2	1.8	4.0	12°	0.2				**60603**
TOHX 090202EL	W30 14120.3232	9.12	2.0	2.8	2.5	5.6	12°	0.2		**22801**		
TOHX 090202EL	W30 14120.3237	9.12	2.0	2.8	2.5	5.6	12°	0.2			**52803**	
TOHX 090202EL	W30 14120.3238	9.12	2.0	2.8	2.5	5.6	12°	0.2				**62803**
TOHX 090202FL	W30 14820.3232	9.12	2.0	2.8	2.5	5.6	12°	0.2		**23101**		
TOHX 140302EL	W30 26120.3232	13.62	2.0	3.8	3.0	8.2	12°	0.2		**25001**		
TOHX 140302EL	W30 26120.3238	13.62	2.0	3.8	3.0	8.2	12°	0.2				**65003**
P									●	●	●	●
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

▲ High-precision indexable insert with low lateral deflection forces for tools with a long overhang
▲ Totally sharp-edged with tip radius 0.05 mm



Left indexable insert

-39G12
BK77



TOHX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 619 ...
TOHX 06T1ZZFL	W30 04120.3977	6.48	2	2.2	1.8	4.0	12°	0.05	**21703**
TOHX 0902ZZFL	W30 14120.3977	9.08	3	2.8	2.5	5.6	12°	0.05	**24203**

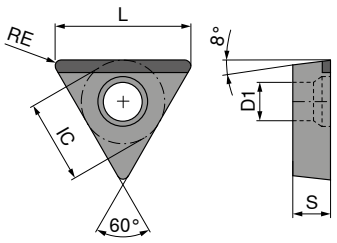
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→ Find the recommended values for cutting speeds here.

CoreLine – PCD indexable insert

TOEX

- ▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements
- ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK)
- ▲ TCE(NOI) = Version and number of equipped cutting edge corners



CTDPU20



F
DIAMOND
TOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	TCE	PC 62 632 ...
TOEX 090204FNN	W30 14940.045510	9.12	2.8	2.5	5.6	0.4	A	**20009**
TOEX 140305FNN	W30 26940.055510	13.50	3.8	3.0	8.2	0.5	A	**20109**

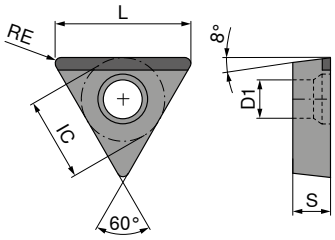
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→ Find the recommended values for cutting speeds here.

CoreLine – PcBN indexable insert

TOEX

▲ For machining cast materials, powder metallurgical materials and high temperature alloys
▲ TCE(NOI) = Version and number of equipped cutting edge corners



CTBS12U



F
CBN
TOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	TCE	PC 62 632 ...
TOEX 090204TNN	W30 14940.0457	9.12	2.8	2.5	5.6	0.4	A	**00809**
TOEX 140305TNN	W30 26940.0557	13.50	3.8	3.0	8.2	0.5	A	**00909**

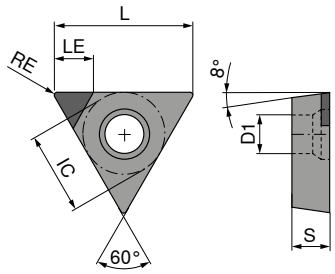
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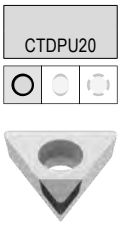
→ Find the recommended values for cutting speeds here.

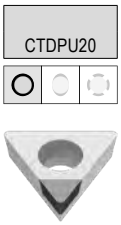
CoreLine – PCD indexable insert

TOEX

- ▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements
- ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK)
- ▲ TCE(NOI) = Version and number of equipped cutting edge corners







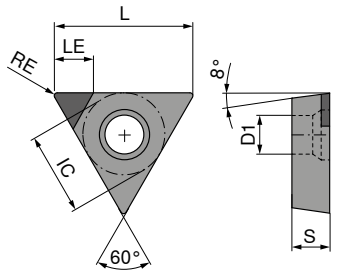
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	RE mm	TCE (NOI)	PC 62 605 ...	PC 62 632 ...
									F DIAMOND TOEX	F DIAMOND TOEX
TOEX 06T102FN	W30 04990.025510	6.64	1.8	2.2	1.8	4.0	0.2	A (1)	**00201**	
TOEX 06T103FN	W30 04990.035510	6.64	1.8	2.2	1.8	4.0	0.3	A (1)		**20509**
TOEX 06T104FN	W30 04990.045510	6.64	1.8	2.2	1.8	4.0	0.4	A (1)		**20609**
TOEX 090202FN	W30 14990.025510	9.12	2.7	2.8	2.5	5.6	0.2	A (1)		**20709**
TOEX 090204FN	W30 14990.045510	9.12	2.7	2.8	2.5	5.6	0.4	A (1)	**01401**	
TOEX 090208FN	W30 14990.085510	9.12	2.7	2.8	2.5	5.6	0.8	A (1)		**20809**
TOEX 140302FN	W30 26990.025510	13.62	2.7	3.8	3.0	8.2	0.2	A (1)		**20909**
TOEX 140304FN	W30 26990.045510	13.62	2.7	3.8	3.0	8.2	0.4	A (1)	**02601**	
TOEX 140305FN	W30 26990.055510	13.62	2.7	3.8	3.0	8.2	0.5	A (1)		**21009**
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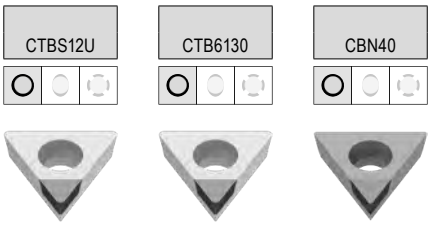
→ Find the recommended values for cutting speeds here.

CoreLine – PcBN indexable insert

TOEX / TOGX

▲ For machining cast materials, powder metallurgical materials and high temperature alloys
▲ TCE(NOI) = Version and number of equipped cutting edge corners





								F	F	F
								CBN	CBN	CBN
								TOEX	TOEX	TOGX
								PC	PC	PC
Designation	Product Reference No.	L	LE	D1	S	IC	RE	**62 632 ...**	**62 632 ...**	**62 601 ...**
		mm	mm	mm	mm	mm	mm			
TOGX 06T102TN	W30 04990.0240	6.64	1.8	2.2	1.8	4.0	0.2			**60206**
TOEX 06T102TN	W30 04990.0257	6.64	1.8	2.2	1.8	4.0	0.2	**00009**		
TOEX 06T103TN	W30 04990.0357	6.64	1.8	2.2	1.8	4.0	0.3	**00109**		
TOEX 090202TN	W30 14990.0240	9.12	2.7	2.8	2.5	5.6	0.2		**10009**	
TOEX 090202TN	W30 14990.0257	9.12	2.7	2.8	2.5	5.6	0.2	**00209**		
TOGX 090204TN	W30 14990.0440	9.12	2.7	2.8	2.5	5.6	0.4			**60409**
TOEX 090204TN	W30 14990.0457	9.12	2.7	2.8	2.5	5.6	0.4	**00309**		
TOEX 090208TN	W30 14990.0857	9.12	2.7	2.8	2.5	5.6	0.8	**00409**		
TOEX 140302TN	W30 26990.0257	13.62	2.7	3.8	3.0	8.2	0.2	**00509**		
TOGX 140304TN	W30 26990.0440	13.62	2.7	3.8	3.0	8.2	0.4			**62600**
TOEX 140304TN	W30 26990.0457	13.62	2.7	3.8	3.0	8.2	0.4	**00609**		
TOEX 140305TN	W30 26990.0557	13.62	2.7	3.8	3.0	8.2	0.5	**00709**		

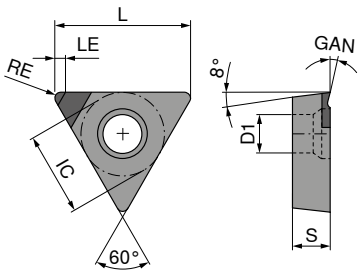
P			
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K	●		
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S	●		
H		●	●
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→ Find the recommended values for cutting speeds here.

CoreLine – PCD indexable insert

TOEX

- ▲ Version with chip breaker particularly suitable for long-chipping non-ferrous metals, especially aluminum, wrought and die cast alloys
- ▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements
- ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK)
- ▲ TCE(NOI) = Version and number of equipped cutting edge corners



-98
CTDPU20



F
DIAMOND
TOEX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	TCE (NOI)	PC 62 632 ...
TOEX 06T103FN	W30 04980.035510	6.64	0.6	2.2	1.8	4.0	12°	0.3	A (1)	**20209**
TOEX 090204FN	W30 14980.045510	9.12	0.6	2.8	2.5	5.6	12°	0.4	A (1)	**20309**
TOEX 140305FN	W30 26980.055510	13.62	0.6	3.8	3.0	8.2	12°	0.5	A (1)	**20409**

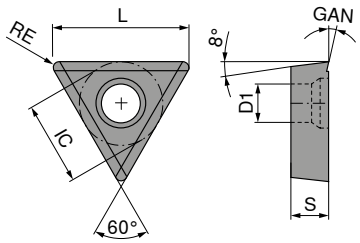
P	
M	
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Ground through chip breaker for countersinking and chamfering operations
- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



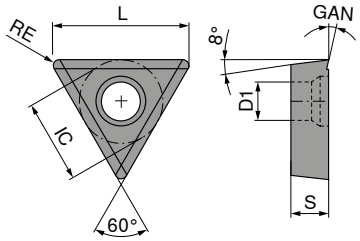
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	-G06 BK8425	-G06 BK6425	-G06 BK6440	-G06 BK7615
								F TOHX	TOHX	TOHX	F TOHX
								IH 62 602 ...	IH 62 602 ...	IH 62 602 ...	IH 62 602 ...
TOHX 06T103EN	W30 04660.036425	6.50	2.20	1.8	4.0	6°	0.3		10902		
TOHX 06T103EN	W30 04660.038425	6.50	2.20	1.8	4.0	6°	0.3	30900			
TOHX 090202EN	W30 14660.028425	9.40	2.80	2.5	5.6	6°	0.2	32900			
TOHX 090204EN	W30 14660.046425	9.12	2.80	2.5	5.6	6°	0.4		13502		
TOHX 090204EN	W30 14660.046440	9.12	2.80	2.5	5.6	6°	0.4			23502	
TOHX 090204EN	W30 14660.047615	9.12	2.80	2.5	5.6	6°	0.4				83500
TOHX 090204EN	W30 14660.048425	9.12	2.80	2.5	5.6	6°	0.4	33500			
TOHX 140305EN	W30 26660.056425	13.48	3.80	3.0	8.2	6°	0.5		16102		
TOHX 140305EN	W30 26660.056440	13.48	3.80	3.0	8.2	6°	0.5			26102	
TOHX 140305EN	W30 26660.057615	13.48	3.80	3.0	8.2	6°	0.5				86100
TOHX 140305EN	W30 26660.058425	13.48	3.80	3.0	8.2	6°	0.5	33000			
TOHX 22T308EN	W30 44660.086425	20.82	7.05	4.3	12.7	6°	0.8		17502		
TOHX 22T308EN	W30 44660.086440	20.82	7.05	4.3	12.7	6°	0.8			27502	
TOHX 22T308EN	W30 44660.087615	20.82	7.05	4.3	12.7	6°	0.8				87500
P								●	●	●	
M								●	●	●	
K								●	●		●
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S								●			
H								○			
O											

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- ▲ Ground through chip breaker for countersinking and chamfering operations
- ▲ Peripheral ground precision indexable insert
- ▲ Through accurate 2-sided contact very high repeatability when turning



-G06 P25M	-G06 K10
	
TOHX	TOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 602 ...	IH 62 602 ...
TOHX 06T103EN	W30 04660.0303	6.50	2.20	1.8	4.0	6°	0.3	**40902**	
TOHX 06T103EN	W30 04660.0321	6.50	2.20	1.8	4.0	6°	0.3		**50900**
TOHX 090204EN	W30 14660.0403	9.12	2.80	2.5	5.6	6°	0.4	**43502**	
TOHX 090204EN	W30 14660.0421	9.12	2.80	2.5	5.6	6°	0.4		**53500**
TOHX 140305EN	W30 26660.0503	13.48	3.80	3.0	8.2	6°	0.5	**46102**	
TOHX 140305EN	W30 26660.0521	13.48	3.80	3.0	8.2	6°	0.5		**56100**
TOHX 22T308EN	W30 44660.0803	20.82	7.05	4.3	12.7	6°	0.8	**47502**	
TOHX 22T308EN	W30 44660.0821	20.82	7.05	4.3	12.7	6°	0.8		**57500**

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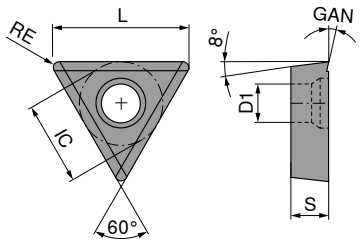


→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Ground through chip breaker for countersinking and chamfering operations
- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



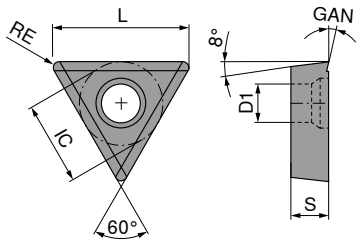
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	-U877 BK8425	-U877 BK6425	-U877 BK6440
								F		
								TOHX	TOHX	TOHX
								IH	IH	IH
								62 604 ...	62 604 ...	62 604 ...
TOHX 090204EN	W30 14660.336425	9.12	2.8	2.5	5.6	6°	0.4		11402	
TOHX 090204EN	W30 14660.336440	9.12	2.8	2.5	5.6	6°	0.4			21402
TOHX 090204EN	W30 14660.338425	9.12	2.8	2.5	5.6	6°	0.4	31400		
P								●	●	●
M								●	●	●
K								●	●	
N								○		
S								●		
H								○		
O										

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Ground through chip breaker for countersinking and chamfering operations
- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



-U877 P25	-U877 K10
	
	F
TOHX	TOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 604 ...	IH 62 604 ...
TOHX 090204EN	W30 14660.3303	9.12	2.8	2.5	5.6	6°	0.4	**61402**	
TOHX 090204EN	W30 14660.3321	9.12	2.8	2.5	5.6	6°	0.4		**51400**

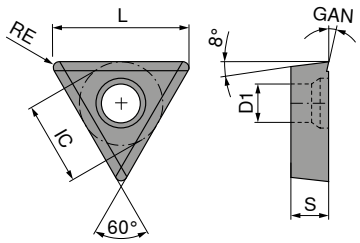
P	●	
M	●	
K		
N		●
S		●
H		
O		●

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Ground through chip breaker for countersinking and chamfering operations
- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning





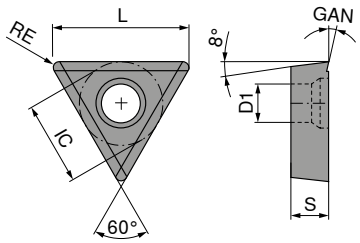
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	-G12 BK8425	-G12 BK6440	-G12 BK6425
								F		
								TOHX	TOHX	TOHX
								IH	IH	IH
								62 603 ...	62 603 ...	62 603 ...
TOHX 06T103EN	W30 04720.036425	6.50	2.2	1.8	4.0	12°	0.3			10302
TOHX 090204EN	W30 14720.046425	9.12	2.8	2.5	5.6	12°	0.4			11402
TOHX 090204EN	W30 14720.046440	9.12	2.8	2.5	5.6	12°	0.4		21402	
TOHX 090204EN	W30 14720.048425	9.12	2.8	2.5	5.6	12°	0.4	31400		
TOHX 140305EN	W30 26720.056425	13.48	3.8	3.0	8.2	12°	0.5			13102
P								●	●	●
M								●	●	●
K								●		●
N								○		
S								●		
H								○		
O										

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHX

- Ground through chip breaker for countersinking and chamfering operations
- Peripheral ground precision indexable insert
- Through accurate 2-sided contact very high repeatability when turning



-G12 P25M	-G12 K10
	
	F
TOHX	TOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 603 ...	IH 62 603 ...
TOHX 06T103EN	W30 04720.0303	6.50	2.2	1.8	4.0	12°	0.3	**40302**	
TOHX 06T103FN	W30 04720.0321	6.50	2.2	1.8	4.0	12°	0.3		**50600**
TOHX 090204EN	W30 14720.0403	9.12	2.8	2.5	5.6	12°	0.4	**41402**	
TOHX 090204FN	W30 14720.0421	9.12	2.8	2.5	5.6	12°	0.4		**51600**
TOHX 140305EN	W30 26720.0503	13.48	3.8	3.0	8.2	12°	0.5	**43102**	
TOHX 140305FN	W30 26720.0521	13.48	3.8	3.0	8.2	12°	0.5		**52800**

P	●	
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→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

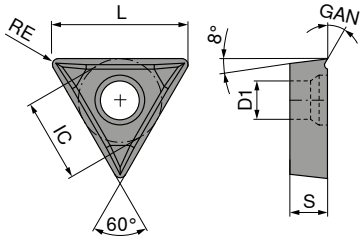
Index	62 601 ..., 62 602 ..., 62 603 ..., 62 604 ..., 62 605 ..., 62 619 ..., 62 620 ..., 62 621 ..., 62 622 ..., 62 623 ..., 62 625 ..., 62 632 ..., 62 633 ..., 62 634 ..., 62 635 ... TOHX, TOEX, TOGX																				
	F	E													CERMET				PCD	PcBN		
	K10	K10	P25	P25M	BK 27	BK 2710	BK 6110	BK 62	BK 6425	BK 6440	BK 76	BK 7615	BK 77	BK 8425	CK30	CK32	CK37	CK38	CTDPU20	CTBS12U	CTB6130	CBN40
	v_c (m/min)																					
P.1.1			100	100	260	230	300		320	240				260	350	350	310	470				
P.1.2			100	100	260	230	300		320	240				260	350	350	310	470				
P.1.3			90	90	270	230	300		220	220				270	350	350	310	470				
P.1.4			90	90	240	210	300		290	220				240	320	320	280	430				
P.1.5			90	90	230	210	300		280	220				230	320	320	280	330				
P.2.1			80	80	270	180	270		330	200				270	280	280	250	375				
P.2.2			80	80	260	180	270		320	200	200			260	280	280	250	375				
P.2.3			80	80	180	180	270		220	200	200			180	280	280	250	375				
P.2.4			80	80	150	180	270		180	200	200			150	280	280	250	375				
P.3.1			75	75	160	160	250		200	180	180			160	250	250	220	340				
P.3.2			70	70	130	160	250		160	160	160			130	250	250	220	340				
P.3.3			70	70	120	160	250		150	160	160			120	250	250	220	340				
P.4.1			60	60	180	140	220		220	140	140			180	210	210	185	280				
P.4.2			60	60	130	140	220		160	140	140			130	210	210	185	280				
M.1.1			90	90	150	180	220		185	200				150	280	280	250	430				
M.2.1			70	70	150	160	220		185	180				150	250	250	220	380				
M.3.1			70	70	130	120	200		160	160				130	180	180	160	280				
K.1.1		210			160	210	290	240	200		160	290		160						1000		
K.1.2		140			120	180	290	140	150		120	290		120						850		
K.2.1		120			160	160	270	160	200		160	270		160						900		
K.2.2		120			100	160	250	100	120		100	250		100						750		
K.3.1		100			120	140	220	120	150		120	220		120						900		
K.3.2		80			100	140	220	100	120		100	220		100						750		
N.1.1	250													400					500			
N.1.2	250													400					500			
N.2.1	250													250					500			
N.2.2	250													250					500			
N.2.3	250													230					500			
N.3.1	230													200					450			
N.3.2	230													220					450			
N.3.3	230													330					450			
N.4.1	230													200					450			
S.1.1	20					60							50	60								
S.1.2	20					50							40	50								
S.2.1	20					60							50	60						400		
S.2.2	20					50							40	50						250		
S.2.3	20					30							30	30						250		
S.3.1	60					100							70	100								
S.3.2	30					80							60	80								
S.3.3	30					50							40	50								
H.1.1							100	100					40	100							160	160
H.1.2							80	80					30	80							185	185
H.1.3							50	50					20	50							215	215
H.1.4																						240
H.2.1							100	100					40	100								
H.3.1							80	80					30	80								
O.1.1	100												100						500			
O.1.2	100												100						500			
O.2.1																			500			
O.2.2	100												100						300			
O.3.1	100												100						300			

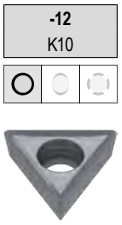
The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – HM indexable insert

TOGX

- All-round, highly positive and sharp topography for fine machining materials including aluminum and non-ferrous metals
- Compatible with TOHX indexable inserts
- Controlled chip formation and top surface quality at low cutting forces







F
TOGX

F
TOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 601 ...	IH 62 601 ...
TOGX 06T102FN	W57 04120.0223	6.64	2.2	1.8	4.0	30°	0.2	**50206**	
TOGX 06T102FN	W57 04120.027710	6.64	2.2	1.8	4.0	30°	0.2		**70201**
TOGX 090204FN	W57 14120.0423	9.12	2.8	2.5	5.6	30°	0.4	**50409**	
TOGX 090204FN	W57 14120.047710	9.12	2.8	2.5	5.6	30°	0.4		**70401**
TOGX 140304FN	W57 26120.0423	13.62	3.8	3.0	8.2	30°	0.4	**50414**	
TOGX 140304FN	W57 26120.047710	13.62	3.8	3.0	8.2	30°	0.4		**71401**

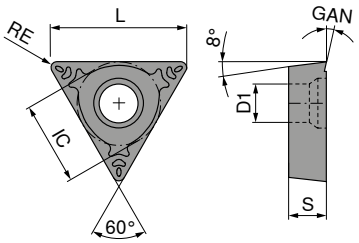
P		
M		
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S	●	○
H		○
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOGX

- Chip breakage topography for very low cutting depths
- Controlled chip formation in fine and extremely fine machining
- Compatible with TOHX indexable inserts



-14 BK60	-14 BK8430
	
F TOGX	**F** TOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 601 ...	IH 62 601 ...
TOGX 06T102EN	W57 04140.0260	6.64	2.2	1.8	4.0	14°	0.2	**90206**	
TOGX 06T102EN	W57 04140.028430	6.64	2.2	1.8	4.0	14°	0.2		**30201**
TOGX 06T104EN	W57 04140.0460	6.35	2.2	1.8	4.0	14°	0.4	**70400**	
TOGX 06T104EN	W57 04140.048430	6.35	2.2	1.8	4.0	14°	0.4		**33401**
TOGX 090202EN	W57 14140.0260	9.41	2.8	2.5	5.6	14°	0.2	**70200**	
TOGX 090202EN	W57 14140.028430	9.41	2.8	2.5	5.6	14°	0.2		**33801**
TOGX 090204EN	W57 14140.0460	9.12	2.8	2.5	5.6	14°	0.4	**70409**	
TOGX 090204EN	W57 14140.048430	9.12	2.8	2.5	5.6	14°	0.4		**30401**
TOGX 140302EN	W57 26140.028430	13.91	3.8	3.0	8.2	14°	0.2		**34401**
TOGX 140304EN	W57 26140.0460	13.62	3.8	3.0	8.2	14°	0.4	**70414**	
TOGX 140304EN	W57 26140.048430	13.62	3.8	3.0	8.2	14°	0.4		**34601**
TOGX 140308EN	W57 26140.088430	13.03	3.8	3.0	8.2	14°	0.8		**30801**

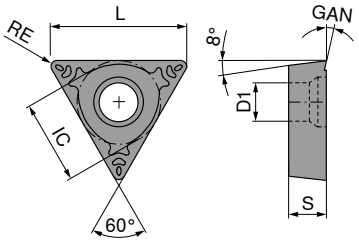
P	●	○
M	●	○
K	●	○
N		
S		●
H		●
O		

→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOGX

- Chip breakage topography for very low cutting depths
- Controlled chip formation in fine and extremely fine machining
- Compatible with TOHX indexable inserts
- Unbeatable wear resistance



-14
CK3210



F
CERMET
TOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 601 ...
TOGX 06T102EN	W57 04140.023210	6.64	2.2	1.8	4.0	14°	0.2	**53202**
TOGX 06T104EN	W57 04140.043210	6.35	2.2	1.8	4.0	14°	0.4	**53402**
TOGX 090202EN	W57 14140.023210	9.41	2.8	2.5	5.6	14°	0.2	**53802**
TOGX 090204EN	W57 14140.043210	9.12	2.8	2.5	5.6	14°	0.4	**54002**
TOGX 140302EN	W57 26140.023210	13.91	3.8	3.0	8.2	14°	0.2	**54402**
TOGX 140304EN	W57 26140.043210	13.62	3.8	3.0	8.2	14°	0.4	**54602**

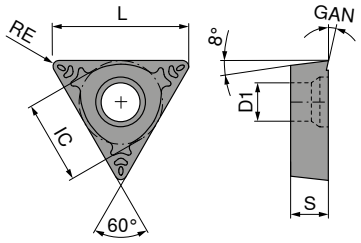
P	●
M	●
K	
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOGX

- Chip breakage topography for very low cutting depths
- Controlled chip formation in fine and extremely fine machining
- Compatible with TOHX indexable inserts
- Optimum toughness, suitable for interrupted cut





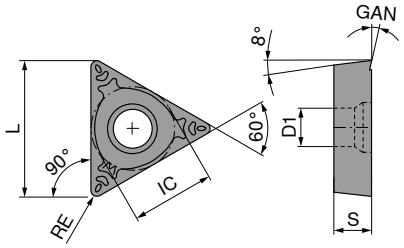
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	F CERMET TOGX IH 62 606 ...	F CERMET TOGX IH 62 601 ...
TOGX 06T102EN	W57 04140.023230	6.64	2.2	1.8	4.0	14°	0.2	**10201**	
TOGX 06T104EN	W57 04140.043230	6.35	2.2	1.8	4.0	14°	0.4		**13401**
TOGX 090202EN	W57 14140.023230	9.41	2.8	2.5	5.6	14°	0.2		**13801**
TOGX 090204EN	W57 14140.043230	9.12	2.8	2.5	5.6	14°	0.4	**11401**	
TOGX 140302EN	W57 26140.023230	13.91	3.8	3.0	8.2	14°	0.2		**14401**
TOGX 140304EN	W57 26140.043230	13.62	3.8	3.0	8.2	14°	0.4	**12601**	
P								●	●
M								●	●
K									
N									
S									
H									
O									

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOGX

- Chip breakage topography for very low cutting depths
- Setting angle KAPR = 90°
- With wiper geometry for best surface quality at high feed rates





F
TOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 607 ...
TOGX 06T104EN	W57 04180.048430	6.3	2.2	1.8	4.0	14°	0.4	**30401**
TOGX 090204EN	W57 14180.048430	9.1	2.8	2.5	5.6	14°	0.4	**31401**
TOGX 140304EN	W57 26180.048430	13.6	3.8	3.0	8.2	14°	0.4	**32601**

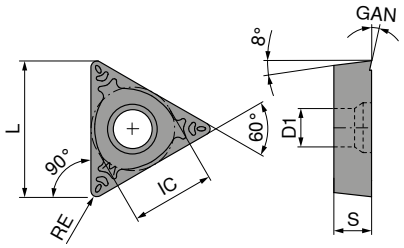
P	○
M	○
K	○
N	
S	●
H	●
O	

→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

TOGX

- ▲ Chip breakage topography for very low cutting depths
- ▲ Setting angle KAPR = 90°
- ▲ With wiper geometry for best surface quality at high feed rates



-18
CK32



F
CERMET
TOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 607 ...
TOGX 06T104EN	W57 04180.0432	6.3	2.2	1.8	4.0	14°	0.4	**20401**
TOGX 090204EN	W57 14180.0432	9.1	2.8	2.5	5.6	14°	0.4	**21401**
TOGX 140304EN	W57 26180.0432	13.6	3.8	3.0	8.2	14°	0.4	**22601**

P	●
M	●
K	
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

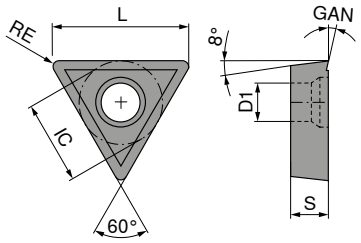
Index	62 601 ..., 62 606 ..., 62 607 ... TOGX -12, TOGX -14, TOGX -18						
	F				CERMET		
	K10	BK60	BK7710	BK8430	CK32	CK3210	CK3230
	v_c (m/min)						
P.1.1		270		200	350	350	350
P.1.2		270		200	350	350	350
P.1.3		270		200	350	350	350
P.1.4		250		180	320	320	320
P.1.5		250		180	320	320	320
P.2.1		210		160	280	280	280
P.2.2		210		160	280	280	280
P.2.3		210		160	280	280	280
P.2.4		210		160	280	280	280
P.3.1		190		140	250	250	250
P.3.2		190		140	250	250	250
P.3.3		190		140	250	250	250
P.4.1		160		120	210	210	210
P.4.2		160		120	210	210	210
M.1.1		280		160	280	280	280
M.2.1		250		140	250	250	250
M.3.1		180		100	180	180	180
K.1.1		210		180			
K.1.2		180		160			
K.2.1		160		140			
K.2.2		160		140			
K.3.1		140		120			
K.3.2		140		120			
N.1.1	250		600				
N.1.2	250		500				
N.2.1	250		400				
N.2.2	250		300				
N.2.3	250		250				
N.3.1	230		400				
N.3.2	230		300				
N.3.3	230		300				
N.4.1	230		300				
S.1.1	20		60	60			
S.1.2	20		60	50			
S.2.1	20		60	60			
S.2.2	20		60	50			
S.2.3	20		60	30			
S.3.1	60		80	100			
S.3.2	30		80	80			
S.3.3	30		80	50			
H.1.1			80	100			
H.1.2			40	80			
H.1.3			40	50			
H.1.4			40				
H.2.1			80	100			
H.3.1			80	80			
O.1.1	100		100				
O.1.2	100		100				
O.2.1							
O.2.2	100		100				
O.3.1	100		100				

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – HM indexable insert

TOHT

▲ All-round positive chip former for roughing, chamfering, and plunging operations



-05 BK6425	-05 BK6440	-05 BK8425
		
F TOHT	**F** TOHT	**F** TOHT

Designation	Product Reference No.	L mm	D1 mm	S mm	GAN	RE mm	IH 62 611 ...	IH 62 611 ...	IH 62 611 ...
TOHT 110304EN	W59 18050.046425	10.4	2.8	3.18	10°	0.4	**11402**		
TOHT 110304EN	W59 18050.046440	10.4	2.8	3.18	10°	0.4		**21402**	
TOHT 110304EN	W59 18050.048425	10.4	2.8	3.18	10°	0.4			**31400**
TOHT 160408EN	W59 32050.086425	15.3	4.3	4.76	10°	0.8	**13802**		
TOHT 160408EN	W59 32050.086440	15.3	4.3	4.76	10°	0.8		**23802**	
TOHT 160408EN	W59 32050.088425	15.3	4.3	4.76	10°	0.8			**33800**

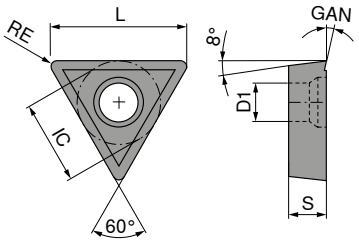
P	●	●	●
M	●	●	●
K	●		●
N			○
S			●
H			○
O			

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHT

▲ All-round positive chip former for roughing, chamfering, and plunging operations



-05 K10	-05 K15	-05 P25M
		
F TOHT	**F** TOHT	**F** TOHT

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 611 ...	IH 62 611 ...	IH 62 611 ...
TOHT 110304EN	W59 18050.0421	10.4	2.8	3.18	6.35	10°	0.4	**51400**		
TOHT 110304EN	W59 18050.0423	10.4	2.8	3.18	6.35	10°	0.4		**81403**	
TOHT 160408EN	W59 32050.0803	15.3	4.3	4.76	9.52	10°	0.8			**43802**
TOHT 160408EN	W59 32050.0821	15.3	4.3	4.76	9.52	10°	0.8	**53800**		

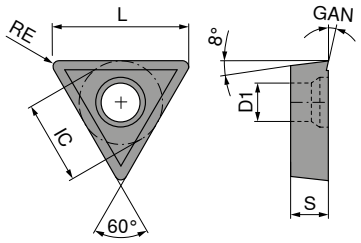
P			●
M			●
K		●	
N	●	●	
S	●	●	
H			
O	●		

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TOHT

▲ All-round positive chip former for roughing, chamfering, and plunging operations



-05 BK6110	-05 BK7615	-05 BK79
		
F TOHT	**F** TOHT	**F** TOHT

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 611 ...	IH 62 611 ...	IH 62 611 ...
TOHT 110304EN	W59 18050.046110	10.4	2.8	3.18	6.35	10°	0.4	**41400**		
TOHT 110304EN	W59 18050.047615	10.4	2.8	3.18	6.35	10°	0.4		**81400**	
TOHT 110304EN	W59 18050.0479	10.4	2.8	3.18	6.35	10°	0.4			**31402**
TOHT 160408EN	W59 32050.086110	15.3	4.3	4.76	9.52	10°	0.8	**43800**		
TOHT 160408EN	W59 32050.087615	15.3	4.3	4.76	9.52	10°	0.8		**83800**	
TOHT 160408EN	W59 32050.0879	15.3	4.3	4.76	9.52	10°	0.8			**33802**

P	●		●
M	●		●
K	●	●	
N			
S			
H	●		
O			

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (ISO standard)

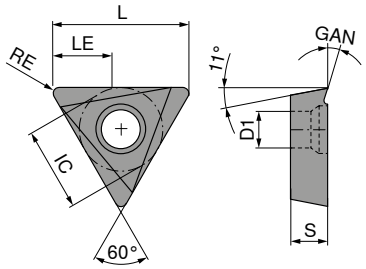
Index	62 611 ... TOHT -05									
	F K10	E K10	K15	P25M	BK6110	BK6425	BK6440	BK7615	BK79	BK8425
	v_c (m/min)									
P.1.1				100	300	320	240		180	260
P.1.2				100	300	320	240		160	260
P.1.3				90	300	220	220		195	270
P.1.4				90	300	290	220		170	240
P.1.5				90	300	280	220		140	230
P.2.1				80	270	330	200		195	270
P.2.2				80	270	320	200		190	260
P.2.3				80	270	220	200		115	180
P.2.4				80	270	180	200		90	150
P.3.1				75	250	200	180		100	160
P.3.2				70	250	160	160		80	130
P.3.3				70	250	150	160		70	120
P.4.1				60	220	220	140		115	180
P.4.2				60	220	160	140		80	130
M.1.1				90	220	185	200		160	150
M.2.1				70	220	185	180		160	150
M.3.1				70	200	160	160		150	130
K.1.1		210	160		290	200		290		160
K.1.2		140	140		290	150		290		120
K.2.1		120	120		270	200		270		160
K.2.2		120	120		250	120		250		100
K.3.1		100	100		220	150		220		120
K.3.2		80	80		220	120		220		100
N.1.1	250		250							400
N.1.2	250		250							400
N.2.1	250		250							250
N.2.2	250		250							250
N.2.3	250		250							230
N.3.1	230		230							200
N.3.2	230		230							220
N.3.3	230		230							330
N.4.1	230		230							200
S.1.1	20		20							60
S.1.2	20		20							50
S.2.1	20		20							60
S.2.2	20		20							50
S.2.3	20		20							30
S.3.1	60		60							100
S.3.2	30		30							80
S.3.3	30		30							50
H.1.1					100					100
H.1.2					80					80
H.1.3					50					50
H.1.4										
H.2.1					100					100
H.3.1					80					80
O.1.1	100									
O.1.2	100									
O.2.1										
O.2.2	100									
O.3.1	100									

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – HM indexable insert

TPHX

▲ Highly positive, polish-ground chip geometry for softer aluminum materials and other non-ferrous metals
▲ 10° – 15° rake angle due to axial and radial inclination



Left indexable insert





	-P15 K10	-P15 BK50	-P15 BK7710
	TPHX	TPHX	TPHX
	IH	IH	IH

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	GAN	RE mm	62 610 ...	62 610 ...	62 610 ...
TPHX 090204FL	W32 13150.0421	9.04	4.5	2.8	1.6	5.56	15°	0.4	**51400**		
TPHX 090204FL	W32 13150.0450	9.04	4.5	2.8	1.6	5.56	15°	0.4		**01402**	
TPHX 090204FL	W32 13150.047710	9.04	4.5	2.8	1.6	5.56	15°	0.4			**71401**
TPHX 110204FL	W32 18150.0421	10.41	4.6	2.8	3.18	6.35	15°	0.4	**52600**		
TPHX 130304FL	W32 23150.0450	13.17	5.0	3.7	3.18	7.94	15°	0.4		**03802**	

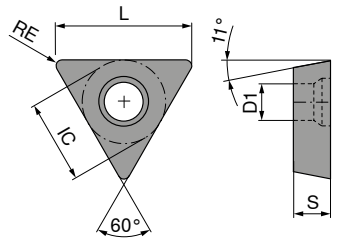
P			
M			
K			
N	●	●	●
S	●		○
H			○
O	●		○

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

TPHB

▲ Polished clamping flat for low-friction chip removal and prevention of built-up edge formation
▲ 5° rake angle due to axial inclination for the cutting speed range ≤ 300 m/min





TPHB



TPHB

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 609 ...	IH 62 609 ...
TPHB 090204FN	W32 13600.0421	9.04	2.8	2.38	5.56	0.4	**80201**	
TPHB 090204FN	W32 13600.0450	9.04	2.8	2.38	5.56	0.4		**90201**
TPHB 110204FN	W32 18600.0450	10.41	2.8	2.38	6.35	0.4		**91401** [1]
TPHB 130304FN	W32 23600.0421	13.17	3.7	3.18	7.94	0.4	**82601**	
TPHB 130304FN	W32 23600.0450	13.17	3.7	3.18	7.94	0.4		**92601**
TPHB 130308FN	W32 23600.0821	12.58	3.7	3.18	7.94	0.8	**82801**	
TPHB 160304FN	W32 32600.0421	15.90	4.3	3.18	9.52	0.4	**83801**	
TPHB 160308FN	W32 32600.0821	15.32	4.3	3.18	9.52	0.8	**84001**	
TPHB 220404FN	W32 44600.0421	21.41	5.2	4.3	12.70	0.4	**85001**	
TPHB 220408FN	W32 44600.0821	20.83	5.2	4.3	12.70	0.8	**85201**	

P		
M		
K	●	
N		●
S		
H		
O		

1) Not in stock

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

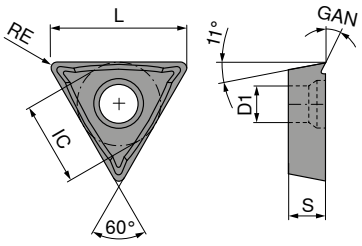
Index	62 609 ..., 62 610 ... TPHB, TPHX				
	F K10	PK10	PBK50	BK50	BK7710
	v_c (m/min)				
P.1.1					
P.1.2					
P.1.3					
P.1.4					
P.1.5					
P.2.1					
P.2.2					
P.2.3					
P.2.4					
P.3.1					
P.3.2					
P.3.3					
P.4.1					
P.4.2					
M.1.1					
M.2.1					
M.3.1					
K.1.1		160			
K.1.2		140			
K.2.1		120			
K.2.2		120			
K.3.1		100			
K.3.2		80			
N.1.1	250		500	500	600
N.1.2	250		500	500	500
N.2.1	250		500	500	400
N.2.2	250		500	500	300
N.2.3	250		500	500	250
N.3.1	230		450	450	400
N.3.2	230		450	450	300
N.3.3	230		450	450	300
N.4.1	230		450	450	300
S.1.1	20				60
S.1.2	20				60
S.2.1	20				60
S.2.2	20				60
S.2.3	20				60
S.3.1	60				80
S.3.2	30				80
S.3.3	30				80
H.1.1					80
H.1.2					40
H.1.3					40
H.1.4					40
H.2.1					80
H.3.1					80
O.1.1	100				100
O.1.2	100				100
O.2.1					
O.2.2	100				100
O.3.1	100				100

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – HM indexable insert

TPGX

▲ All-round, highly positive and sharp topography for fine machining materials including aluminum and non-ferrous metals
▲ Compatible with TPHX / TPHB indexable inserts



-12 K10	-12 H216T	-12 BK7710
		
TPGX	TPGX	TPGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 608 ...	IH 62 608 ...	IH 62 608 ...
TPGX 090204FN	W58 13120.0423	9.05	2.8	2.38	5.56	26°	0.4	**51400**		
TPGX 110204FN	W58 18120.0423	10.41	2.8	2.38	6.35	26°	0.4		**52600**	
TPGX 130304FN	W58 23120.0423	13.17	3.7	3.18	7.94	26°	0.4		**53800**	
TPGX 160304FN	W58 32120.047710	15.90	4.3	3.18	9.52	26°	0.4			**75001**

P			
M			
K			
N	●	●	●
S	●		○
H			○
O	●		○

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

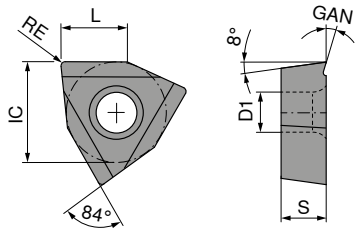
Index	62 608 ... TPGX -12		
	F		
	K10	H216T	BK7710
	v_c (m/min)		
P.1.1			
P.1.2			
P.1.3			
P.1.4			
P.1.5			
P.2.1			
P.2.2			
P.2.3			
P.2.4			
P.3.1			
P.3.2			
P.3.3			
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1	250	250	600
N.1.2	250	250	500
N.2.1	250	250	400
N.2.2	250	250	300
N.2.3	250	250	250
N.3.1	230	230	400
N.3.2	230	230	300
N.3.3	230	230	300
N.4.1	230	230	300
S.1.1	20		60
S.1.2	20		60
S.2.1	20		60
S.2.2	20		60
S.2.3	20		60
S.3.1	60		80
S.3.2	30		80
S.3.3	30		80
H.1.1			80
H.1.2			40
H.1.3			40
H.1.4			40
H.2.1			80
H.3.1			80
O.1.1	100		100
O.1.2	100		100
O.2.1			
O.2.2	100		100
O.3.1	100		100

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

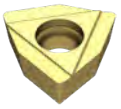
CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Left indexable insert

-G06 P25M	-G06 K10	-G06 BK6425
		
WOHX	WOHX	WOHX
IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 626 ...	62 626 ...	62 626 ...
WOHX 050302EL	W00 24060.0221	5.3	2.60	3.0	8.0	6°	0.2		**51500**	
WOHX 050302EL	W00 24060.026425	5.3	2.60	3.0	8.0	6°	0.2			**11502**
WOHX 060302EL	W00 34060.0203	6.6	3.78	3.0	10.0	6°	0.2	**42502**		
WOHX 060302EL	W00 34060.0221	6.6	3.78	3.0	10.0	6°	0.2		**52500**	
WOHX 060302EL	W00 34060.026425	6.6	3.78	3.0	10.0	6°	0.2			**12502**
WOHX 060304EL	W00 34060.0421	6.6	3.78	3.0	10.0	6°	0.4		**53200**	
WOHX 08T302EL	W00 42060.0203	7.9	4.78	3.8	12.0	6°	0.2	**45102**		
WOHX 08T302EL	W00 42060.0221	7.9	4.78	3.8	12.0	6°	0.2		**55100**	
WOHX 10T304EL	W00 50060.0403	9.9	4.70	4.3	15.0	6°	0.4	**46402**		
WOHX 120406EL	W00 58060.0603	11.6	5.80	5.0	17.6	6°	0.6	**47202**		

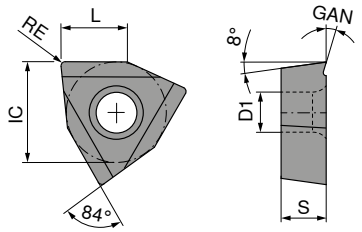
P	●		●
M	●		●
K			●
N		●	
S		●	
H			
O		●	

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- ▲ Very smooth-cutting thanks to positive cutting edge geometry
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Left indexable insert







F
WOHX

F
WOHX

F
WOHX

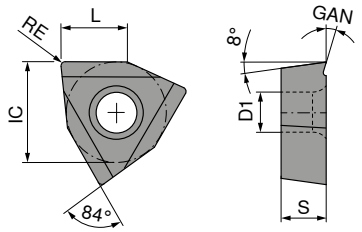
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 600 ...	IH 62 600 ...	IH 62 600 ...
WOHX 02T001EL	W00 04120.0104	2.60	2.00	1.2	4	12°	0.1			**70102**
WOHX 02T001FL	W00 04120.0121	2.60	2.00	1.2	4	12°	0.1	**20102**		
WOHX 03T102FL	W00 10120.0221	3.28	2.20	2.0	5	12°	0.2	**50900**		
WOHX 060302EL	W00 34120.0203	6.60	3.78	3.0	10	12°	0.2		**42802**	
WOHX 060302FL	W00 34120.0221	6.60	3.78	3.0	10	12°	0.2	**53000**		
WOHX 060304EL	W00 34120.0403	6.60	3.78	3.0	10	12°	0.4		**43202**	
WOHX 08T302EL	W00 42120.0203	7.90	4.78	3.8	12	12°	0.2		**44802**	
WOHX 08T302FL	W00 42120.0221	7.90	4.78	3.8	12	12°	0.2	**55000**		
WOHX 08T304EL	W00 42120.0403	7.90	4.78	3.8	12	12°	0.4		**45202**	
WOHX 10T304EL	W00 50120.0403	9.90	4.70	4.3	15	12°	0.4		**46002**	
P									●	●
M									●	●
K										
N								●		
S								●		
H										
O								●		

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

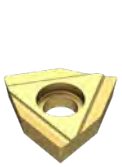
WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Left indexable insert






	-G12 BK8440	-G12 BK6440	-G12 BK6425	-G12 BK2710
	F			F
	WOHX	WOHX	WOHX	WOHX
	IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 600 ...	62 600 ...	62 600 ...	62 600 ...
WOHX 02T001EL	W00 04120.012710	2.60	2.00	1.2	4	12°	0.1				**10102**
WOHX 02T001EL	W00 04120.016440	2.60	2.00	1.2	4	12°	0.1		**20002**		
WOHX 02T001EL	W00 04120.018440	2.60	2.00	1.2	4	12°	0.1	**00102**			
WOHX 02T002EL	W00 04120.028440	2.60	2.00	1.2	4	12°	0.2	**00300**			
WOHX 03T102EL	W00 10120.026425	3.28	2.20	2.0	5	12°	0.2			**10802**	
WOHX 040202EL	W00 17120.026425	4.00	2.60	2.5	6	12°	0.2			**11402**	
WOHX 060302EL	W00 34120.026425	6.60	3.78	3.0	10	12°	0.2			**12802**	
WOHX 060304EL	W00 34120.046425	6.60	3.78	3.0	10	12°	0.4			**13202**	
WOHX 08T302EL	W00 42120.026425	7.90	4.78	3.8	12	12°	0.2			**14802**	
WOHX 08T304EL	W00 42120.046425	7.90	4.78	3.8	12	12°	0.4			**15202**	
WOHX 10T304EL	W00 50120.046425	9.90	4.70	4.3	15	12°	0.4			**16002**	

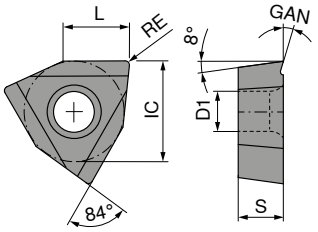
P	●	●	●	●
M	●	●	●	●
K	●		●	●
N				
S				●
H	●			
O				

→ Find the recommended values for cutting speeds here.

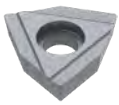
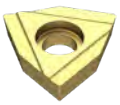
CoreLine – HM indexable insert

WOHX

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Right indexable insert

-G06 P25M	-G06 K10	-G06 BK6440	-G06 BK6425
			
WOHX	WOHX	WOHX	WOHX
IH	IH	IH	IH

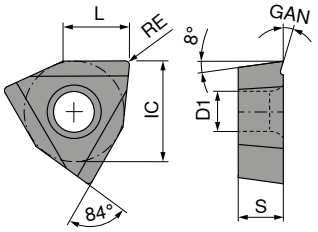
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 626 ...	62 626 ...	62 626 ...	62 626 ...
WOHX 060302ER	W00 34360.0203	6.6	3.78	3.0	10	6°	0.2	**42802**			
WOHX 060302ER	W00 34360.0221	6.6	3.78	3.0	10	6°	0.2		**52800**		
WOHX 060302ER	W00 34360.026425	6.6	3.78	3.0	10	6°	0.2				**12802**
WOHX 060302ER	W00 34360.026440	6.6	3.78	3.0	10	6°	0.2			**22802**	
WOHX 060304ER	W00 34360.046425	6.6	3.78	3.0	10	6°	0.4				**13302**
WOHX 08T302ER	W00 42360.0203	7.9	4.78	3.8	12	6°	0.2	**45402**			
WOHX 10T304ER	W00 50360.0403	9.9	4.70	4.3	15	6°	0.4	**46602**			
P								●		●	●
M								●		●	●
K											●
N									●		
S									●		
H											
O									●		

→ Find the recommended values for cutting speeds here.

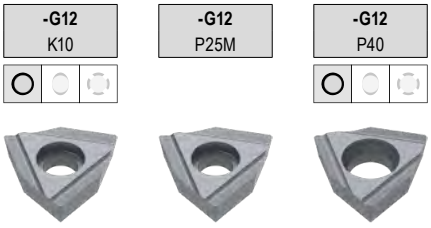
CoreLine – HM indexable insert

WOHX

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Right indexable insert



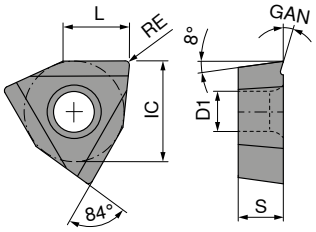
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	F WOHX IH 62 600 ...	F WOHX IH 62 600 ...	F WOHX IH 62 600 ...
WOHX 02T001ER	W00 04420.0104	2.6	2.00	1.2	4	12°	0.1			**70202**
WOHX 060302FR	W00 34420.0221	6.6	3.78	3.0	10	12°	0.2	**53100**		
WOHX 060304ER	W00 34420.0403	6.6	3.78	3.0	10	12°	0.4		**43302**	
WOHX 08T302ER	W00 42420.0203	7.9	4.78	3.8	12	12°	0.2		**44902**	
WOHX 08T304ER	W00 42420.0403	7.9	4.78	3.8	12	12°	0.4		**45302**	
WOHX 10T304ER	W00 50420.0403	9.9	4.70	4.3	15	12°	0.4		**46102**	
P									●	●
M									●	●
K										
N								●		
S								●		
H										
O								●		

→ Find the recommended values for cutting speeds here.

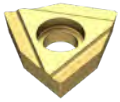
CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Right indexable insert

-G12 BK6425	-G12 BK6440
	
WOHX	WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 600 ...	IH 62 600 ...
WOHX 02T001ER	W00 04420.016440	2.6	2.00	1.2	4	12°	0.1		**20202**
WOHX 060302ER	W00 34420.026425	6.6	3.78	3.0	10	12°	0.2	**12902**	
WOHX 060304ER	W00 34420.046425	6.6	3.78	3.0	10	12°	0.4	**13302**	
WOHX 08T302ER	W00 42420.026425	7.9	4.78	3.8	12	12°	0.2	**14902**	
WOHX 08T304ER	W00 42420.046425	7.9	4.78	3.8	12	12°	0.4	**15302**	
WOHX 10T304ER	W00 50420.046425	9.9	4.70	4.3	15	12°	0.4	**16102**	

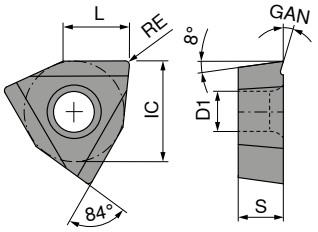
P	●	●
M	●	●
K	●	
N		
S		
H		
O		

→ Find the recommended values for cutting speeds here.

CoreLine – CERMET indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Right indexable insert

-G12
CK32



CERMET
WOHX

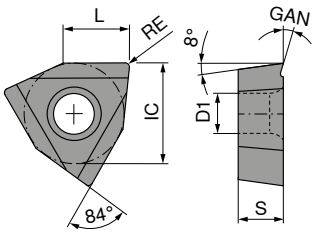
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 600 ...
WOHX 060304ER	W00 34420.0432	6.6	3.78	3.0	10	12°	0.4	**23301**
P								●
M								●
K								
N								
S								
H								
O								

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

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Right indexable insert

-G20
K10



WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 627 ...
WOHX 060302FR	W00 34500.0221	6.6	3.78	3.0	10	20°	0.2	**52000**
WOHX 060304FR	W00 34500.0421	6.6	3.78	3.0	10	20°	0.4	**52100**
WOHX 08T302FR	W00 42500.0221	7.9	4.78	3.8	12	20°	0.2	**52500**

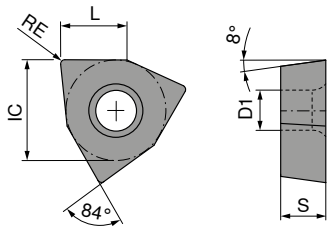
P	
M	
K	
N	●
S	●
H	
O	●

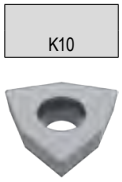
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- For K-materials
- Roughing and medium machining under difficult conditions





WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 628 ...
WOHX 060304EN	W00 34600.0421	6.6	3.78	3.0	10	0.4	**52000**

P	
M	
K	●
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

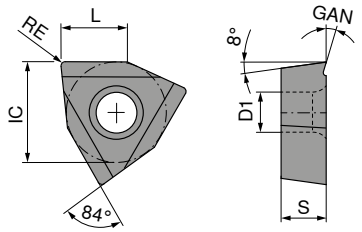
Index	62 600 ..., 62 626 ..., 62 627 ..., 62 628 ... WOHX 02T0..., 03T1..., 0402..., 0503..., 0603..., 08T3..., 10T3..., 1204...								
	F K10	E K10	P25M	P40	BK2710	BK6425	BK6440	BK8440	CERMET CK32
	v_c (m/min)								
P.1.1			100	90	230	320	240	170	350
P.1.2			100	90	230	320	240	170	350
P.1.3			90	80	230	220	220	170	350
P.1.4			90	80	210	290	220	150	320
P.1.5			90	80	210	280	220	150	320
P.2.1			80	75	180	330	200	140	280
P.2.2			80	75	180	320	200	140	280
P.2.3			80	75	180	220	200	140	280
P.2.4			80	75	180	180	200	140	280
P.3.1			75	70	160	200	180	120	250
P.3.2			70	60	160	160	160	120	250
P.3.3			70	60	160	150	160	120	250
P.4.1			60	50	140	220	140	100	210
P.4.2			60	50	140	160	140	100	210
M.1.1			90	75	180	185	200	140	280
M.2.1			70	70	160	185	180	120	250
M.3.1			70	60	120	160	160	90	180
K.1.1		210			210	200		150	
K.1.2		140			180	150		140	
K.2.1		120			160	200		120	
K.2.2		120			160	120		120	
K.3.1		100			140	150		100	
K.3.2		80			140	120		100	
N.1.1	250								
N.1.2	250								
N.2.1	250								
N.2.2	250								
N.2.3	250								
N.3.1	230								
N.3.2	230								
N.3.3	230								
N.4.1	230								
S.1.1	20				60				
S.1.2	20				50				
S.2.1	20				60				
S.2.2	20				50				
S.2.3	20				30				
S.3.1	60				100				
S.3.2	30				80				
S.3.3	30				50				
H.1.1								90	
H.1.2								70	
H.1.3								40	
H.1.4									
H.2.1								90	
H.3.1								70	
O.1.1	100								
O.1.2	100								
O.2.1									
O.2.2	100								
O.3.1	100								

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

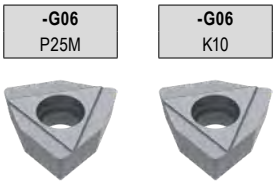
CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Left indexable insert



WOHX WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 626 ...	IH 62 626 ...
WOHX 05T302EL	W01 24060.0203	5.3	2.85	3.8	8	6°	0.2	**41702**	
WOHX 06T302EL	W01 34060.0203	6.6	4.00	3.8	10	6°	0.2	**43502**	
WOHX 06T302EL	W01 34060.0221	6.6	4.00	3.8	10	6°	0.2		**53500**
WOHX 080402EL	W01 42060.0203	7.9	4.90	4.8	12	6°	0.2	**44602**	
WOHX 100504EL	W01 50060.0403	9.9	4.90	5.3	15	6°	0.4	**46002**	

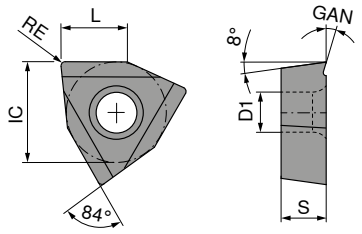
P	●	
M	●	
K		
N		●
S		●
H		
O		●

→ Find the recommended values for cutting speeds here.

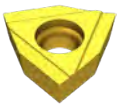
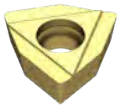
CoreLine – HM indexable insert

WOHX

- ▲ Very smooth-cutting thanks to positive cutting edge geometry
- ▲ Especially suitable for less powerful machines and unstable workpieces
- ▲ Easily controllable chip formation even in less solid materials



Left indexable insert

-G06 BK8425	-G06 BK6425	-G06 BK6115
		
WOHX	WOHX	WOHX
IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 626 ...	62 626 ...	62 626 ...
WOHX 05T304EL	W01 24060.046115	5.3	2.85	3.8	8.0	6°	0.4			**92002**
WOHX 06T302EL	W01 34060.028425	6.6	4.00	3.8	10.0	6°	0.2	**33500**		
WOHX 06T304EL	W01 34060.046115	6.6	4.00	3.8	10.0	6°	0.4			**94002**
WOHX 080402EL	W01 42060.026425	7.9	4.90	4.8	12.0	6°	0.2		**14602**	
WOHX 080404EL	W01 42060.046115	7.9	4.90	4.8	12.0	6°	0.4			**94902**
WOHX 100504EL	W01 50060.046425	9.9	4.90	5.3	15.0	6°	0.4		**16002**	
WOHX 120606EL	W01 58060.068425	11.6	5.80	6.0	17.6	6°	0.6	**37400**		

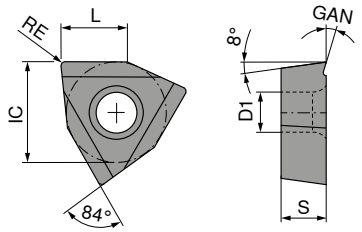
P	●	●	●
M	●	●	●
K	●	●	●
N	○		
S	●		
H	○		○
O			

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Left indexable insert



-G12 P25M	-G12 K10	-G12 BK8425	-G12 BK6425
WOHX	F WOHX	WOHX	WOHX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 600 ...	62 600 ...	62 600 ...	62 600 ...
WOHX 030204EL	W01 10120.048425	3.2	2.30	2.3	5.00	12°	0.4			**30700**	
WOHX 040304FL	W01 18120.0421	4.1	2.50	3.18	6.35	12°	0.4		**51300** [1]		
WOHX 040304EL	W01 18120.048425	4.1	2.50	3.18	6.35	12°	0.4			**31500**	
WOHX 05T302EL	W01 24120.026425	5.3	2.85	3.8	8.00	12°	0.2				**12002**
WOHX 05T302EL	W01 24120.028425	5.3	2.85	3.8	8.00	12°	0.2			**32000**	
WOHX 05T304FL	W01 24120.0421	5.3	2.85	3.8	8.00	12°	0.4		**52400**		
WOHX 05T304EL	W01 24120.048425	5.3	2.85	3.8	8.00	12°	0.4			**32300**	
WOHX 06T302EL	W01 34120.0203	6.6	4.00	3.8	10.00	12°	0.2	**43402**			
WOHX 06T304FL	W01 34120.0421	6.6	4.00	3.8	10.00	12°	0.4		**53700**		
WOHX 06T304EL	W01 34120.048425	6.6	4.00	3.8	10.00	12°	0.4			**33600**	
WOHX 080404EL	W01 42120.048425	7.9	4.90	4.8	12.00	12°	0.4			**34700**	
WOHX 100504EL	W01 50120.048425	9.9	4.90	5.3	15.00	12°	0.4			**35800**	
WOHX 120606EL	W01 58120.068425	11.6	5.80	6.0	17.60	12°	0.6			**36700**	

P	●		●	●
M	●		●	●
K			●	●
N		●	○	
S		●	●	
H			○	
O		●		

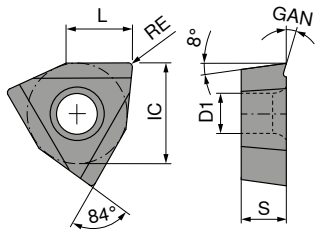
1) Not in stock

→ Find the recommended values for cutting speeds here.

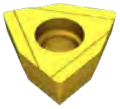
CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Right indexable insert

-G06 P25M	-G06 BK8425
	
WOHX	WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 626 ...	IH 62 626 ...
WOHX 040304ER	W01 18360.048425	4.1	2.5	3.18	6.35	6°	0.4		**31000**
WOHX 06T302ER	W01 34360.0203	6.6	4.0	3.8	10.00	6°	0.2	**43902**	
WOHX 080402ER	W01 42360.0203	7.9	4.9	4.8	12.00	6°	0.2	**44802**	

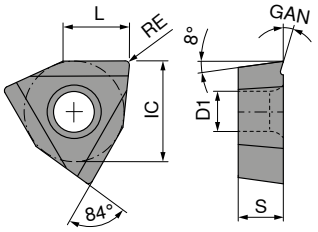
P	●	●
M	●	●
K		●
N		○
S		●
H		○
O		

→ Find the recommended values for cutting speeds here.

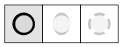
CoreLine – HM indexable insert

WOHX

- Very smooth-cutting thanks to positive cutting edge geometry
- Especially suitable for less powerful machines and unstable workpieces
- Easily controllable chip formation even in less solid materials



Right indexable insert



-G12 K10



-G12 P25M



-G12 BK6425



-G12 BK8425

F

WOHX WOHX WOHX WOHX

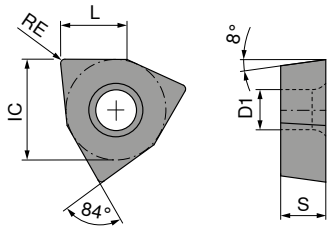
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 600 ...	IH 62 600 ...	IH 62 600 ...	IH 62 600 ...
WOHX 05T302ER	W01 24420.0203	5.3	2.85	3.8	8	12°	0.2		**42102**		
WOHX 05T302FR	W01 24420.0221	5.3	2.85	3.8	8	12°	0.2	**52200**			
WOHX 05T302ER	W01 24420.026425	5.3	2.85	3.8	8	12°	0.2			**12102**	
WOHX 06T302ER	W01 34420.0203	6.6	4.00	3.8	10	12°	0.2		**43502**		
WOHX 06T302ER	W01 34420.028425	6.6	4.00	3.8	10	12°	0.2				**33500**
WOHX 080402ER	W01 42420.0203	7.9	4.90	4.8	12	12°	0.2		**44502**		
WOHX 080402FR	W01 42420.0221	7.9	4.90	4.8	12	12°	0.2	**54600**			
WOHX 080402ER	W01 42420.026425	7.9	4.90	4.8	12	12°	0.2			**14502**	
WOHX 100504ER	W01 50420.0403	9.9	4.90	5.3	15	12°	0.4		**45902**		
WOHX 100504ER	W01 50420.048425	9.9	4.90	5.3	15	12°	0.4				**35900**
P									●	●	●
M									●	●	●
K										●	●
N								●			○
S								●			●
H											○
O								●			

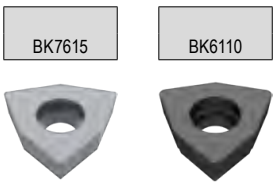
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- Roughing and medium machining under difficult conditions (interrupted cut or fluctuations in allowance)
- Outstanding performance thanks to the high cutting values
- Core drilling of materials including GJL and GJS





WOHX WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 628 ...	IH 62 628 ...
WOHX 040304EN	W01 18600.047615	4.1	2.50	3.18	6.35	0.4	**81000**	
WOHX 05T304EN	W01 24600.046110	5.3	2.85	3.8	8.00	0.4		**41400**
WOHX 05T304EN	W01 24600.047615	5.3	2.85	3.8	8.00	0.4	**81500**	
WOHX 06T304EN	W01 34600.046110	6.6	4.00	3.8	10.00	0.4		**42200**
WOHX 06T304EN	W01 34600.047615	6.6	4.00	3.8	10.00	0.4	**82200**	
WOHX 06T308EN	W01 34600.087615	6.6	4.00	3.8	10.00	0.8	**82300**	
WOHX 080404EN	W01 42600.047615	7.9	4.90	4.8	12.00	0.4	**83100**	
WOHX 080408EN	W01 42600.087615	7.9	4.90	4.8	12.00	0.8	**83200**	

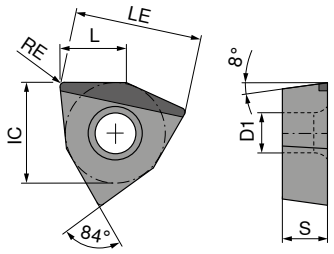
P		●
M		●
K	●	●
N		
S		
H		●
O		

→ Find the recommended values for cutting speeds here.

CoreLine – PCD drilling indexable insert

WOEX

- ▲ Outstanding wear resistance, even where Si content > 12% and high proportion of abrasive reinforcements
- ▲ For use in non-ferrous metals, plastics, fiber composites (GFK, CFK)
- ▲ TCE(NOI) = Version and number of equipped cutting edge corners



CTDPU20



F
DIAMOND
WOEX

Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	RE mm	TCE (NOI)	PC 10 824 ...
WOEX 05T304	W01 24940.045510	5.3	10.1	2.85	3.8	8	0.4	A (1)	**10000**
WOEX 06T304	W01 34940.045510	6.6	12.7	4.05	3.8	10	0.4	A (1)	**10100**
WOEX 080404	W01 42940.045510	7.9	15.3	4.90	4.8	12	0.4	A (1)	**10200**

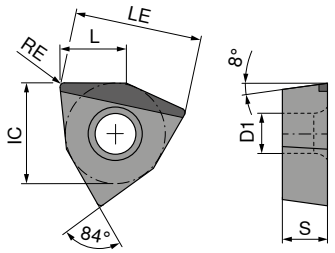
P	
M	
K	
N	●
S	
H	
O	●

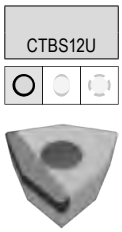
→ Find the recommended values for cutting speeds here.

CoreLine – PcBN indexable insert

WOEX

▲ For machining cast materials, powder metallurgical materials and high temperature alloys
▲ TCE(NOI) = Version and number of equipped cutting edge corners





F
CBN
WOEX

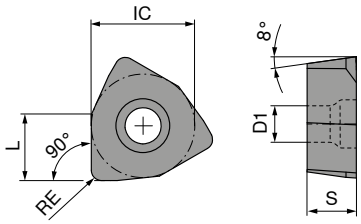
Designation	Product Reference No.	L mm	LE mm	D1 mm	S mm	IC mm	RE mm	TCE (NOI)	PC 10 824 ... 00000
WOEX 05T304	W01 24940.0457	5.3	10.1	2.85	3.8	8	0.4	A (1)	
P									
M									
K									●
N									
S									●
H									
O									

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- For clockwise rotating tools
- Setting angle KAPR = 90°
- High-precision indexable insert with support chamfer
- For roughing and finish machining of GJL, GJS and GJV materials
- Extremely good geometric accuracy and surface qualities at high feed rate values



Left indexable insert



WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 629 ...
WOHX 05T3PNEL	W01 24600.906115	5.1	2.85	3.8	8	0.8	**90202**
WOHX 06T3PNEL	W01 34600.906115	6.4	4.00	3.8	10	0.8	**91402**
WOHX 0804PNEL	W01 42600.906115	7.7	4.95	4.8	12	0.8	**92602**
WOHX 1005PNEL	W01 50600.906115	9.7	4.90	5.3	15	0.8	**93802**

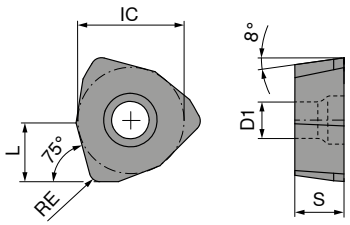
P	
M	
K	●
N	
S	
H	○
O	

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOHX

- For clockwise rotating tools
- Setting angle KAPR = 75°
- High-precision indexable insert with support chamfer
- For roughing and finish machining of GJL, GJS and GJV materials
- Extremely good geometric accuracy and surface qualities at high feed rate values



Left indexable insert



WOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 630 ...
WOHX 06T3ENEL	W01 34600.756115	5.7	4.0	3.8	10	0.8	**91402**
WOHX 0804ENEL	W01 42600.756115	6.9	4.9	4.8	12	0.8	**92602**
WOHX 1005ENEL	W01 50600.756115	8.9	4.9	5.3	15	0.8	**93802**

P	
M	
K	●
N	
S	
H	○
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

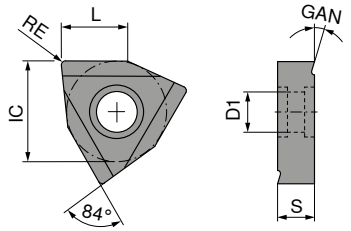
Index	62 600 ..., 62 626 ..., 62 628 ..., 62 630 ... WOHX 0302..., 0403..., 05T3..., 06T3..., 0808..., 1005..., 1206...								62 629 ... WOHX	10 824 ... WOEX	
	F	E							KAPR = 90° KAPR = 75°	PCD	PcBN
	K10	K10	P25M	BK6110	BK6115	BK7615	BK6425	BK8425	BK6115	CTDPU20	CTBS12U
	v_c (m/min)										
P.1.1			100	300	300		320	260			
P.1.2			100	300	300		320	260			
P.1.3			90	300	270		220	270			
P.1.4			90	300	250		290	240			
P.1.5			90	300	270		280	230			
P.2.1			80	270	270		330	270			
P.2.2			80	270	260		320	260			
P.2.3			80	270	240		220	180			
P.2.4			80	270	190		180	150			
P.3.1			75	250	200		200	160			
P.3.2			70	250	160		160	130			
P.3.3			70	250	140		150	120			
P.4.1			60	220	220		220	180			
P.4.2			60	220	160		160	130			
M.1.1			90	220	220		185	150			
M.2.1			70	220	220		185	150			
M.3.1			70	200	200		160	130			
K.1.1		210		290	240	290	200	160	240		1000
K.1.2		140		290	140	290	150	120	140		850
K.2.1		120		270	160	270	200	160	160		900
K.2.2		120		250	100	250	120	100	100		750
K.3.1		100		220	120	220	150	120	120		900
K.3.2		80		220	100	220	120	100	100		750
N.1.1	250							400		1500	
N.1.2	250							400		1500	
N.2.1	250							250		1500	
N.2.2	250							250		1500	
N.2.3	250							230		1200	
N.3.1	230							200		1200	
N.3.2	230							220		1200	
N.3.3	230							330		1200	
N.4.1	230							200		1200	
S.1.1	20							60			
S.1.2	20							50			
S.2.1	20							60			400
S.2.2	20							50			250
S.2.3	20							30			250
S.3.1	60							100			
S.3.2	30							80			
S.3.3	30							50			
H.1.1				100	100			100	100		
H.1.2				80	80			80	80		
H.1.3				50	50			50	50		
H.1.4											
H.2.1				100	100			100	100		
H.3.1				80	80			80	80		
O.1.1	100									800	
O.1.2	100									800	
O.2.1										800	
O.2.2	100									800	
O.3.1	100									800	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

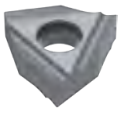
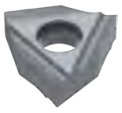
CoreLine – HM indexable insert

WNHX

- Positively ground chip former
- Six usable cutting edges
- As a result of the negative bedding of the indexable insert, six cutting edges can be used



Left indexable insert

-G18 P25	-G18 K10	-G18 BK6425
		
WNHX	WNHX	WNHX
IH	IH	IH
62 614 ...	62 614 ...	62 614 ...

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 614 ...	62 614 ...	62 614 ...
WNHX 08T302EL	W04 42180.0212	7.5	4.7	4.5	12	18°	0.2	**61402**		
WNHX 08T302FL	W04 42180.0221	7.5	4.7	4.5	12	18°	0.2		**51800**	
WNHX 08T302EL	W04 42180.026425	7.5	4.7	4.5	12	18°	0.2			**11402**
WNHX 100404EL	W04 50180.0412	9.5	4.7	5.0	15	18°	0.4	**62602**		

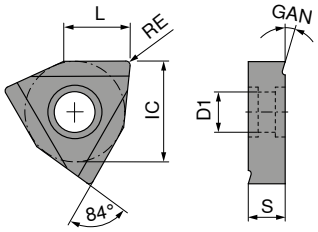
P	●		●
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K			●
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WNHX

- Positively ground chip former
- Six usable cutting edges
- As a result of the negative bedding of the indexable insert, six cutting edges can be used



Right indexable insert

-G18 P40	-G18 P25	-G18 K10	-G18 BK6425
			
WNHX	WNHX	WNHX	WNHX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	62 614 ...	62 614 ...	62 614 ...	62 614 ...
WNHX 08T302ER	W04 42480.0204	7.5	4.7	4.5	12	18°	0.2	**71602**			
WNHX 08T302ER	W04 42480.0212	7.5	4.7	4.5	12	18°	0.2		**61602**		
WNHX 08T302FR	W04 42480.0221	7.5	4.7	4.5	12	18°	0.2			**52000**	
WNHX 08T302ER	W04 42480.026425	7.5	4.7	4.5	12	18°	0.2				**11602**
WNHX 08T304ER	W04 42480.0412	7.5	4.7	4.5	12	18°	0.4		**62202**		
WNHX 100404ER	W04 50480.0404	9.5	4.7	5.0	15	18°	0.4	**72802**			
WNHX 100404ER	W04 50480.0412	9.5	4.7	5.0	15	18°	0.4		**62802**		
WNHX 100404FR	W04 50480.0421	9.5	4.7	5.0	15	18°	0.4			**53000**	
WNHX 100404ER	W04 50480.046425	9.5	4.7	5.0	15	18°	0.4				**12802**

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→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

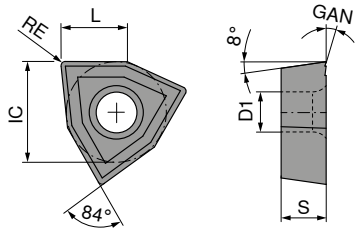
Index	62 614 ... WNHX			
	F			
	K10	P25	P40	BK6425
	v_c (m/min)			
P.1.1		100	90	320
P.1.2		100	90	320
P.1.3		90	80	220
P.1.4		90	80	290
P.1.5		90	80	280
P.2.1		80	75	330
P.2.2		80	75	320
P.2.3		80	75	220
P.2.4		80	75	180
P.3.1		75	70	200
P.3.2		70	60	160
P.3.3		70	60	150
P.4.1		60	50	220
P.4.2		60	50	160
M.1.1		90	75	185
M.2.1		70	70	185
M.3.1		70	60	160
K.1.1				200
K.1.2				150
K.2.1				200
K.2.2				120
K.3.1				150
K.3.2				120
N.1.1	250			
N.1.2	250			
N.2.1	250			
N.2.2	250			
N.2.3	250			
N.3.1	230			
N.3.2	230			
N.3.3	230			
N.4.1	230			
S.1.1	20			
S.1.2	20			
S.2.1	20			
S.2.2	20			
S.2.3	20			
S.3.1	60			
S.3.2	30			
S.3.3	30			
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1	100			
O.1.2	100			
O.2.1				
O.2.2	100			
O.3.1	100			

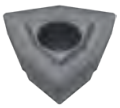
The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – Carbide drilling indexable insert

WOEX

- ▲ Soft-cutting rounded cutting edge
- ▲ Especially suitable for less powerful machines and unstable workpieces



-00 P25M	-00 K10
	
WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 821 ...
WOEX 05T304EN	W29 24000.0403	5.3	2.85	3.8	8.0	12°	0.4	**30500**	
WOEX 05T304EN	W29 24000.0421	5.3	2.85	3.8	8.0	12°	0.4		**35500**
WOEX 06T304EN	W29 34000.0403	6.6	4.05	3.8	10.0	12°	0.4	**30600**	
WOEX 06T304EN	W29 34000.0421	6.6	4.05	3.8	10.0	12°	0.4		**35600**
WOEX 080404EN	W29 42000.0403	7.9	4.90	4.8	12.0	12°	0.4	**30800**	
WOEX 080404EN	W29 42000.0421	7.9	4.90	4.8	12.0	12°	0.4		**35800**
WOEX 100504EN	W29 50000.0403	9.9	4.90	5.3	15.0	12°	0.4	**31000**	
WOEX 100504EN	W29 50000.0421	9.9	4.90	5.3	15.0	12°	0.4		**36000**
WOEX 120608EN	W29 58000.0821	11.6	5.95	6.0	17.6	12°	0.8		**38200**

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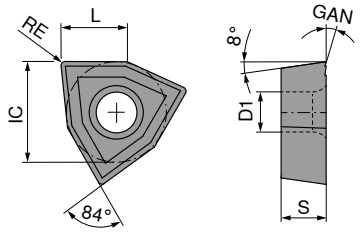
→ Find the recommended values for cutting speeds here.

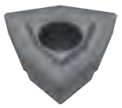
Information on solid drilling:
Only use WOEX -00 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

- Soft-cutting rounded cutting edge
- Especially suitable for less powerful machines and unstable workpieces



-00 BK6425	-00 BK6440	-00 BK7615	-00 BK8425
			
WOEX	WOEX	WOEX	WOEX
IH	IH	IH	IH
10 821 ...	10 821 ...	10 821 ...	10 821 ...

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm				
WOEX 05T304EN	W29 24000.046425	5.3	2.85	3.8	8.0	0.4	**60500**			
WOEX 05T304EN	W29 24000.046440	5.3	2.85	3.8	8.0	0.4		**25500**		
WOEX 05T304EN	W29 24000.047615	5.3	2.85	3.8	8.0	0.4			**05500**	
WOEX 05T304EN	W29 24000.048425	5.3	2.85	3.8	8.0	0.4				**30500**
WOEX 06T304EN	W29 34000.046425	6.6	4.05	3.8	10.0	0.4	**60600**			
WOEX 06T304EN	W29 34000.046440	6.6	4.05	3.8	10.0	0.4		**25600**		
WOEX 06T304EN	W29 34000.047615	6.6	4.05	3.8	10.0	0.4			**05600**	
WOEX 06T304EN	W29 34000.048425	6.6	4.05	3.8	10.0	0.4				**30600**
WOEX 080404EN	W29 42000.046425	7.9	4.90	4.8	12.0	0.4	**60800**			
WOEX 080404EN	W29 42000.046440	7.9	4.90	4.8	12.0	0.4		**25800**		
WOEX 080404EN	W29 42000.047615	7.9	4.90	4.8	12.0	0.4			**05800**	
WOEX 080404EN	W29 42000.048425	7.9	4.90	4.8	12.0	0.4				**30800**
WOEX 100504EN	W29 50000.046425	9.9	4.90	5.3	15.0	0.4	**61000**			
WOEX 100504EN	W29 50000.046440	9.9	4.90	5.3	15.0	0.4		**26000**		
WOEX 100504EN	W29 50000.048425	9.9	4.90	5.3	15.0	0.4				**31000**
WOEX 100508EN	W29 50000.086440	9.9	4.90	5.3	15.0	0.8		**28000**		
WOEX 120608EN	W29 58000.086425	11.6	5.95	6.0	17.6	0.8	**61200**			
WOEX 120608EN	W29 58000.086440	11.6	5.95	6.0	17.6	0.8		**28200**		
WOEX 120608EN	W29 58000.088425	11.6	5.95	6.0	17.6	0.8				**39200**
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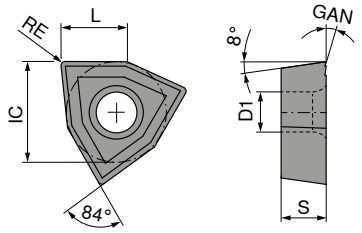
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -00 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





-01 BK6440	-01 BK6425	-01 BK6420
WOEX	WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 05T304SN	W29 24010.046420	5.3	2.85	3.8	8.0	12°	0.4			**45501**
WOEX 05T304SN	W29 24010.046425	5.3	2.85	3.8	8.0	12°	0.4		**60501**	
WOEX 05T304SN	W29 24010.046440	5.3	2.85	3.8	8.0	12°	0.4	**25501**		
WOEX 05T308SN	W29 24010.086420	5.3	2.85	3.8	8.0	12°	0.8			**48501**
WOEX 05T308SN	W29 24010.086425	5.3	2.85	3.8	8.0	12°	0.8		**62501** [1]	
WOEX 05T308SN	W29 24010.086440	5.3	2.85	3.8	8.0	12°	0.8	**28501**		
WOEX 06T304SN	W29 34010.046420	6.6	4.05	3.8	10.0	12°	0.4			**45601**
WOEX 06T304SN	W29 34010.046425	6.6	4.05	3.8	10.0	12°	0.4		**60601**	
WOEX 06T304SN	W29 34010.046440	6.6	4.05	3.8	10.0	12°	0.4	**25601**		
WOEX 06T308SN	W29 34010.086425	6.6	4.05	3.8	10.0	12°	0.8		**62601**	
WOEX 06T308SN	W29 34010.086440	6.6	4.05	3.8	10.0	12°	0.8	**28601**		
WOEX 080404SN	W29 42010.046420	7.9	4.90	4.8	12.0	12°	0.4			**45801**
WOEX 080404SN	W29 42010.046425	7.9	4.90	4.8	12.0	12°	0.4		**60801**	
WOEX 080404SN	W29 42010.046440	7.9	4.90	4.8	12.0	12°	0.4	**25801**		
WOEX 080408SN	W29 42010.086420	7.9	4.90	4.8	12.0	12°	0.8			**48801**
WOEX 080408SN	W29 42010.086425	7.9	4.90	4.8	12.0	12°	0.8		**62801**	
WOEX 080408SN	W29 42010.086440	7.9	4.90	4.8	12.0	12°	0.8	**28801**		
WOEX 100504SN	W29 50010.046420	9.9	4.90	5.3	15.0	12°	0.4			**46001**
WOEX 100504SN	W29 50010.046425	9.9	4.90	5.3	15.0	12°	0.4		**61001**	
WOEX 100504SN	W29 50010.046440	9.9	4.90	5.3	15.0	12°	0.4	**26001**		
WOEX 100508SN	W29 50010.086420	9.9	4.90	5.3	15.0	12°	0.8			**49001**
WOEX 100508SN	W29 50010.086425	9.9	4.90	5.3	15.0	12°	0.8		**63001**	
WOEX 100508SN	W29 50010.086440	9.9	4.90	5.3	15.0	12°	0.8	**28001**		
WOEX 120608SN	W29 58010.086420	11.6	5.95	6.0	17.6	12°	0.8			**48201**
WOEX 120608SN	W29 58010.086425	11.6	5.95	6.0	17.6	12°	0.8		**61201**	
WOEX 120608SN	W29 58010.086440	11.6	5.90	6.0	17.6	12°	0.8	**29201**		
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1) Not in stock

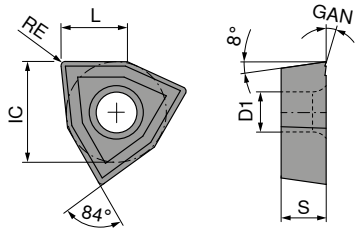
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -01 BK6420 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – HM indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





-01 BK2710	-01 BK72	-01 BK8425
WOEX	WOEX	WOEX

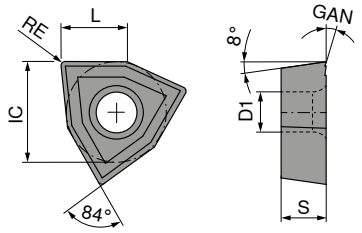
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 823 ...	IH 10 821 ...
WOEX 020102EN	W29 04010.028425	2.7	2.30	1.58	3.97	12°	0.2			**30201**
WOEX 030204EN	W29 10010.0472	3.2	2.30	2.3	5.00	12°	0.4		**20301**	
WOEX 030204EN	W29 10010.048425	3.2	2.30	2.3	5.00	12°	0.4			**30301**
WOEX 040304EN	W29 18010.0472	4.1	2.55	3.18	6.35	12°	0.4		**20401**	
WOEX 040304EN	W29 18010.048425	4.1	2.55	3.18	6.35	12°	0.4			**30401**
WOEX 05T304SN	W29 24010.042710	5.3	2.85	3.8	8.00	12°	0.4	**00501**		
WOEX 05T304SN	W29 24010.0472	5.3	2.85	3.8	8.00	12°	0.4		**20501**	
WOEX 05T304SN	W29 24010.048425	5.3	2.85	3.8	8.00	12°	0.4			**30501**
WOEX 05T308SN	W29 24010.088425	5.3	2.85	3.8	8.00	12°	0.8			**38501**
WOEX 06T304SN	W29 34010.0472	6.6	4.05	3.8	10.00	12°	0.4		**20601**	
WOEX 06T304SN	W29 34010.048425	6.6	4.05	3.8	10.00	12°	0.4			**30601**
WOEX 06T308SN	W29 34010.0872	6.6	4.05	3.8	10.00	12°	0.8		**22601**	
WOEX 06T308SN	W29 34010.088425	6.6	4.05	3.8	10.00	12°	0.8			**38601**
WOEX 080404SN	W29 42010.0472	7.9	4.90	4.8	12.00	12°	0.4		**20801**	
WOEX 080404SN	W29 42010.048425	7.9	4.90	4.8	12.00	12°	0.4			**30801**
WOEX 080408SN	W29 42010.0872	7.9	4.90	4.8	12.00	12°	0.8		**22801**	
WOEX 080408SN	W29 42010.088425	7.9	4.90	4.8	12.00	12°	0.8			**38801**
WOEX 100504SN	W29 50010.0472	9.9	4.90	5.3	15.00	12°	0.4		**21001**	
WOEX 100504SN	W29 50010.048425	9.9	4.90	5.3	15.00	12°	0.4			**31001**
WOEX 100508SN	W29 50010.088425	9.9	4.90	5.3	15.00	12°	0.8			**39001**
WOEX 120608SN	W29 58010.0872	11.6	5.95	6.0	17.60	12°	0.8		**23201**	
WOEX 120608SN	W29 58010.088425	11.6	5.95	6.0	17.60	12°	0.8			**31201**
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





WOEX WOEX WOEX

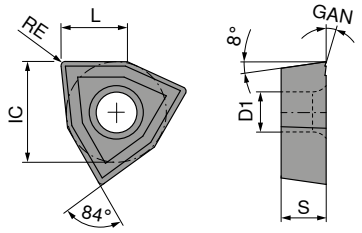
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 823 ...	IH 10 823 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.0404	3.2	2.30	2.3	5.00	12°	0.4		**40301**	
WOEX 030204EN	W29 10010.0421	3.2	2.30	2.3	5.00	12°	0.4			**35301**
WOEX 040304EN	W29 18010.0404	4.1	2.55	3.18	6.35	12°	0.4		**40401**	
WOEX 040304EN	W29 18010.0421	4.1	2.55	3.18	6.35	12°	0.4			**35401**
WOEX 05T304SN	W29 24010.0403	5.3	2.85	3.8	8.00	12°	0.4	**30501**		
WOEX 05T304SN	W29 24010.0404	5.3	2.85	3.8	8.00	12°	0.4		**40501**	
WOEX 05T304SN	W29 24010.0421	5.3	2.85	3.8	8.00	12°	0.4			**35501**
WOEX 05T308SN	W29 24010.0821	5.3	2.85	3.8	8.00	12°	0.8			**37501**
WOEX 06T304SN	W29 34010.0403	6.6	4.05	3.8	10.00	12°	0.4	**30601**		
WOEX 06T304SN	W29 34010.0404	6.6	4.05	3.8	10.00	12°	0.4		**40601**	
WOEX 06T304SN	W29 34010.0421	6.6	4.05	3.8	10.00	12°	0.4			**35601**
WOEX 06T308SN	W29 34010.0821	6.6	4.05	3.8	10.00	12°	0.8			**37601**
WOEX 080404SN	W29 42010.0403	7.9	4.90	4.8	12.00	12°	0.4	**30801**		
WOEX 080404SN	W29 42010.0404	7.9	4.90	4.8	12.00	12°	0.4		**40801**	
WOEX 080404SN	W29 42010.0421	7.9	4.90	4.8	12.00	12°	0.4			**35801**
WOEX 080408SN	W29 42010.0804	7.9	4.90	4.8	12.00	12°	0.8		**42801**	
WOEX 080408SN	W29 42010.0821	7.9	4.90	4.8	12.00	12°	0.8			**37801**
WOEX 100504SN	W29 50010.0403	9.9	4.90	5.3	15.00	12°	0.4	**31001**		
WOEX 100504SN	W29 50010.0404	9.9	4.90	5.3	15.00	12°	0.4		**41001**	
WOEX 100504SN	W29 50010.0421	9.9	4.90	5.3	15.00	12°	0.4			**36001**
WOEX 100508SN	W29 50010.0804	9.9	4.90	5.3	15.00	12°	0.8		**43001**	
WOEX 100508SN	W29 50010.0821	9.9	4.90	5.3	15.00	12°	0.8			**38001**
WOEX 120608SN	W29 58010.0803	11.6	5.95	6.0	17.60	12°	0.8	**33201**		
WOEX 120608SN	W29 58010.0804	11.6	5.95	6.0	17.60	12°	0.8		**43201**	
WOEX 120608SN	W29 58010.0821	11.6	5.95	6.0	17.60	12°	0.8			**38201**
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOEX

- Universal topography with stable, chamfered cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials



-01 BK62	-01 BK6115
	
WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10010.046115	3.2	2.30	2.3	5.00	12°	0.4		**40301**
WOEX 030204EN	W29 10010.0462	3.2	2.30	2.3	5.00	12°	0.4	**20301**	
WOEX 040304EN	W29 18010.046115	4.1	2.55	3.18	6.35	12°	0.4		**40401**
WOEX 040304EN	W29 18010.0462	4.1	2.55	3.18	6.35	12°	0.4	**20401**	
WOEX 05T304SN	W29 24010.046115	5.3	2.85	3.8	8.00	12°	0.4		**40501**
WOEX 05T304SN	W29 24010.0462	5.3	2.85	3.8	8.00	12°	0.4	**20501**	
WOEX 05T308SN	W29 24010.086115	5.3	2.85	3.8	8.00	12°	0.8		**47501**
WOEX 05T308SN	W29 24010.0862	5.3	2.85	3.8	8.00	12°	0.8	**27501**	
WOEX 06T304SN	W29 34010.046115	6.6	4.05	3.8	10.00	12°	0.4		**40601**
WOEX 06T304SN	W29 34010.0462	6.6	4.05	3.8	10.00	12°	0.4	**20601**	
WOEX 06T308SN	W29 34010.086115	6.6	4.05	3.8	10.00	12°	0.8		**47601**
WOEX 06T308SN	W29 34010.0862	6.6	4.05	3.8	10.00	12°	0.8	**27601**	
WOEX 080404SN	W29 42010.046115	7.9	4.90	4.8	12.00	12°	0.4		**40801**
WOEX 080404SN	W29 42010.0462	7.9	4.90	4.8	12.00	12°	0.4	**20801**	
WOEX 080408SN	W29 42010.086115	7.9	4.90	4.8	12.00	12°	0.8		**47801**
WOEX 080408SN	W29 42010.0862	7.9	4.90	4.8	12.00	12°	0.8	**27801**	
WOEX 100504SN	W29 50010.046115	9.9	4.90	5.3	15.00	12°	0.4		**41001**
WOEX 100504SN	W29 50010.0462	9.9	4.90	5.3	15.00	12°	0.4	**21001**	
WOEX 100508SN	W29 50010.086115	9.9	4.90	5.3	15.00	12°	0.8		**48001**
WOEX 100508SN	W29 50010.0862	9.9	4.90	5.3	15.00	12°	0.8	**27001**	
WOEX 120608SN	W29 58010.086115	11.6	5.95	6.0	17.60	12°	0.8		**41201**
WOEX 120608SN	W29 58010.0862	11.6	5.95	6.0	17.60	12°	0.8	**28201**	

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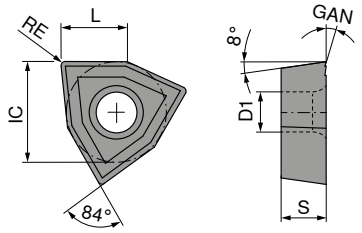
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -01 BK6115 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

▲ Universal topography with stable, chamfered cutting edge
▲ Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





WOEX



WOEX

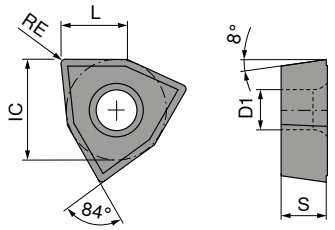
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 020102EN	W29 04010.027935	2.6	1.90	1.6	4.00	12°	0.2	**50201**	
WOEX 030204EN	W29 10010.047615	3.2	2.30	2.3	5.00	12°	0.4		**05301**
WOEX 030204EN	W29 10010.047935	3.2	2.30	2.3	5.00	12°	0.4	**50301**	
WOEX 040304EN	W29 18010.047615	4.1	2.55	3.18	6.35	12°	0.4		**05401**
WOEX 040304EN	W29 18010.047935	4.1	2.55	3.18	6.35	12°	0.4	**50401**	
WOEX 05T304SN	W29 24010.047615	5.3	2.85	3.8	8.00	12°	0.4		**05501**
WOEX 05T304SN	W29 24010.047935	5.3	2.85	3.8	8.00	12°	0.4	**50501**	
WOEX 05T308SN	W29 24010.087615	5.3	2.85	3.8	8.00	12°	0.8		**07501**
WOEX 05T308SN	W29 24010.087935	5.3	2.85	3.8	8.00	12°	0.8	**52501**	
WOEX 06T304SN	W29 34010.047615	6.6	4.05	3.8	10.00	12°	0.4		**05601**
WOEX 06T304SN	W29 34010.047935	6.6	4.05	3.8	10.00	12°	0.4	**50601**	
WOEX 06T308SN	W29 34010.087615	6.6	4.05	3.8	10.00	12°	0.8		**07601**
WOEX 06T308SN	W29 34010.087935	6.6	4.05	3.8	10.00	12°	0.8	**52601**	
WOEX 080404SN	W29 42010.047615	7.9	4.90	4.8	12.00	12°	0.4		**05801**
WOEX 080404SN	W29 42010.047935	7.9	4.90	4.8	12.00	12°	0.4	**50801**	
WOEX 080408SN	W29 42010.087615	7.9	4.90	4.8	12.00	12°	0.8		**07801**
WOEX 080408SN	W29 42010.087935	7.9	4.90	4.8	12.00	12°	0.8	**52801**	
WOEX 100504SN	W29 50010.047615	9.9	4.90	5.3	15.00	12°	0.4		**06001**
WOEX 100504SN	W29 50010.047935	9.9	4.90	5.3	15.00	12°	0.4	**51001**	
WOEX 100508SN	W29 50010.087615	9.9	4.90	5.3	15.00	12°	0.8		**08001**
WOEX 100508SN	W29 50010.087935	9.9	4.90	5.3	15.00	12°	0.8	**53001**	
WOEX 120608SN	W29 58010.087615	11.6	5.95	6.0	17.60	12°	0.8		**08201**
WOEX 120608SN	W29 58010.087935	11.6	5.95	6.0	17.60	12°	0.8	**53201**	
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- Extremely stable, chamfered, and rounded cutting edge
- Thanks to 82° wedge angle, ideal for interrupted cuts
- Raised chip breaker ensures good chip formation even with problematic materials
- Depth of cut a_p < 1.5 mm





WOEX



WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...	IH 10 821 ...
							-02 BK6440	-02 BK6425
WOEX 05T304SN	W29 24020.046425	5.3	2.85	3.8	8.0	0.4		**60502**
WOEX 05T304SN	W29 24020.046440	5.3	2.85	3.8	8.0	0.4	**25502**	
WOEX 05T308SN	W29 24020.086440	5.3	2.85	3.8	8.0	0.8	**27502**	
WOEX 06T304SN	W29 34020.046425	6.6	4.05	3.8	10.0	0.4		**60602**
WOEX 06T304SN	W29 34020.046440	6.6	4.05	3.8	10.0	0.4	**25602**	
WOEX 06T308SN	W29 34020.086440	6.6	4.05	3.8	10.0	0.8	**27602**	
WOEX 080404SN	W29 42020.046440	7.9	4.90	4.8	12.0	0.4	**25802**	
WOEX 080408SN	W29 42020.086440	7.9	4.90	4.8	12.0	0.8	**27802**	
WOEX 100504SN	W29 50020.046440	9.9	4.90	5.3	15.0	0.4	**26002**	
WOEX 100508SN	W29 50020.086440	9.9	4.90	5.3	15.0	0.8	**28002**	
WOEX 120608SN	W29 58020.086440	11.6	5.95	6.0	17.6	0.8	**21202**	
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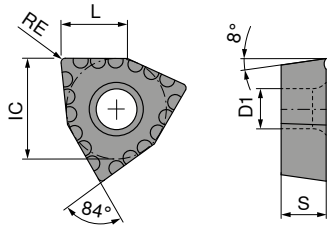
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -02 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – HM indexable insert

WOEX

- Dome-shaped chip former with extremely good chip breakage characteristics
- Excellent chip control even at low feeds
- Main application area: Steel materials, corrosion and acid-resistant materials



	-03 P25M	-03 BK8425	-03 BK6425
			
	WOEX	WOEX	WOEX
	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	10 823 ...	10 821 ...	10 821 ...
WOEX 030204EN	W29 10030.046425	3.2	2.30	2.3	5.00	0.4			**60303**
WOEX 030204EN	W29 10030.048425	3.2	2.30	2.3	5.00	0.4		**30303**	
WOEX 040304EN	W29 18030.046425	4.1	2.55	3.18	6.35	0.4			**60403**
WOEX 040304EN	W29 18030.048425	4.1	2.55	3.18	6.35	0.4		**30403**	
WOEX 05T304EN	W29 24030.046425	5.3	2.85	3.8	8.00	0.4			**60503**
WOEX 05T304EN	W29 24030.048425	5.3	2.85	3.8	8.00	0.4		**30503**	
WOEX 05T308EN	W29 24030.086425	5.3	2.85	3.8	8.00	0.8			**62503**
WOEX 06T304EN	W29 34030.0403	6.6	4.05	3.8	10.00	0.4	**30603**		
WOEX 06T304EN	W29 34030.046425	6.6	4.05	3.8	10.00	0.4			**60603**
WOEX 06T304EN	W29 34030.048425	6.6	4.05	3.8	10.00	0.4		**30603**	
WOEX 06T308EN	W29 34030.086425	6.6	4.05	3.8	10.00	0.8			**68603**
WOEX 06T308EN	W29 34030.088425	6.6	4.05	3.8	10.00	0.8		**37603**	
WOEX 080404EN	W29 42030.046425	7.9	4.90	4.8	12.00	0.4			**60803**
WOEX 080404EN	W29 42030.048425	7.9	4.90	4.8	12.00	0.4		**30803**	
WOEX 080408EN	W29 42030.086425	7.9	4.90	4.8	12.00	0.8			**62803**
WOEX 080408EN	W29 42030.088425	7.9	4.90	4.8	12.00	0.8		**37803**	
WOEX 100504EN	W29 50030.0403	9.9	4.90	5.3	15.00	0.4	**31003**		
WOEX 100504EN	W29 50030.046425	9.9	4.90	5.3	15.00	0.4			**61003**
WOEX 100504EN	W29 50030.048425	9.9	4.90	5.3	15.00	0.4		**31003**	
WOEX 100508EN	W29 50030.086425	9.9	4.90	5.3	15.00	0.8			**68003**
WOEX 100508EN	W29 50030.088425	9.9	4.90	5.3	15.00	0.8		**38003**	
WOEX 120608EN	W29 58030.086425	11.6	5.95	6.0	17.60	0.8			**68203**
WOEX 120608EN	W29 58030.088425	11.6	5.95	6.0	17.60	0.8		**33203**	
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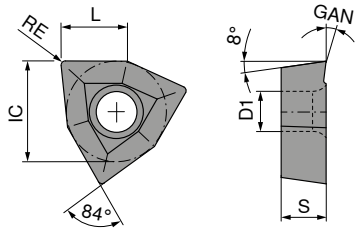
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use WOEX -03 as an outer cutting edge,
Use WOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

WOEX

- Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- Extremely sharp cutting edge
- Extremely good chip formation in aluminum with low silicon content
- Three-edged alternative to PCD-equipped cutting inserts



-11 K10	-11 BK77	-11 BK7710	-11 BK50
			
WOEX	WOEX	WOEX	WOEX
IH	IH	IH	IH
10 821 ...	10 821 ...	10 821 ...	10 823 ...

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm				
WOEX 030204EN	W29 10110.0421	3.2	2.30	2.3	5.00	20°	0.4	**30311**			
WOEX 030204EN	W29 10110.0450	3.2	2.30	2.3	5.00	20°	0.4				**10311**
WOEX 030204EN	W29 10110.0477	3.2	2.30	2.3	5.00	20°	0.4		**80311**		
WOEX 030204EN	W29 10110.047710	3.2	2.30	2.3	5.00	20°	0.4			**90311**	
WOEX 040304EN	W29 18110.0450	4.1	2.55	3.18	6.35	20°	0.4				**10411**
WOEX 040304EN	W29 18110.0477	4.1	2.55	3.18	6.35	20°	0.4		**80411**		
WOEX 040304EN	W29 18110.047710	4.1	2.55	3.18	6.35	20°	0.4			**90411**	
WOEX 05T304EN	W29 24110.0421	5.3	2.85	3.8	8.00	20°	0.4	**30511**			
WOEX 05T304EN	W29 24110.0450	5.3	2.85	3.8	8.00	20°	0.4				**10511**
WOEX 05T304EN	W29 24110.0477	5.3	2.85	3.8	8.00	20°	0.4		**80511**		
WOEX 05T304EN	W29 24110.047710	5.3	2.85	3.8	8.00	20°	0.4			**90511**	
WOEX 06T304EN	W29 34110.0450	6.6	4.05	3.8	10.00	20°	0.4				**10611**
WOEX 06T304EN	W29 34110.0477	6.6	4.05	3.8	10.00	20°	0.4		**80611**		
WOEX 06T304EN	W29 34110.047710	6.6	4.05	3.8	10.00	20°	0.4			**90611**	
WOEX 080404EN	W29 42110.0450	7.9	4.90	4.8	12.00	20°	0.4				**10811**
WOEX 080404EN	W29 42110.0477	7.9	4.90	4.8	12.00	20°	0.4		**80811**		
WOEX 080404EN	W29 42110.047710	7.9	4.90	4.8	12.00	20°	0.4			**90811**	
WOEX 100504EN	W29 50110.0477	9.9	4.90	5.3	15.00	20°	0.4		**81011**		
WOEX 100504EN	W29 50110.047710	9.9	4.90	5.3	15.00	20°	0.4			**91011**	

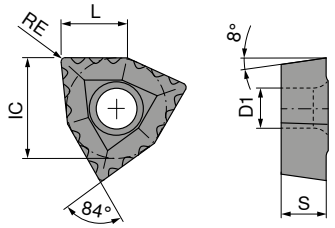
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→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle





-13 BK7325	-13 BK79	-13 BK8425
WOEX	WOEX	WOEX

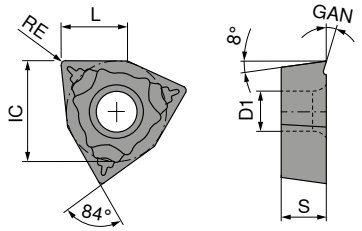
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 821 ...	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10130.047325	3.2	2.30	2.3	5.00	0.4	**95313**		
WOEX 030204EN	W29 10130.0479	3.2	2.30	2.3	5.00	0.4		**15313**	
WOEX 030204EN	W29 10130.048425	3.2	2.30	2.3	5.00	0.4			**30313**
WOEX 040304EN	W29 18130.047325	4.1	2.55	3.18	6.35	0.4	**95413**		
WOEX 040304EN	W29 18130.0479	4.1	2.55	3.18	6.35	0.4		**15413**	
WOEX 040304EN	W29 18130.048425	4.1	2.55	3.18	6.35	0.4			**30413**
WOEX 05T304EN	W29 24130.047325	5.3	2.85	3.8	8.00	0.4	**95513**		
WOEX 05T304EN	W29 24130.0479	5.3	2.85	3.8	8.00	0.4		**15513**	
WOEX 05T304EN	W29 24130.048425	5.3	2.85	3.8	8.00	0.4			**30513**
WOEX 06T304EN	W29 34130.047325	6.6	4.05	3.8	10.00	0.4	**95613**		
WOEX 06T304EN	W29 34130.0479	6.6	4.05	3.8	10.00	0.4		**15613**	
WOEX 06T304EN	W29 34130.048425	6.6	4.05	3.8	10.00	0.4			**30613**
WOEX 080404EN	W29 42130.047325	7.9	4.90	4.8	12.00	0.4	**95813**		
WOEX 080404EN	W29 42130.0479	7.9	4.90	4.8	12.00	0.4		**15813**	
WOEX 080404EN	W29 42130.048425	7.9	4.90	4.8	12.00	0.4			**30813**
WOEX 100504EN	W29 50130.047325	9.9	4.90	5.3	15.00	0.4	**96013**		
WOEX 100504EN	W29 50130.0479	9.9	4.90	5.3	15.00	0.4		**16013**	
WOEX 100504EN	W29 50130.048425	9.9	4.90	5.3	15.00	0.4			**31013**
WOEX 120608EN	W29 58130.0879	11.6	5.95	6.0	17.60	0.8		**16213**	
WOEX 120608EN	W29 58130.088425	11.6	5.95	6.0	17.60	0.8			**38213**
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→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOGX

- ▲ Semi-finishing chip breakage topography
- ▲ Optimum chip control from depth of cut > 0.25 mm



-15 BK60	-15 BK73	-15 BK8430
		
WOGX	WOGX	WOGX
IH	IH	IH
10 821 ...	10 821 ...	10 821 ...

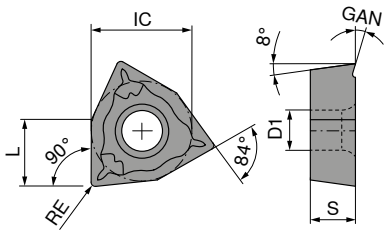
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm			
WOGX 030204EN	W29 10150.048430	3.2	2.30	2.3	5.00	15°	0.4			**00315**
WOGX 040304EN	W29 18150.0460	4.1	2.50	3.18	6.35	15°	0.4	**65415**		
WOGX 040304EN	W29 18150.048430	4.1	2.55	3.18	6.35	15°	0.4			**00415**
WOGX 05T304EN	W29 24150.0460	5.3	2.80	3.8	8.00	15°	0.4	**65515**		
WOGX 05T304EN	W29 24150.0473	5.3	2.80	3.8	8.00	15°	0.4		**75515**	
WOGX 05T304EN	W29 24150.048430	5.3	2.85	3.8	8.00	15°	0.4			**00515**
WOGX 06T304EN	W29 34150.048430	6.6	4.05	3.8	10.00	15°	0.4			**00615**
WOGX 080404EN	W29 42150.048430	7.9	4.90	4.8	12.00	15°	0.4			**00815**
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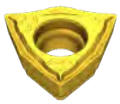
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

WOGX

- Semi-finishing chip breakage topography with wiper geometry
- Setting angle KAPR = 90°
- Optimum chip control from depth of cut > 0.25 mm



-16 BK60	-16 BK8430
	
WOGX	WOGX

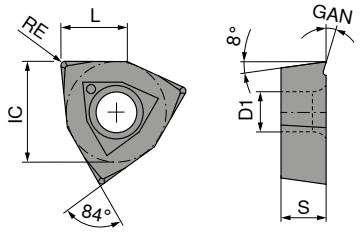
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOGX 030204EN	W29 10160.048430	3.2	2.3	2.3	5.00	15°	0.4		**00316**
WOGX 040304EN	W29 18160.048430	4.1	2.5	3.18	6.35	15°	0.4		**00416**
WOGX 05T304EN	W29 24160.048430	5.3	2.8	3.8	8.00	15°	0.4		**00516**
WOGX 06T304EN	W29 34160.0460	6.6	4.0	3.8	10.00	15°	0.4	**65616**	
WOGX 06T304EN	W29 34160.048430	6.6	4.0	3.8	10.00	15°	0.4		**00616**
WOGX 080404EN	W29 42160.0460	7.9	4.9	4.8	12.00	15°	0.4	**65816**	
WOGX 080404EN	W29 42160.048430	7.9	4.9	4.8	12.00	15°	0.4		**00816**
P								●	●
M								●	●
K									
N									
S									
H									
O									

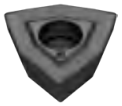
→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

WOEX

- ▲ Rounded, partially chamfered cutting edge
- ▲ Indexable insert geometry for corrosion and acid-resistant steels with increased tensile strength



-20 BK2730	-20 BK8430
	
WOEX	WOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 10 821 ...	IH 10 821 ...
WOEX 030204EN	W29 10200.042730	3.2	2.30	2.3	5.00	8°	0.4	**85320**	
WOEX 030204EN	W29 10200.048430	3.2	2.30	2.3	5.00	8°	0.4		**00320**
WOEX 040304EN	W29 18200.042730	4.1	2.55	3.18	6.35	8°	0.4	**85420**	
WOEX 040304EN	W29 18200.048430	4.1	2.55	3.18	6.35	8°	0.4		**00420**
WOEX 05T304EN	W29 24200.042730	5.3	2.85	3.8	8.00	8°	0.4	**85520**	
WOEX 05T304EN	W29 24200.048430	5.3	2.85	3.8	8.00	8°	0.4		**00520**
WOEX 06T304EN	W29 34200.042730	6.6	4.05	3.8	10.00	8°	0.4	**85620**	
WOEX 06T304EN	W29 34200.048430	6.6	4.05	3.8	10.00	8°	0.4		**00620**
WOEX 080404EN	W29 42200.042730	7.9	4.90	4.8	12.00	8°	0.4	**85820**	
WOEX 080404EN	W29 42200.048430	7.9	4.90	4.8	12.00	8°	0.4		**00820**
WOEX 100504EN	W29 50200.042730	9.9	4.90	5.3	15.00	8°	0.4	**86020**	
WOEX 100504EN	W29 50200.048430	9.9	4.90	5.3	15.00	8°	0.4		**01020**

P	●	●
M	●	●
K	●	●
N		
S		
H		
O		

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -00					
	K10	P25M	BK6425	BK6440	BK7615	BK8425
	v_c (m/min) min. – Recommended – max.					
P.1.1		75-**100**-120	245-**320**-380	175-**225**-265		200-**260**-305
P.1.2		75-**100**-120	245-**320**-380	175-**225**-265		200-**260**-305
P.1.3		70-**90**-105	170-**220**-260	120-**155**-185		210-**270**-320
P.1.4		70-**90**-105	225-**290**-340	155-**200**-235		195-**250**-295
P.1.5		70-**90**-105	215-**280**-330	150-**195**-230		210-**270**-320
P.2.1		60-**80**-95	255-**330**-390	175-**230**-270		210-**270**-320
P.2.2		60-**80**-95	245-**320**-380	170-**220**-260		200-**260**-305
P.2.3		60-**80**-95	170-**220**-260	195-**250**-295		140-**180**-210
P.2.4		60-**80**-95	140-**180**-210	95-**125**-150		115-**150**-175
P.3.1		60-**75**-90	155-**200**-235	110-**140**-165		125-**160**-190
P.3.2		55-**70**-85	125-**160**-190	85-**110**-130		100-**130**-155
P.3.3		55-**70**-85	115-**150**-175	80-**105**-125		90-**120**-140
P.4.1		45-**60**-70	170-**220**-260	115-**150**-175		140-**180**-210
P.4.2		45-**60**-70	125-**160**-190	85-**110**-130		100-**130**-155
M.1.1		70-**90**-105	140-**185**-220	100-**130**-155		115-**150**-175
M.2.1		55-**70**-85	140-**185**-220	100-**130**-155		115-**150**-175
M.3.1		55-**70**-85	125-**160**-190	85-**110**-130		110-**140**-165
K.1.1	110-**140**-165		155-**200**-235	110-**140**-165	200-**260**-305	125-**160**-190
K.1.2	85-**110**-130		115-**150**-175	80-**105**-125	125-**160**-190	90-**120**-140
K.2.1	70-**90**-105		155-**200**-235	110-**140**-165	140-**180**-210	125-**160**-190
K.2.2	70-**90**-105		90-**120**-140	65-**85**-100	90-**120**-140	75-**100**-120
K.3.1	55-**70**-85		115-**150**-175	80-**105**-125	110-**140**-165	90-**120**-140
K.3.2	45-**60**-70		90-**120**-140	65-**85**-100	90-**120**-140	75-**100**-120
N.1.1						310-**400**-470
N.1.2						310-**400**-470
N.2.1						195-**250**-295
N.2.2						195-**250**-295
N.2.3						175-**230**-270
N.3.1						155-**200**-235
N.3.2						170-**220**-260
N.3.3						255-**330**-390
N.4.1						155-**200**-235
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -01												
	K10	P25M	P40	BK2710	BK6115	BK62	BK6420	BK6425	BK6440	BK72	BK7615	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.												
P.1.1		75-**100**-120	70-**90**-105	155-**200**-235	230-**300**-370		245-**320**-380	245-**320**-380	175-**225**-265	245-**320**-380		195-**250**-310	200-**260**-305
P.1.2		75-**100**-120	70-**90**-105	155-**200**-235	230-**300**-370		245-**320**-380	245-**320**-380	175-**225**-265	245-**320**-380		170-**220**-270	200-**260**-305
P.1.3		70-**90**-105	60-**80**-95	155-**200**-235	210-**270**-330		170-**220**-260	170-**220**-260	120-**155**-185	170-**220**-260		210-**270**-330	210-**270**-320
P.1.4		70-**90**-105	60-**80**-95	140-**180**-210	195-**250**-310		225-**290**-340	225-**290**-340	155-**200**-235	225-**290**-340		195-**250**-310	195-**250**-295
P.1.5		70-**90**-105	60-**80**-95	140-**180**-210	230-**300**-370		215-**280**-330	215-**280**-330	150-**195**-230	215-**280**-330		155-**200**-245	210-**270**-320
P.2.1		60-**80**-95	60-**75**-90	125-**160**-190	210-**270**-330		255-**330**-390	255-**330**-390	175-**230**-270	255-**330**-390		210-**270**-330	210-**270**-320
P.2.2		60-**80**-95	60-**75**-90	125-**160**-190	200-**260**-320		245-**320**-380	245-**320**-380	170-**220**-260	245-**320**-380		200-**260**-320	200-**260**-305
P.2.3		60-**80**-95	60-**75**-90	125-**160**-190	185-**240**-295		170-**220**-260	170-**220**-260	195-**250**-295	170-**220**-260		125-**160**-195	140-**180**-210
P.2.4		60-**80**-95	60-**75**-90	125-**160**-190	155-**200**-245		140-**180**-210	140-**180**-210	95-**125**-150	140-**180**-210		100-**130**-160	115-**150**-175
P.3.1		60-**75**-90	55-**70**-85	110-**140**-165	155-**200**-245		155-**200**-235	155-**200**-235	110-**140**-165	155-**200**-235		110-**140**-170	125-**160**-190
P.3.2		55-**70**-85	45-**60**-70	110-**140**-165	125-**160**-195		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		90-**120**-150	100-**130**-155
P.3.3		55-**70**-85	45-**60**-70	110-**140**-165	110-**140**-170		115-**150**-175	115-**150**-175	80-**105**-125	115-**150**-175		85-**110**-135	90-**120**-140
P.4.1		45-**60**-70	40-**50**-60	90-**120**-140	170-**220**-270		170-**220**-260	170-**220**-260	115-**150**-175	170-**220**-260		115-**150**-185	140-**180**-210
P.4.2		45-**60**-70	40-**50**-60	90-**120**-140	125-**160**-195		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		90-**120**-150	100-**130**-155
M.1.1		70-**90**-105	60-**75**-90	125-**160**-190	170-**220**-270		140-**185**-220	140-**185**-220	100-**130**-155	140-**185**-220		125-**160**-195	115-**150**-175
M.2.1		55-**70**-85	55-**70**-85	110-**140**-165	170-**220**-270		140-**185**-220	140-**185**-220	100-**130**-155	140-**185**-220		125-**160**-195	115-**150**-175
M.3.1		55-**70**-85	45-**60**-70	75-**100**-120	155-**200**-245		125-**160**-190	125-**160**-190	85-**110**-130	125-**160**-190		115-**150**-185	110-**140**-165
K.1.1	110-**140**-165			140-180-210	185-240-295	185-240-295	155-**200**-235	155-**200**-235	110-140-165		200-**260**-305	115-**150**-185	125-**160**-190
K.1.2	85-**110**-130			125-160-190	140-180-220	140-180-220	115-**150**-175	115-**150**-175	80-105-125		125-**160**-190	90-**120**-150	90-**120**-140
K.2.1	70-**90**-105			110-140-165	125-160-195	125-160-195	155-**200**-235	155-**200**-235	110-140-165		140-**180**-210	115-**150**-185	125-**160**-190
K.2.2	70-**90**-105			110-140-165	75-100-125	75-100-125	90-**120**-140	90-**120**-140	65-85-100		90-**120**-140	70-**90**-110	75-**100**-120
K.3.1	55-**70**-85			90-120-140	90-120-150	90-120-150	115-**150**-175	115-**150**-175	80-105-125		110-**140**-165	85-**110**-135	90-**120**-140
K.3.2	45-**60**-70			90-120-140	75-100-125	75-100-125	90-**120**-140	90-**120**-140	65-85-100		90-**120**-140	70-**90**-110	75-**100**-120
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1												45-**60**-75	
S.1.2												40-**50**-60	
S.2.1												45-**60**-75	
S.2.2												40-**50**-60	
S.2.3												25-**30**-35	
S.3.1													
S.3.2													
S.3.3													
H.1.1					40-**50**-60							40-**50**-60	
H.1.2					35-**45**-55							25-**35**-45	
H.1.3													
H.1.4													
H.2.1					75-**100**-125							60-**75**-90	
H.3.1					40-**50**-60							25-**35**-45	
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -02	
	BK6425	BK6440
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	175 - **225** - 265
P.1.2	245 - **320** - 380	175 - **225** - 265
P.1.3	170 - **220** - 260	120 - **155** - 185
P.1.4	225 - **290** - 340	155 - **200** - 235
P.1.5	215 - **280** - 330	150 - **195** - 230
P.2.1	255 - **330** - 390	175 - **230** - 270
P.2.2	245 - **320** - 380	170 - **220** - 260
P.2.3	170 - **220** - 260	195 - **250** - 295
P.2.4	140 - **180** - 210	95 - **125** - 150
P.3.1	155 - **200** - 235	110 - **140** - 165
P.3.2	125 - **160** - 190	85 - **110** - 130
P.3.3	115 - **150** - 175	80 - **105** - 125
P.4.1	170 - **220** - 260	115 - **150** - 175
P.4.2	125 - **160** - 190	85 - **110** - 130
M.1.1	140 - **185** - 220	100 - **130** - 155
M.2.1	140 - **185** - 220	100 - **130** - 155
M.3.1	125 - **160** - 190	85 - **110** - 130
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -03		
	P25M	BK6425	BK8425
	v_c (m/min) min. – Recommended – max.		
P.1.1	75 - **100** - 120	245 - **320** - 380	200 - **260** - 320
P.1.2	75 - **100** - 120	245 - **320** - 380	200 - **260** - 320
P.1.3	70 - **90** - 105	170 - **220** - 260	210 - **270** - 330
P.1.4	70 - **90** - 105	225 - **290** - 340	195 - **250** - 310
P.1.5	70 - **90** - 105	215 - **280** - 330	210 - **270** - 330
P.2.1	60 - **80** - 95	255 - **330** - 390	210 - **270** - 330
P.2.2	60 - **80** - 95	245 - **320** - 380	200 - **260** - 320
P.2.3	60 - **80** - 95	170 - **220** - 260	140 - **180** - 220
P.2.4	60 - **80** - 95	140 - **180** - 210	115 - **150** - 185
P.3.1	60 - **75** - 90	155 - **200** - 235	125 - **160** - 195
P.3.2	55 - **70** - 85	125 - **160** - 190	100 - **130** - 160
P.3.3	55 - **70** - 85	115 - **150** - 175	90 - **120** - 150
P.4.1	45 - **60** - 70	170 - **220** - 260	140 - **180** - 220
P.4.2	45 - **60** - 70	125 - **160** - 190	100 - **130** - 160
M.1.1	70 - **90** - 105	140 - **185** - 220	115 - **150** - 185
M.2.1	55 - **70** - 85	140 - **185** - 220	115 - **150** - 185
M.3.1	55 - **70** - 85	125 - **160** - 190	110 - **140** - 170
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -11			
	K10	BK50	BK77	BK7710
	v_c (m/min) min. – Recommended – max.			
P.1.1				
P.1.2				
P.1.3				
P.1.4				
P.1.5				
P.2.1				
P.2.2				
P.2.3				
P.2.4				
P.3.1				
P.3.2				
P.3.3				
P.4.1				
P.4.2				
M.1.1				
M.2.1				
M.3.1				
K.1.1				
K.1.2				
K.2.1				
K.2.2				
K.3.1				
K.3.2				
N.1.1	150 - **195** - 240	770 - **1000** - 1230	250 - **325** - 400	385 - **500** - 615
N.1.2	150 - **195** - 240	770 - **1000** - 1230	250 - **325** - 400	385 - **500** - 615
N.2.1	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.2.2	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.2.3	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
N.3.1	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
N.3.2	85 - **110** - 135	430 - **560** - 690	140 - **180** - 220	215 - **280** - 345
N.3.3	115 - **150** - 185	600 - **780** - 960	195 - **250** - 310	300 - **390** - 480
N.4.1	75 - **100** - 125	385 - **500** - 615	125 - **165** - 205	195 - **250** - 310
S.1.1				
S.1.2				
S.2.1			60 - **80** - 100	
S.2.2			40 - **50** - 60	
S.2.3				
S.3.1				75 - **100** - 125
S.3.2				60 - **80** - 100
S.3.3				40 - **50** - 60
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1			60 - **75** - 90	75 - **100** - 125
O.1.2			60 - **75** - 90	75 - **100** - 125
O.2.1		155 - **200** - 245		
O.2.2		155 - **200** - 245	60 - **75** - 90	75 - **100** - 125
O.3.1		155 - **200** - 245	60 - **75** - 90	75 - **100** - 125

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -13		
	BK7325	BK79	BK8425
	v_c (m/min) min. – Recommended – max.		
P.1.1	230 - **300** - 370	70 - **90** - 105	255 - **260** - 320
P.1.2	230 - **300** - 370	70 - **90** - 105	255 - **260** - 320
P.1.3	210 - **270** - 330	60 - **80** - 95	175 - **270** - 330
P.1.4	195 - **250** - 310	60 - **80** - 95	200 - **250** - 310
P.1.5	230 - **300** - 370	60 - **80** - 95	200 - **270** - 330
P.2.1	210 - **270** - 330	60 - **75** - 90	210 - **270** - 330
P.2.2	200 - **260** - 320	60 - **75** - 90	195 - **260** - 320
P.2.3	185 - **240** - 295	60 - **75** - 90	140 - **180** - 220
P.2.4	155 - **200** - 245	60 - **75** - 90	115 - **150** - 185
P.3.1	155 - **200** - 245	55 - **70** - 85	125 - **160** - 195
P.3.2	125 - **160** - 195	45 - **60** - 70	100 - **130** - 160
P.3.3	110 - **140** - 170	45 - **60** - 70	115 - **120** - 150
P.4.1	170 - **220** - 270	40 - **50** - 60	125 - **180** - 220
P.4.2	125 - **160** - 195	40 - **50** - 60	100 - **130** - 160
M.1.1	170 - **220** - 270	60 - **75** - 90	90 - **150** - 185
M.2.1	170 - **220** - 270	55 - **70** - 85	140 - **150** - 185
M.3.1	155 - **200** - 245	45 - **60** - 70	100 - **140** - 170
K.1.1			125 - **160** - 190
K.1.2			90 - **120** - 140
K.2.1			125 - **160** - 195
K.2.2			75 - **100** - 120
K.3.1			90 - **120** - 150
K.3.2			75 - **100** - 120
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -15		
	BK60	BK73	BK8430
	v_c (m/min) min. – Recommended – max.		
P.1.1	245 - **320** - 380	230 - **300** - 370	255 - **260** - 320
P.1.2	245 - **320** - 380	230 - **300** - 370	255 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330	175 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310	200 - **250** - 310
P.1.5	215 - **280** - 330	230 - **300** - 370	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320	195 - **260** - 320
P.2.3	170 - **220** - 260	185 - **240** - 295	140 - **180** - 220
P.2.4	140 - **180** - 210	155 - **200** - 245	115 - **150** - 185
P.3.1	155 - **200** - 235	155 - **200** - 245	125 - **160** - 195
P.3.2	125 - **160** - 190	125 - **160** - 195	100 - **130** - 160
P.3.3	115 - **150** - 175	110 - **140** - 170	115 - **120** - 150
P.4.1	170 - **220** - 260	170 - **220** - 270	125 - **180** - 220
P.4.2	125 - **160** - 190	125 - **160** - 195	100 - **130** - 160
M.1.1	140 - **185** - 220	170 - **220** - 270	90 - **150** - 185
M.2.1	140 - **185** - 220	170 - **220** - 270	140 - **150** - 185
M.3.1	125 - **160** - 190	155 - **200** - 245	100 - **140** - 170
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -16	
	BK60	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	255 - **260** - 320
P.1.2	245 - **320** - 380	255 - **260** - 320
P.1.3	170 - **220** - 260	175 - **270** - 330
P.1.4	225 - **290** - 340	200 - **250** - 310
P.1.5	215 - **280** - 330	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330
P.2.2	245 - **320** - 380	195 - **260** - 320
P.2.3	170 - **220** - 260	140 - **180** - 220
P.2.4	140 - **180** - 210	115 - **150** - 185
P.3.1	155 - **200** - 235	125 - **160** - 195
P.3.2	125 - **160** - 190	100 - **130** - 160
P.3.3	115 - **150** - 175	115 - **120** - 150
P.4.1	170 - **220** - 260	125 - **180** - 220
P.4.2	125 - **160** - 190	100 - **130** - 160
M.1.1	140 - **185** - 220	90 - **150** - 185
M.2.1	140 - **185** - 220	140 - **150** - 185
M.3.1	125 - **160** - 190	100 - **140** - 170
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -20	
	BK2730	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	195 - **250** - 310	255 - **260** - 320
P.1.2	170 - **220** - 270	255 - **260** - 320
P.1.3	210 - **270** - 330	175 - **270** - 330
P.1.4	195 - **250** - 310	200 - **250** - 310
P.1.5	155 - **200** - 245	200 - **270** - 330
P.2.1	210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320	195 - **260** - 320
P.2.3	125 - **160** - 195	140 - **180** - 220
P.2.4	100 - **130** - 160	115 - **150** - 185
P.3.1	110 - **140** - 170	125 - **160** - 195
P.3.2	90 - **120** - 150	100 - **130** - 160
P.3.3	85 - **110** - 135	115 - **120** - 150
P.4.1	115 - **150** - 185	125 - **180** - 220
P.4.2	90 - **120** - 150	100 - **130** - 160
M.1.1	125 - **160** - 195	90 - **150** - 185
M.2.1	125 - **160** - 195	140 - **150** - 185
M.3.1	115 - **150** - 185	100 - **140** - 170
K.1.1	115 - **150** - 185	125 - **160** - 190
K.1.2	90 - **120** - 150	90 - **120** - 140
K.2.1	115 - **150** - 185	125 - **160** - 195
K.2.2	70 - **90** - 110	75 - **100** - 120
K.3.1	85 - **110** - 135	90 - **120** - 150
K.3.2	70 - **90** - 110	75 - **100** - 120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -00					
	K10	P25M	BK6425	BK6440	BK7615	BK8425
	v_c (ft/min) min. – Recommended – max.					
P.1.1		245-**330**-395	805-**1050**-1245	575-**740**-870		655-**855**-1000
P.1.2		245-**330**-395	805-**1050**-1245	575-**740**-870		655-**855**-1000
P.1.3		230-**295**-345	560-**720**-855	395-**510**-605		690-**885**-1050
P.1.4		230-**295**-345	740-**950**-1115	510-**655**-770		640-**820**-970
P.1.5		230-**295**-345	705-**920**-1085	490-**640**-755		690-**885**-1050
P.2.1		195-**260**-310	835-**1085**-1280	575-**755**-885		690-**885**-1050
P.2.2		195-**260**-310	805-**1050**-1245	560-**720**-855		655-**855**-1000
P.2.3		195-**260**-310	560-**720**-855	640-**820**-970		460-**590**-690
P.2.4		195-**260**-310	460-**590**-690	310-**410**-490		375-**490**-575
P.3.1		195-**245**-295	510-**655**-770	360-**460**-540		410-**525**-625
P.3.2		180-**230**-280	410-**525**-625	280-**360**-425		330-**425**-510
P.3.3		180-**230**-280	375-**490**-575	260-**345**-410		295-**395**-460
P.4.1		150-**195**-230	560-**720**-855	375-**490**-575		460-**590**-690
P.4.2		150-**195**-230	410-**525**-625	280-**360**-425		330-**425**-510
M.1.1		230-**295**-345	460-**605**-720	330-**425**-510		375-**490**-575
M.2.1		180-**230**-280	460-**605**-720	330-**425**-510		375-**490**-575
M.3.1		180-**230**-280	410-**525**-625	280-**360**-425		360-**460**-540
K.1.1	360-**460**-540		510-**655**-770	360-460-540	655-**855**-1000	410-**525**-625
K.1.2	280-**360**-425		375-**490**-575	260-345-410	410-**525**-625	295-**395**-460
K.2.1	230-**295**-345		510-**655**-770	360-460-540	460-**590**-690	410-**525**-625
K.2.2	230-**295**-345		295-**395**-460	215-280-330	295-**395**-460	245-**330**-395
K.3.1	180-**230**-280		375-**490**-575	260-345-410	360-**460**-540	295-**395**-460
K.3.2	150-**195**-230		295-**395**-460	215-280-330	295-**395**-460	245-**330**-395
N.1.1						1015-**1310**-1540
N.1.2						1015-**1310**-1540
N.2.1						640-**820**-970
N.2.2						640-**820**-970
N.2.3						575-**755**-885
N.3.1						510-**655**-770
N.3.2						560-**720**-855
N.3.3						835-**1085**-1280
N.4.1						510-**655**-770
S.1.1						
S.1.2						
S.2.1						
S.2.2						
S.2.3						
S.3.1						
S.3.2						
S.3.3						
H.1.1						
H.1.2						
H.1.3						
H.1.4						
H.2.1						
H.3.1						
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -01												
	K10	P25M	P40	BK2710	BK6115	BK62	BK6420	BK6425	BK6440	BK72	BK7615	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.												
P.1.1		245-**330**-395	230-**295**-345	510-**655**-770	755-**985**-1215		805-**1050**-1245	805-**1050**-1245	575-**740**-870	805-**1050**-1245		640-**820**-1015	655-**855**-1000
P.1.2		245-**330**-395	230-**295**-345	510-**655**-770	755-**985**-1215		805-**1050**-1245	805-**1050**-1245	575-**740**-870	805-**1050**-1245		560-**720**-885	655-**855**-1000
P.1.3		230-**295**-345	195-**260**-310	510-**655**-770	690-**885**-1085		560-**720**-855	560-**720**-855	395-**510**-605	560-**720**-855		690-**885**-1085	690-**885**-1050
P.1.4		230-**295**-345	195-**260**-310	460-**590**-690	640-**820**-1015		740-**950**-1115	740-**950**-1115	510-**655**-770	740-**950**-1115		640-**820**-1015	640-**820**-970
P.1.5		230-**295**-345	195-**260**-310	460-**590**-690	755-**985**-1215		705-**920**-1085	705-**920**-1085	490-**640**-755	705-**920**-1085		510-**655**-805	690-**885**-1050
P.2.1		195-**260**-310	195-**245**-295	410-**525**-625	690-**885**-1085		835-**1085**-1280	835-**1085**-1280	575-**755**-885	835-**1085**-1280		690-**885**-1085	690-**885**-1050
P.2.2		195-**260**-310	195-**245**-295	410-**525**-625	655-**855**-1050		805-**1050**-1245	805-**1050**-1245	560-**720**-855	805-**1050**-1245		655-**855**-1050	655-**855**-1000
P.2.3		195-**260**-310	195-**245**-295	410-**525**-625	605-**785**-970		560-**720**-855	560-**720**-855	640-**820**-970	560-**720**-855		410-**525**-640	460-**590**-690
P.2.4		195-**260**-310	195-**245**-295	410-**525**-625	510-**655**-805		460-**590**-690	460-**590**-690	310-**410**-490	460-**590**-690		330-**425**-525	375-**490**-575
P.3.1		195-**245**-295	180-**230**-280	360-**460**-540	510-**655**-805		510-**655**-770	510-**655**-770	360-**460**-540	510-**655**-770		360-**460**-560	410-**525**-625
P.3.2		180-**230**-280	150-**195**-230	360-**460**-540	410-**525**-640		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		295-**395**-490	330-**425**-510
P.3.3		180-**230**-280	150-**195**-230	360-**460**-540	360-**460**-560		375-**490**-575	375-**490**-575	260-**345**-410	375-**490**-575		280-**360**-445	295-**395**-460
P.4.1		150-**195**-230	130-**165**-195	295-**395**-460	560-**720**-885		560-**720**-855	560-**720**-855	375-**490**-575	560-**720**-855		375-**490**-605	460-**590**-690
P.4.2		150-**195**-230	130-**165**-195	295-**395**-460	410-**525**-640		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		295-**395**-490	330-**425**-510
M.1.1		230-**295**-345	195-**245**-295	410-**525**-625	560-**720**-885		460-**605**-720	460-**605**-720	330-**425**-510	460-**605**-720		410-**525**-640	375-**490**-575
M.2.1		180-**230**-280	180-**230**-280	360-**460**-540	560-**720**-885		460-**605**-720	460-**605**-720	330-**425**-510	460-**605**-720		410-**525**-640	375-**490**-575
M.3.1		180-**230**-280	150-**195**-230	245-**330**-395	510-**655**-805		410-**525**-625	410-**525**-625	280-**360**-425	410-**525**-625		375-**490**-605	360-**460**-540
K.1.1	360-**460**-540			460-590-690	605-785-970	605-785-970	510-**655**-770	510-**655**-770	360-460-540		655-**855**-1000	375-**490**-605	410-**525**-625
K.1.2	280-**360**-425			410-525-625	460-590-720	460-590-720	375-**490**-575	375-**490**-575	260-345-410		410-**525**-625	295-**395**-490	295-**395**-460
K.2.1	230-**295**-345			360-460-540	410-525-640	410-525-640	510-**655**-770	510-**655**-770	360-460-540		460-**590**-690	375-**490**-605	410-**525**-625
K.2.2	230-**295**-345			360-460-540	245-330-410	245-330-410	295-**395**-460	295-**395**-460	215-280-330		295-**395**-460	230-**295**-360	245-**330**-395
K.3.1	180-**230**-280			295-395-460	295-395-490	295-395-490	375-**490**-575	375-**490**-575	260-345-410		360-**460**-540	280-**360**-445	295-**395**-460
K.3.2	150-**195**-230			295-395-460	245-330-410	245-330-410	295-**395**-460	295-**395**-460	215-280-330		295-**395**-460	230-**295**-360	245-**330**-395
N.1.1													
N.1.2													
N.2.1													
N.2.2													
N.2.3													
N.3.1													
N.3.2													
N.3.3													
N.4.1													
S.1.1												150-**195**-245	
S.1.2												130-**165**-195	
S.2.1												150-**195**-245	
S.2.2												130-**165**-195	
S.2.3												80-**100**-115	
S.3.1													
S.3.2													
S.3.3													
H.1.1					130-**165**-195							130-**165**-195	
H.1.2					115-**150**-180							80-**115**-150	
H.1.3													
H.1.4													
H.2.1					245-**330**-410							195-**245**-295	
H.3.1					130-**165**-195							80-**115**-150	
O.1.1													
O.1.2													
O.2.1													
O.2.2													
O.3.1													

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -02	
	BK6425	BK6440
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	575 - **740** - 870
P.1.2	805 - **1050** - 1245	575 - **740** - 870
P.1.3	560 - **720** - 855	395 - **510** - 605
P.1.4	740 - **950** - 1115	510 - **655** - 770
P.1.5	705 - **920** - 1085	490 - **640** - 755
P.2.1	835 - **1085** - 1280	575 - **755** - 885
P.2.2	805 - **1050** - 1245	560 - **720** - 855
P.2.3	560 - **720** - 855	640 - **820** - 970
P.2.4	460 - **590** - 690	310 - **410** - 490
P.3.1	510 - **655** - 770	360 - **460** - 540
P.3.2	410 - **525** - 625	280 - **360** - 425
P.3.3	375 - **490** - 575	260 - **345** - 410
P.4.1	560 - **720** - 855	375 - **490** - 575
P.4.2	410 - **525** - 625	280 - **360** - 425
M.1.1	460 - **605** - 720	330 - **425** - 510
M.2.1	460 - **605** - 720	330 - **425** - 510
M.3.1	410 - **525** - 625	280 - **360** - 425
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -03		
	P25M	BK6425	BK8425
	v_c (ft/min) min. – Recommended – max.		
P.1.1	245 - **330** - 395	805 - **1050** - 1245	655 - **855** - 1000
P.1.2	245 - **330** - 395	805 - **1050** - 1245	655 - **855** - 1000
P.1.3	230 - **295** - 345	560 - **720** - 855	690 - **885** - 1050
P.1.4	230 - **295** - 345	740 - **950** - 1115	640 - **820** - 970
P.1.5	230 - **295** - 345	705 - **920** - 1085	690 - **885** - 1050
P.2.1	195 - **260** - 310	835 - **1085** - 1280	690 - **885** - 1050
P.2.2	195 - **260** - 310	805 - **1050** - 1245	655 - **855** - 1000
P.2.3	195 - **260** - 310	560 - **720** - 855	460 - **590** - 690
P.2.4	195 - **260** - 310	460 - **590** - 690	375 - **490** - 575
P.3.1	195 - **245** - 295	510 - **655** - 770	410 - **525** - 625
P.3.2	180 - **230** - 280	410 - **525** - 625	330 - **425** - 510
P.3.3	180 - **230** - 280	375 - **490** - 575	295 - **395** - 460
P.4.1	150 - **195** - 230	560 - **720** - 855	460 - **590** - 690
P.4.2	150 - **195** - 230	410 - **525** - 625	330 - **425** - 510
M.1.1	230 - **295** - 345	460 - **605** - 720	375 - **490** - 575
M.2.1	180 - **230** - 280	460 - **605** - 720	375 - **490** - 575
M.3.1	180 - **230** - 280	410 - **525** - 625	360 - **460** - 540
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ..., 10 823 ... WOEX -11			
	K10	BK50	BK77	BK7710
	v_c (ft/min) min. – Recommended – max.			
P.1.1				
P.1.2				
P.1.3				
P.1.4				
P.1.5				
P.2.1				
P.2.2				
P.2.3				
P.2.4				
P.3.1				
P.3.2				
P.3.3				
P.4.1				
P.4.2				
M.1.1				
M.2.1				
M.3.1				
K.1.1				
K.1.2				
K.2.1				
K.2.2				
K.3.1				
K.3.2				
N.1.1	490 - **640** - 785	2525 - **3280** - 4035	820 - **1065** - 1310	1265 - **1640** - 2020
N.1.2	490 - **640** - 785	2525 - **3280** - 4035	820 - **1065** - 1310	1265 - **1640** - 2020
N.2.1	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.2.2	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.2.3	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
N.3.1	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
N.3.2	280 - **360** - 445	1410 - **1835** - 2265	460 - **590** - 720	705 - **920** - 1130
N.3.3	375 - **490** - 605	1970 - **2560** - 3150	640 - **820** - 1015	985 - **1280** - 1575
N.4.1	245 - **330** - 410	1265 - **1640** - 2020	410 - **540** - 675	640 - **820** - 1015
S.1.1				
S.1.2				
S.2.1			195 - **260** - 330	
S.2.2			130 - **165** - 195	
S.2.3				
S.3.1				245 - **330** - 410
S.3.2				195 - **260** - 330
S.3.3				130 - **165** - 195
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1			195 - **245** - 295	245 - **330** - 410
O.1.2			195 - **245** - 295	245 - **330** - 410
O.2.1		510 - **655** - 805		
O.2.2		510 - **655** - 805	195 - **245** - 295	245 - **330** - 410
O.3.1		510 - **655** - 805	195 - **245** - 295	245 - **330** - 410

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOEX -13		
	BK7325	BK79	BK8425
	v_c (ft/min) min. – Recommended – max.		
P.1.1	755 - **985** - 1215	230 - **295** - 345	835 - **855** - 1050
P.1.2	755 - **985** - 1215	230 - **295** - 345	835 - **855** - 1050
P.1.3	690 - **885** - 1085	195 - **260** - 310	575 - **885** - 1085
P.1.4	640 - **820** - 1015	195 - **260** - 310	655 - **820** - 1015
P.1.5	755 - **985** - 1215	195 - **260** - 310	655 - **885** - 1085
P.2.1	690 - **885** - 1085	195 - **245** - 295	690 - **885** - 1085
P.2.2	655 - **855** - 1050	195 - **245** - 295	640 - **855** - 1050
P.2.3	605 - **785** - 970	195 - **245** - 295	460 - **590** - 720
P.2.4	510 - **655** - 805	195 - **245** - 295	375 - **490** - 605
P.3.1	510 - **655** - 805	180 - **230** - 280	410 - **525** - 640
P.3.2	410 - **525** - 640	150 - **195** - 230	330 - **425** - 525
P.3.3	360 - **460** - 560	150 - **195** - 230	375 - **395** - 490
P.4.1	560 - **720** - 885	130 - **165** - 195	410 - **590** - 720
P.4.2	410 - **525** - 640	130 - **165** - 195	330 - **425** - 525
M.1.1	560 - **720** - 885	195 - **245** - 295	295 - **490** - 605
M.2.1	560 - **720** - 885	180 - **230** - 280	460 - **490** - 605
M.3.1	510 - **655** - 805	150 - **195** - 230	330 - **460** - 560
K.1.1			410 - **525** - 625
K.1.2			295 - **395** - 460
K.2.1			410 - **525** - 625
K.2.2			245 - **330** - 395
K.3.1			295 - **395** - 460
K.3.2			245 - **330** - 395
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -15		
	BK60	BK73	BK8430
	v_c (ft/min) min. – Recommended – max.		
P.1.1	805 - **1050** - 1245	755 - **985** - 1215	835 - **855** - 1050
P.1.2	805 - **1050** - 1245	755 - **985** - 1215	835 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085	575 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015	655 - **820** - 1015
P.1.5	705 - **920** - 1085	755 - **985** - 1215	655 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050	640 - **855** - 1050
P.2.3	560 - **720** - 855	605 - **785** - 970	460 - **590** - 720
P.2.4	460 - **590** - 690	510 - **655** - 805	375 - **490** - 605
P.3.1	510 - **655** - 770	510 - **655** - 805	410 - **525** - 640
P.3.2	410 - **525** - 625	410 - **525** - 640	330 - **425** - 525
P.3.3	375 - **490** - 575	360 - **460** - 560	375 - **395** - 490
P.4.1	560 - **720** - 855	560 - **720** - 885	410 - **590** - 720
P.4.2	410 - **525** - 625	410 - **525** - 640	330 - **425** - 525
M.1.1	460 - **605** - 720	560 - **720** - 885	295 - **490** - 605
M.2.1	460 - **605** - 720	560 - **720** - 885	460 - **490** - 605
M.3.1	410 - **525** - 625	510 - **655** - 805	330 - **460** - 560
K.1.1			
K.1.2			
K.2.1			
K.2.2			
K.3.1			
K.3.2			
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
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H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 821 ... WOGX -16	
	BK60	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	835 - **855** - 1050
P.1.2	805 - **1050** - 1245	835 - **855** - 1050
P.1.3	560 - **720** - 855	575 - **885** - 1085
P.1.4	740 - **950** - 1115	655 - **820** - 1015
P.1.5	705 - **920** - 1085	655 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	640 - **855** - 1050
P.2.3	560 - **720** - 855	460 - **590** - 720
P.2.4	460 - **590** - 690	375 - **490** - 605
P.3.1	510 - **655** - 770	410 - **525** - 640
P.3.2	410 - **525** - 625	330 - **425** - 525
P.3.3	375 - **490** - 575	375 - **395** - 490
P.4.1	560 - **720** - 855	410 - **590** - 720
P.4.2	410 - **525** - 625	330 - **425** - 525
M.1.1	460 - **605** - 720	295 - **490** - 605
M.2.1	460 - **605** - 720	460 - **490** - 605
M.3.1	410 - **525** - 625	330 - **460** - 560
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
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N.3.3		
N.4.1		
S.1.1		
S.1.2		
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S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

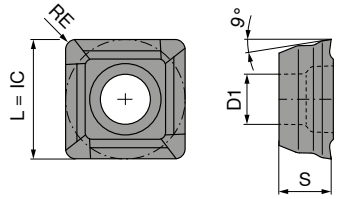
Index	10 821 ... WOEX -20	
	BK2730	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	640 - **820** - 1015	835 - **855** - 1050
P.1.2	560 - **720** - 885	835 - **855** - 1050
P.1.3	690 - **885** - 1085	575 - **885** - 1085
P.1.4	640 - **820** - 1015	655 - **820** - 1015
P.1.5	510 - **655** - 805	655 - **885** - 1085
P.2.1	690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050	640 - **855** - 1050
P.2.3	410 - **525** - 640	460 - **590** - 720
P.2.4	330 - **425** - 525	375 - **490** - 605
P.3.1	360 - **460** - 560	410 - **525** - 640
P.3.2	295 - **395** - 490	330 - **425** - 525
P.3.3	280 - **360** - 445	375 - **395** - 490
P.4.1	375 - **490** - 605	410 - **590** - 720
P.4.2	295 - **395** - 490	330 - **425** - 525
M.1.1	410 - **525** - 640	295 - **490** - 605
M.2.1	410 - **525** - 640	460 - **490** - 605
M.3.1	375 - **490** - 605	330 - **460** - 560
K.1.1	375 - **490** - 605	410 - **525** - 625
K.1.2	295 - **395** - 490	295 - **395** - 460
K.2.1	375 - **490** - 605	410 - **525** - 625
K.2.2	230 - **295** - 360	245 - **330** - 395
K.3.1	280 - **360** - 445	295 - **395** - 460
K.3.2	230 - **295** - 360	245 - **330** - 395
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
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O.1.2		
O.2.1		
O.2.2		
O.3.1		

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Pentron – Carbide drilling indexable insert

SOGX

- Universal topography with stable cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





-01 BK8425	-01 BK7935	-01 BK7710	-01 BK6115
SOGX	SOGX	SOGX	SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...	IH 10 820 ...
SOGX 040204EN	W80 10010.046115	4.8	2.05	2.2	4.8	0.4				40401
SOGX 040204EN	W80 10010.047710	4.8	2.05	2.2	4.8	0.4			90401	
SOGX 040204EN	W80 10010.047935	4.8	2.05	2.2	4.8	0.4		50401		
SOGX 040204EN	W80 10010.048425	4.8	2.05	2.2	4.8	0.4	30401			
SOGX 050204EN	W80 12010.046115	5.5	2.30	2.4	5.5	0.4				40501
SOGX 050204EN	W80 12010.047710	5.5	2.30	2.4	5.5	0.4			90501	
SOGX 050204EN	W80 12010.047935	5.5	2.30	2.4	5.5	0.4		50501		
SOGX 050204EN	W80 12010.048425	5.5	2.30	2.4	5.5	0.4	30501			
SOGX 060206EN	W80 18010.066115	6.2	2.60	2.75	6.2	0.6				40601
SOGX 060206EN	W80 18010.067710	6.2	2.60	2.75	6.2	0.6			90601	
SOGX 060206EN	W80 18010.067935	6.2	2.60	2.75	6.2	0.6		50601		
SOGX 060206EN	W80 18010.068425	6.2	2.60	2.75	6.2	0.6	30601			
SOGX 07T208EN	W80 20010.086115	7.1	2.60	2.97	7.1	0.8				40701
SOGX 07T208EN	W80 20010.087710	7.1	2.60	2.97	7.1	0.8			90701	
SOGX 07T208EN	W80 20010.087935	7.1	2.60	2.97	7.1	0.8		50701		
SOGX 07T208EN	W80 20010.088425	7.1	2.60	2.97	7.1	0.8	30701			
SOGX 080308EN	W80 24010.086115	8.0	2.85	3.4	8.0	0.8				40801
SOGX 080308EN	W80 24010.087710	8.0	2.85	3.4	8.0	0.8			90801	
SOGX 080308EN	W80 24010.087935	8.0	2.85	3.4	8.0	0.8		50801		
SOGX 080308EN	W80 24010.088425	8.0	2.85	3.4	8.0	0.8	30801			
SOGX 09T308EN	W80 28010.086115	8.9	3.40	3.9	8.9	0.8				40901
SOGX 09T308EN	W80 28010.087710	8.9	3.40	3.9	8.9	0.8			90901	
SOGX 09T308EN	W80 28010.087935	8.9	3.40	3.9	8.9	0.8		50901		
SOGX 09T308EN	W80 28010.088425	8.9	3.40	3.9	8.9	0.8	30901			
SOGX 100408EN	W80 32010.086115	9.8	4.10	4.2	9.8	0.8				41001
SOGX 100408EN	W80 32010.087710	9.8	4.10	4.2	9.8	0.8			91001	
SOGX 100408EN	W80 32010.087935	9.8	4.10	4.2	9.8	0.8		51001		
SOGX 100408EN	W80 32010.088425	9.8	4.10	4.2	9.8	0.8	31001			
SOGX 110408EN	W80 38010.086115	10.9	4.10	4.5	10.9	0.8				41101
SOGX 110408EN	W80 38010.087710	10.9	4.10	4.5	10.9	0.8			91101	
SOGX 110408EN	W80 38010.087935	10.9	4.10	4.5	10.9	0.8		51101		
SOGX 110408EN	W80 38010.088425	10.9	4.10	4.5	10.9	0.8	31101			
SOGX 120408EN	W80 42010.086115	12.0	5.20	4.8	12.0	0.8				41201
SOGX 120408EN	W80 42010.087710	12.0	5.20	4.8	12.0	0.8			91201	
SOGX 120408EN	W80 42010.087935	12.0	5.20	4.8	12.0	0.8		51201		
SOGX 120408EN	W80 42010.088425	12.0	5.20	4.8	12.0	0.8	31201			
SOGX 130508EN	W80 46010.086115	13.2	5.20	5.2	13.2	0.8				41301
SOGX 130508EN	W80 46010.087710	13.2	5.20	5.2	13.2	0.8			91301	
SOGX 130508EN	W80 46010.087935	13.2	5.20	5.2	13.2	0.8		51301		
SOGX 130508EN	W80 46010.088425	13.2	5.20	5.2	13.2	0.8	31301			
P							●	●		●
M							●	●		●
K							●	●		○
N									●	
S								●	○	
H								●		●
O									○	

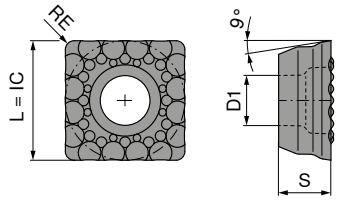
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOGX -01 BK6115 as an outer cutting edge,
Use SOGX -01 BK8425 as a central cutting edge!

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Dome-shaped chip former with extremely good chip breakage characteristics
- ▲ Excellent chip control even at low feeds
- ▲ Main application area: Steel materials, corrosion and acid-resistant materials



-03
BK8430



SOGX

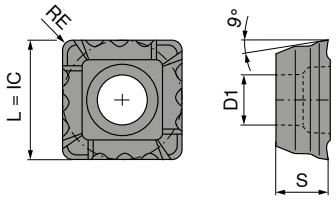
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10030.048430	4.8	2.05	2.2	4.8	0.4	**00403**
SOGX 050204EN	W80 12030.048430	5.5	2.30	2.4	5.5	0.4	**00503**
SOGX 060206EN	W80 18030.068430	6.2	2.60	2.75	6.2	0.6	**00603**
SOGX 07T208EN	W80 20030.088430	7.1	2.60	2.97	7.1	0.8	**00703**
SOGX 080308EN	W80 24030.088430	8.0	2.85	3.4	8.0	0.8	**00803**
SOGX 09T308EN	W80 28030.088430	8.9	3.40	3.9	8.9	0.8	**00903**
SOGX 100408EN	W80 32030.088430	9.8	4.10	4.2	9.8	0.8	**01003**
SOGX 110408EN	W80 38030.088430	10.9	4.10	4.5	10.9	0.8	**01103**
SOGX 120408EN	W80 42030.088430	12.0	5.20	4.8	12.0	0.8	**01203**
SOGX 130508EN	W80 46030.088430	13.2	5.20	5.2	13.2	0.8	**01303**
P							●
M							●
K							
N							
S							
H							
O							

→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle



-13
BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10130.048425	4.8	2.05	2.2	4.8	0.4	**30413**
SOGX 050204EN	W80 12130.048425	5.5	2.30	2.4	5.5	0.4	**30513**
SOGX 060206EN	W80 18130.068425	6.2	2.60	2.75	6.2	0.6	**30613**
SOGX 07T208EN	W80 20130.088425	7.1	2.60	2.97	7.1	0.8	**30713**
SOGX 080308EN	W80 24130.088425	8.0	2.85	3.4	8.0	0.8	**30813**
SOGX 09T308EN	W80 28130.088425	8.9	3.40	3.9	8.9	0.8	**30913**
SOGX 100408EN	W80 32130.088425	9.8	4.10	4.2	9.8	0.8	**31013**
SOGX 110408EN	W80 38130.088425	10.9	4.10	4.5	10.9	0.8	**31113**
SOGX 120408EN	W80 42130.088425	12.0	5.20	4.8	12.0	0.8	**31213**
SOGX 130508EN	W80 46130.088425	13.2	5.20	5.2	13.2	0.8	**31313**

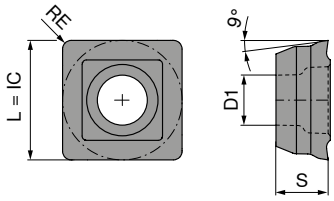
P	●
M	●
K	●
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→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- ▲ Extremely sharp cutting edge
- ▲ Extremely good chip formation in aluminum with low silicon content
- ▲ Four-edged alternative to PCD-equipped cutting inserts



-21
BK7710



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 825 ...
SOGX 040204EN	W80 10210.047710	4.8	2.05	2.2	4.8	0.4	**90421**
SOGX 050204EN	W80 12210.047710	5.5	2.30	2.4	5.5	0.4	**90521**
SOGX 060206EN	W80 18210.067710	6.2	2.60	2.75	6.2	0.6	**90621**
SOGX 07T208EN	W80 20210.087710	7.1	2.60	2.97	7.1	0.8	**90721**
SOGX 080308EN	W80 24210.087710	8.0	2.85	3.4	8.0	0.8	**90821**
SOGX 09T308EN	W80 28210.087710	8.9	3.40	3.9	8.9	0.8	**90921**
SOGX 100408EN	W80 32210.087710	9.8	4.10	4.2	9.8	0.8	**91021**
SOGX 110408EN	W80 38210.087710	10.9	4.10	4.5	10.9	0.8	**91121**
SOGX 120408EN	W80 42210.087710	12.0	5.20	4.8	12.0	0.8	**91221**
SOGX 130508EN	W80 46210.087710	13.2	5.20	5.2	13.2	0.8	**91321**

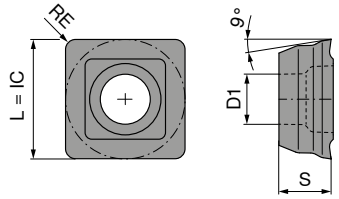
P	
M	
K	
N	●
S	●
H	
O	●

→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.



-21
BK7935



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10210.047935	4.8	2.05	2.2	4.8	0.4	**50421**
SOGX 050204EN	W80 12210.047935	5.5	2.30	2.4	5.5	0.4	**50521**
SOGX 060206EN	W80 18210.067935	6.2	2.60	2.75	6.2	0.6	**50621**
SOGX 07T208EN	W80 20210.087935	7.1	2.60	2.97	7.1	0.8	**50721**
SOGX 080308EN	W80 24210.087935	8.0	2.85	3.4	8.0	0.8	**50821**
SOGX 09T308EN	W80 28210.087935	8.9	3.40	3.9	8.9	0.8	**50921**
SOGX 100408EN	W80 32210.087935	9.8	4.10	4.2	9.8	0.8	**51021**
SOGX 110408EN	W80 38210.087935	10.9	4.10	4.5	10.9	0.8	**51121**
SOGX 120408EN	W80 42210.087935	12.0	5.20	4.8	12.0	0.8	**51221**
SOGX 130508EN	W80 46210.087935	13.2	5.20	5.2	13.2	0.8	**51321**

P	●
M	●
K	●
N	
S	●
H	
O	



→ Find the recommended values for cutting speeds here.

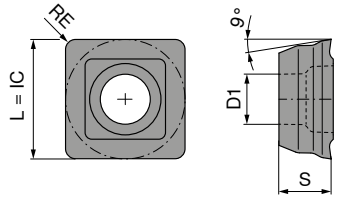


Information on solid drilling:
Only use SOGX -21 BK7935 as an outer cutting edge,
Use SOGX -21 BK8430 as a central cutting edge!

Pentron – Carbide drilling indexable insert

SOGX

▲ Positive geometry for steel materials
▲ Cutting edge rounded



-21
BK8430



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10210.048430	4.8	2.05	2.2	4.8	0.4	**00421**
SOGX 050204EN	W80 12210.048430	5.5	2.30	2.4	5.5	0.4	**00521**
SOGX 060206EN	W80 18210.068430	6.2	2.60	2.75	6.2	0.6	**00621**
SOGX 07T208EN	W80 20210.088430	7.1	2.60	2.97	7.1	0.8	**00721**
SOGX 080308EN	W80 24210.088430	8.0	2.85	3.4	8.0	0.8	**00821**
SOGX 09T308EN	W80 28210.088430	8.9	3.40	3.9	8.9	0.8	**00921**
SOGX 100408EN	W80 32210.088430	9.8	4.10	4.2	9.8	0.8	**01021**
SOGX 110408EN	W80 38210.088430	10.9	4.10	4.5	10.9	0.8	**01121**
SOGX 120408EN	W80 42210.088430	12.0	5.20	4.8	12.0	0.8	**01221**
SOGX 130508EN	W80 46210.088430	13.2	5.20	5.2	13.2	0.8	**01321**

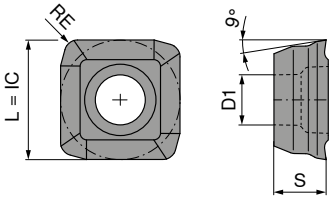
P	●
M	●
K	●
N	●
S	
H	
O	●

→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ Cutting edge geometry for burr-minimizing drill exit for steel materials
- ▲ For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced
- ▲ Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm



-32
BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204EN	W80 10320.048425	4.8	2.05	2.2	4.8	0.4	**30432**
SOGX 050204EN	W80 12320.048425	5.5	2.30	2.4	5.5	0.4	**30532**
SOGX 060206EN	W80 18320.068425	6.2	2.60	2.75	6.2	0.6	**30632**
SOGX 07T208EN	W80 20320.088425	7.1	2.60	2.97	7.1	0.8	**30732**
SOGX 080308EN	W80 24320.088425	8.0	2.85	3.4	8.0	0.8	**30832**
SOGX 09T308EN	W80 28320.088425	8.9	3.40	3.9	8.9	0.8	**30932**
SOGX 100408EN	W80 32320.088425	9.8	4.10	4.2	9.8	0.8	**31032**
SOGX 110408EN	W80 38320.088425	10.9	4.10	4.5	10.9	0.8	**31132**
SOGX 120408EN	W80 42320.088425	12.0	5.20	4.8	12.0	0.8	**31232**
SOGX 130508EN	W80 46320.088425	13.2	5.20	5.2	13.2	0.8	**31332**

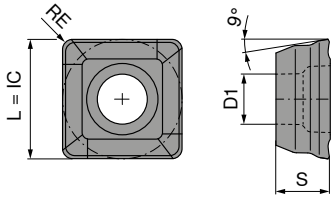
P	●
M	●
K	●
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Pentron – Carbide drilling indexable insert

SOGX

- ▲ High-feed geometry
- ▲ Extremely stable, chamfered, and rounded cutting edge
- ▲ Main application area: short-chipping steel materials and cast iron materials



-34
BK8425



SOGX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 820 ...
SOGX 040204SN	W80 10340.048425	4.8	2.05	2.2	4.8	0.4	**30434**
SOGX 050204SN	W80 12340.048425	5.5	2.30	2.4	5.5	0.4	**30534**
SOGX 060206SN	W80 18340.068425	6.2	2.60	2.75	6.2	0.6	**30634**
SOGX 07T208SN	W80 20340.088425	7.1	2.60	2.97	7.1	0.8	**30734**
SOGX 080308SN	W80 24340.088425	8.0	2.85	3.4	8.0	0.8	**30834**
SOGX 09T308SN	W80 28340.088425	8.9	3.40	3.9	8.9	0.8	**30934**
SOGX 100408SN	W80 32340.088425	9.8	4.10	4.2	9.8	0.8	**31034**
SOGX 110408SN	W80 38340.088425	10.9	4.10	4.5	10.9	0.8	**31134**
SOGX 120408SN	W80 42340.088425	12.0	5.20	4.8	12.0	0.8	**31234**
SOGX 130508SN	W80 46340.088425	13.2	5.20	5.2	13.2	0.8	**31334**

P	●
M	
K	●
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ... SOGX -01			
	BK6115	BK7710	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.			
P.1.1	230 - **300** - 370		195 - **250** - 310	200 - **260** - 320
P.1.2	230 - **300** - 370		170 - **220** - 270	200 - **260** - 320
P.1.3	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.1.4	195 - **250** - 310		195 - **250** - 310	195 - **250** - 310
P.1.5	230 - **300** - 370		155 - **200** - 245	210 - **270** - 330
P.2.1	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320		200 - **260** - 320	200 - **260** - 320
P.2.3	185 - **240** - 295		125 - **160** - 195	140 - **180** - 220
P.2.4	155 - **200** - 245		100 - **130** - 160	115 - **150** - 185
P.3.1	155 - **200** - 245		110 - **140** - 170	125 - **160** - 195
P.3.2	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
P.3.3	110 - **140** - 170		85 - **110** - 135	90 - **120** - 150
P.4.1	170 - **220** - 270		115 - **150** - 185	140 - **180** - 220
P.4.2	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
M.1.1	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.2.1	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.3.1	155 - **200** - 245		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 295		115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 220		90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 195		115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 125		70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 150		85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 125		70 - **90** - 110	75 - **100** - 120
N.1.1		**500**		
N.1.2		**500**		
N.2.1		**280**		
N.2.2		**280**		
N.2.3		**250**		
N.3.1		**250**		
N.3.2		**280**		
N.3.3		**390**		
N.4.1		**250**		
S.1.1			45 - **60** - 75	
S.1.2			40 - **50** - 60	
S.2.1			45 - **60** - 75	
S.2.2			40 - **50** - 60	
S.2.3			25 - **30** - 35	
S.3.1		100		
S.3.2		80		
S.3.3		50		
H.1.1	40 - **50** - 60		40 - **50** - 60	
H.1.2	35 - **45** - 55		25 - **35** - 45	
H.1.3				
H.1.4				
H.2.1	75 - **100** - 125		60 - **75** - 90	
H.3.1	40 - **50** - 60		25 - **35** - 45	
O.1.1		100		
O.1.2		100		
O.2.1				
O.2.2		100		
O.3.1		100		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -03 BK8430 **v_c (m/min)** min. – Recommended – max.
P.1.1	200 - **260** - 320
P.1.2	200 - **260** - 320
P.1.3	210 - **270** - 330
P.1.4	195 - **250** - 310
P.1.5	210 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	200 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	90 - **120** - 150
P.4.1	140 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	115 - **150** - 185
M.2.1	115 - **150** - 185
M.3.1	110 - **140** - 170
K.1.1	
K.1.2	
K.2.1	
K.2.2	
K.3.1	
K.3.2	
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -13 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	255 - **260** - 320
P.1.2	255 - **260** - 320
P.1.3	175 - **270** - 330
P.1.4	200 - **250** - 310
P.1.5	200 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	195 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	125 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	90 - **150** - 185
M.2.1	140 - **150** - 185
M.3.1	100 - **140** - 170
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ..., 10 825 ... SOGX -21		
	BK7710	BK7935	BK8430
	v_c (m/min) min. – Recommended – max.		
P.1.1		195 - **250** - 310	200 - **260** - 320
P.1.2		170 - **220** - 270	200 - **260** - 320
P.1.3		210 - **270** - 330	210 - **270** - 330
P.1.4		195 - **250** - 310	195 - **250** - 310
P.1.5		155 - **200** - 245	210 - **270** - 330
P.2.1		210 - **270** - 330	210 - **270** - 330
P.2.2		200 - **260** - 320	200 - **260** - 320
P.2.3		125 - **160** - 195	140 - **180** - 220
P.2.4		100 - **130** - 160	115 - **150** - 185
P.3.1		110 - **140** - 170	125 - **160** - 195
P.3.2		90 - **120** - 150	100 - **130** - 160
P.3.3		85 - **110** - 135	90 - **120** - 150
P.4.1		115 - **150** - 185	140 - **180** - 220
P.4.2		90 - **120** - 150	100 - **130** - 160
M.1.1		125 - **160** - 195	115 - **150** - 185
M.2.1		125 - **160** - 195	115 - **150** - 185
M.3.1		115 - **150** - 185	110 - **140** - 170
K.1.1		115 - **150** - 185	125 - **160** - 190
K.1.2		90 - **120** - 150	90 - **120** - 140
K.2.1		115 - **150** - 185	125 - **160** - 190
K.2.2		70 - **90** - 110	75 - **100** - 120
K.3.1		85 - **110** - 135	90 - **120** - 140
K.3.2		70 - **90** - 110	75 - **100** - 120
N.1.1	385 - **500** - 615		310 - **400** - 490
N.1.2	385 - **500** - 615		310 - **400** - 490
N.2.1	215 - **280** - 345		195 - **250** - 310
N.2.2	215 - **280** - 345		195 - **250** - 310
N.2.3	195 - **250** - 310		175 - **230** - 285
N.3.1	195 - **250** - 310		155 - **200** - 245
N.3.2	215 - **280** - 345		170 - **220** - 270
N.3.3	300 - **390** - 480		255 - **330** - 405
N.4.1	195 - **250** - 310		155 - **200** - 245
S.1.1		45 - **60** - 75	
S.1.2		40 - **50** - 60	
S.2.1		45 - **60** - 75	
S.2.2		40 - **50** - 60	
S.2.3		25 - **30** - 35	
S.3.1	75 - **100** - 125		
S.3.2	60 - **80** - 100		
S.3.3	40 - **50** - 60		
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1	75 - **100** - 125		
O.1.2	75 - **100** - 125		
O.2.1			155 - **200** - 245
O.2.2	75 - **100** - 125		155 - **200** - 245
O.3.1	75 - **100** - 125		155 - **200** - 245

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -32 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	255 - **260** - 320
P.1.2	255 - **260** - 320
P.1.3	175 - **270** - 330
P.1.4	200 - **250** - 310
P.1.5	200 - **270** - 330
P.2.1	210 - **270** - 330
P.2.2	195 - **260** - 320
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	125 - **180** - 220
P.4.2	100 - **130** - 160
M.1.1	90 - **150** - 185
M.2.1	140 - **150** - 185
M.3.1	100 - **140** - 170
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -34 BK8425 **v_c (m/min)** min. – Recommended – max.
P.1.1	
P.1.2	255 - **260** - 320
P.1.3	
P.1.4	
P.1.5	200 - **270** - 330
P.2.1	
P.2.2	
P.2.3	140 - **180** - 220
P.2.4	115 - **150** - 185
P.3.1	125 - **160** - 195
P.3.2	100 - **130** - 160
P.3.3	115 - **120** - 150
P.4.1	
P.4.2	
M.1.1	
M.2.1	
M.3.1	
K.1.1	125 - **160** - 190
K.1.2	90 - **120** - 140
K.2.1	125 - **160** - 190
K.2.2	75 - **100** - 120
K.3.1	90 - **120** - 140
K.3.2	75 - **100** - 120
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ... SOGX -01			
	BK6115	BK7710	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.			
P.1.1	755 - **985** - 1215		640 - **820** - 1015	655 - **855** - 1050
P.1.2	755 - **985** - 1215		560 - **720** - 885	655 - **855** - 1050
P.1.3	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.1.4	640 - **820** - 1015		640 - **820** - 1015	640 - **820** - 1015
P.1.5	755 - **985** - 1215		510 - **655** - 805	690 - **885** - 1085
P.2.1	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050		655 - **855** - 1050	655 - **855** - 1050
P.2.3	605 - **785** - 970		410 - **525** - 640	460 - **590** - 720
P.2.4	510 - **655** - 805		330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 805		360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
P.3.3	360 - **460** - 560		280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 885		375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
M.1.1	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.2.1	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.3.1	510 - **655** - 805		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 970		375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 720		295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 640		375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 410		230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 490		280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 410		230 - **295** - 360	245 - **330** - 395
N.1.1		**1640**		
N.1.2		**1640**		
N.2.1		**920**		
N.2.2		**920**		
N.2.3		**820**		
N.3.1		**820**		
N.3.2		**920**		
N.3.3		**1280**		
N.4.1		**820**		
S.1.1			150 - **195** - 245	
S.1.2			130 - **165** - 195	
S.2.1			150 - **195** - 245	
S.2.2			130 - **165** - 195	
S.2.3			80 - **100** - 115	
S.3.1		330		
S.3.2		260		
S.3.3		165		
H.1.1	130 - **165** - 195		130 - **165** - 195	
H.1.2	115 - **150** - 180		80 - **115** - 150	
H.1.3				
H.1.4				
H.2.1	245 - **330** - 410		195 - **245** - 295	
H.3.1	130 - **165** - 195		80 - **115** - 150	
O.1.1		330		
O.1.2		330		
O.2.1				
O.2.2		330		
O.3.1		330		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -03 BK8430 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	
K.1.2	
K.2.1	
K.2.2	
K.3.1	
K.3.2	
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -13 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 820 ..., 10 825 ... SOGX -21		
	BK7710	BK7935	BK8430
	v_c (ft/min) min. – Recommended – max.		
P.1.1		640 - **820** - 1015	655 - **855** - 1050
P.1.2		560 - **720** - 885	655 - **855** - 1050
P.1.3		690 - **885** - 1085	690 - **885** - 1085
P.1.4		640 - **820** - 1015	640 - **820** - 1015
P.1.5		510 - **655** - 805	690 - **885** - 1085
P.2.1		690 - **885** - 1085	690 - **885** - 1085
P.2.2		655 - **855** - 1050	655 - **855** - 1050
P.2.3		410 - **525** - 640	460 - **590** - 720
P.2.4		330 - **425** - 525	375 - **490** - 605
P.3.1		360 - **460** - 560	410 - **525** - 640
P.3.2		295 - **395** - 490	330 - **425** - 525
P.3.3		280 - **360** - 445	295 - **395** - 490
P.4.1		375 - **490** - 605	460 - **590** - 720
P.4.2		295 - **395** - 490	330 - **425** - 525
M.1.1		410 - **525** - 640	375 - **490** - 605
M.2.1		410 - **525** - 640	375 - **490** - 605
M.3.1		375 - **490** - 605	360 - **460** - 560
K.1.1		375 - **490** - 605	410 - **525** - 625
K.1.2		295 - **395** - 490	295 - **395** - 460
K.2.1		375 - **490** - 605	410 - **525** - 625
K.2.2		230 - **295** - 360	245 - **330** - 395
K.3.1		280 - **360** - 445	295 - **395** - 460
K.3.2		230 - **295** - 360	245 - **330** - 395
N.1.1	1265 - **1640** - 2020		1015 - **1310** - 1610
N.1.2	1265 - **1640** - 2020		1015 - **1310** - 1610
N.2.1	705 - **920** - 1130		640 - **820** - 1015
N.2.2	705 - **920** - 1130		640 - **820** - 1015
N.2.3	640 - **820** - 1015		575 - **755** - 935
N.3.1	640 - **820** - 1015		510 - **655** - 805
N.3.2	705 - **920** - 1130		560 - **720** - 885
N.3.3	985 - **1280** - 1575		835 - **1085** - 1330
N.4.1	640 - **820** - 1015		510 - **655** - 805
S.1.1		150 - **195** - 245	
S.1.2		130 - **165** - 195	
S.2.1		150 - **195** - 245	
S.2.2		130 - **165** - 195	
S.2.3		80 - **100** - 115	
S.3.1	245 - **330** - 410		
S.3.2	195 - **260** - 330		
S.3.3	130 - **165** - 195		
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1	245 - **330** - 410		
O.1.2	245 - **330** - 410		
O.2.1			510 - **655** - 805
O.2.2	245 - **330** - 410		510 - **655** - 805
O.3.1	245 - **330** - 410		510 - **655** - 805

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	**10 820 ...** SOGX -32 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	655 - **855** - 1050
P.1.2	655 - **855** - 1050
P.1.3	690 - **885** - 1085
P.1.4	640 - **820** - 1015
P.1.5	690 - **885** - 1085
P.2.1	690 - **885** - 1085
P.2.2	655 - **855** - 1050
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	295 - **395** - 490
P.4.1	460 - **590** - 720
P.4.2	330 - **425** - 525
M.1.1	375 - **490** - 605
M.2.1	375 - **490** - 605
M.3.1	360 - **460** - 560
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

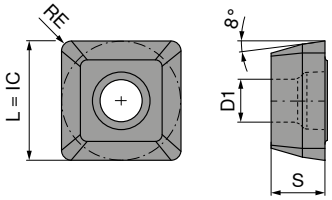
Index	**10 820 ...** SOGX -34 BK8425 **v_c (ft/min)** min. – Recommended – max.
P.1.1	
P.1.2	835 - **855** - 1050
P.1.3	
P.1.4	
P.1.5	655 - **885** - 1085
P.2.1	
P.2.2	
P.2.3	460 - **590** - 720
P.2.4	375 - **490** - 605
P.3.1	410 - **525** - 640
P.3.2	330 - **425** - 525
P.3.3	375 - **395** - 490
P.4.1	
P.4.2	
M.1.1	
M.2.1	
M.3.1	
K.1.1	410 - **525** - 625
K.1.2	295 - **395** - 460
K.2.1	410 - **525** - 625
K.2.2	245 - **330** - 395
K.3.1	295 - **395** - 460
K.3.2	245 - **330** - 395
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – Carbide drilling indexable insert

SOEX

- Universal topography with stable cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials



-01 BK8425	-01 BK7935	-01 BK6420
		
SOEX	SOEX	SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...	IH 10 822 ...
SOEX 050204EN	W83 13010.046420	5.56	2.30	2.38	5.56	0.4			**45501**
SOEX 050204EN	W83 13010.047935	5.56	2.30	2.38	5.56	0.4		**50501**	
SOEX 050204EN	W83 13010.048425	5.56	2.30	2.38	5.56	0.4	**30501**		
SOEX 060306EN	W83 18010.066420	6.35	2.65	3.18	6.35	0.6			**45601**
SOEX 060306EN	W83 18010.067935	6.35	2.65	3.18	6.35	0.6		**50601**	
SOEX 060306EN	W83 18010.068425	6.35	2.65	3.18	6.35	0.6	**30601**		
SOEX 07T308EN	W83 23010.086420	7.94	2.85	3.58	7.94	0.8			**45701**
SOEX 07T308EN	W83 23010.087935	7.94	2.85	3.58	7.94	0.8		**50701**	
SOEX 07T308EN	W83 23010.088425	7.94	2.85	3.58	7.94	0.8	**30701**		
SOEX 090408EN	W83 32010.086420	9.52	4.10	4.37	9.52	0.8			**45901**
SOEX 090408EN	W83 32010.087935	9.52	4.10	4.37	9.52	0.8		**50901**	
SOEX 090408EN	W83 32010.088425	9.52	4.10	4.37	9.52	0.8	**30901**		
SOEX 120508EN	W83 44010.086420	12.70	5.20	5.16	12.70	0.8			**46201**
SOEX 120508EN	W83 44010.087935	12.70	5.20	5.16	12.70	0.8		**51201**	
SOEX 120508EN	W83 44010.088425	12.70	5.20	5.16	12.70	0.8	**31201**		
P							●	●	●
M							●	●	●
K							●	●	●
N									
S								●	
H								●	
O									

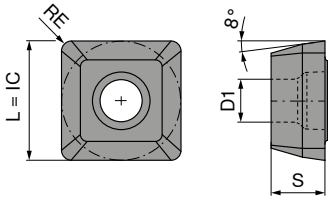
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -01 BK6420 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- Universal topography with stable cutting edge
- Main application area: Steel materials, corrosion and acid-resistant materials, and cast iron materials





-01 BK74	-01 BK7615	-01 BK6115
SOEX	SOEX	SOEX
IH	IH	IH
10 829 ...	10 822 ...	10 822 ...

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	10 829 ...	10 822 ...	10 822 ...
SOEX 050204EN	W83 13000.016115	5.56	2.30	2.38	5.56	0.4			**40501**
SOEX 050204EN	W83 13010.047615	5.56	2.30	2.38	5.56	0.4		**05501**	
SOEX 060306EN	W83 18000.096115	6.35	2.65	3.18	6.35	0.6			**40601**
SOEX 060306EN	W83 18000.0974	6.35	2.65	3.18	6.35	0.6	**60601**		
SOEX 060306EN	W83 18010.067615	6.35	2.65	3.18	6.35	0.6		**05601**	
SOEX 07T308EN	W83 23000.016115	7.94	2.85	3.58	7.94	0.8			**40701**
SOEX 07T308EN	W83 23010.087615	7.94	2.85	3.58	7.94	0.8		**05701**	
SOEX 090408EN	W83 32000.156115	9.52	4.10	4.37	9.52	0.8			**40901**
SOEX 090408EN	W83 32010.087615	9.52	4.10	4.37	9.52	0.8		**05901**	
SOEX 120508EN	W83 44000.186115	12.70	5.20	5.16	12.70	0.8			**41201**
SOEX 120508EN	W83 44010.087615	12.70	5.20	5.16	12.70	0.8		**06201**	
P							●		●
M							●		●
K								●	○
N									
S									
H									●
O									



→ Find the recommended values for cutting speeds here.



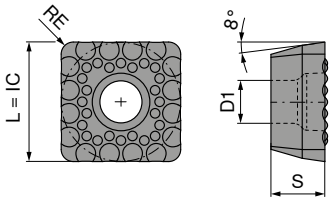
Information on solid drilling:
Only use SOEX -01 BK6115 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

Information on solid drilling:
Only use SOEX -01 BK7615 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- ▲ Dome-shaped chip former with extremely good chip breakage characteristics
- ▲ Excellent chip control even at low feeds
- ▲ Main application area: Steel materials, corrosion and acid-resistant materials





-03 BK8430

SOEX



-03 BK6730

SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...
SOEX 050204EN	W83 13030.048430	5.56	2.30	2.38	5.56	0.4	**00503**	
SOEX 060306EN	W83 18030.066730	6.35	2.65	3.18	6.35	0.6		**55603**
SOEX 060306EN	W83 18030.068430	6.35	2.65	3.18	6.35	0.6	**00603**	
SOEX 07T308EN	W83 23030.086730	7.94	2.85	3.58	7.94	0.8		**55703**
SOEX 07T308EN	W83 23030.088430	7.94	2.85	3.58	7.94	0.8	**00703**	
SOEX 090408EN	W83 32030.086730	9.52	4.10	4.37	9.52	0.8		**55903**
SOEX 090408EN	W83 32030.088430	9.52	4.10	4.37	9.52	0.8	**00903**	
SOEX 120508EN	W83 44030.086730	12.70	5.20	5.16	12.70	0.8		**56203**
SOEX 120508EN	W83 44030.088430	12.70	5.20	5.16	12.70	0.8	**01203**	

P	●	●
M	●	●
K		
N		
S		
H		
O		



→ Find the recommended values for cutting speeds here.

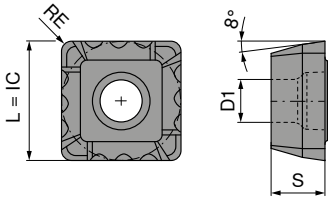


Information on solid drilling:
Only use SOEX -03 BK6730 as an outer cutting edge,
Use SOEX -03 BK8430 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

▲ Cutting edge geometry for long-chipping steel materials, corrosion and acid-resistant steel, and heat-resistant steels
▲ Reduced feed forces due to positive rake angle





SOEX SOEX SOEX SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...	IH 10 822 ...	IH 10 829 ...	IH 10 822 ...
SOEX 050204EN	W83 13130.047935	5.56	2.30	2.38	5.56	0.4		**50513**		
SOEX 050204EN	W83 13130.048425	5.56	2.30	2.38	5.56	0.4	**30513**			
SOEX 060306EN	W83 18130.067935	6.35	2.65	3.18	6.35	0.6		**50613**		
SOEX 060306EN	W83 18130.068425	6.35	2.65	3.18	6.35	0.6	**30613**			
SOEX 060308EN	W83 18130.088425	6.35	2.65	3.18	6.35	0.8	**38613**			
SOEX 07T308EN	W83 23000.0274	7.94	2.85	3.58	7.94	0.8			**60713**	
SOEX 07T308EN	W83 23130.086420	7.94	2.85	3.58	7.94	0.8				**40713**
SOEX 07T308EN	W83 23130.087935	7.94	2.85	3.58	7.94	0.8		**50713**		
SOEX 07T308EN	W83 23130.088425	7.94	2.85	3.58	7.94	0.8	**30713**			
SOEX 090408EN	W83 32130.087935	9.52	4.10	4.37	9.52	0.8		**50913**		
SOEX 090408EN	W83 32130.088425	9.52	4.10	4.37	9.52	0.8	**30913**			
SOEX 110508EN	W83 39130.087935	11.10	4.10	4.76	11.10	0.8		**51113**		
SOEX 110508EN	W83 39130.088425	11.10	4.10	4.76	11.10	0.8	**31113**			
SOEX 120508EN	W83 44130.087935	12.70	5.20	5.16	12.70	0.8		**51213**		
SOEX 120508EN	W83 44130.088425	12.70	5.20	5.16	12.70	0.8	**31213**			
P							●	●	●	●
M							●	●	●	●
K							●	●		●
N										
S										
H										
O										

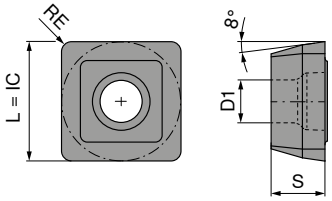
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -13 BK6420 as an outer cutting edge,
Use SOEX -13 BK8425 as a central cutting edge!

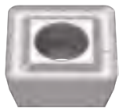
CoreLine – Carbide drilling indexable insert

SOEX

- ▲ Highly positive geometry for non-ferrous metals such as aluminum, copper, titanium, etc.
- ▲ Extremely sharp cutting edge
- ▲ Extremely good chip formation in aluminum with low silicon content
- ▲ Four-edged alternative to PCD-equipped cutting inserts



-21
BK7710



SOEX

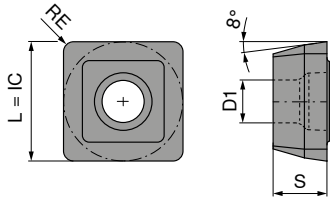
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.047710	5.56	2.30	2.38	5.56	0.4	**90521**
SOEX 060306EN	W83 18210.067710	6.35	2.65	3.18	6.35	0.6	**90621**
SOEX 07T308EN	W83 23210.087710	7.94	2.85	3.58	7.94	0.8	**90721**
SOEX 090408EN	W83 32210.087710	9.52	4.10	4.37	9.52	0.8	**90921**
SOEX 120508EN	W83 44210.087710	12.70	5.20	5.16	12.70	0.8	**91221**
P							
M							
K							
N							●
S							●
H							
O							●

→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

SOEX

▲ Highly positive geometry for corrosion and acid-resistant materials, and HRSA materials, Inconel, Nimonic, etc.



-21
BK7935



SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.047935	5.56	2.30	2.38	5.56	0.4	**50521**
SOEX 060306EN	W83 18210.067935	6.35	2.65	3.18	6.35	0.6	**51621**
SOEX 060308EN	W83 18210.087935	6.35	2.65	3.18	6.35	0.8	**50621**
SOEX 07T308EN	W83 23210.087935	7.94	2.85	3.58	7.94	0.8	**50721**
SOEX 090408EN	W83 32210.087935	9.52	4.10	4.37	9.52	0.8	**50921**
SOEX 110508EN	W83 39210.087935	11.10	4.10	4.76	11.10	0.8	**51121**
SOEX 120508EN	W83 44210.087935	12.70	5.20	5.16	12.70	0.8	**51221**
P							●
M							●
K							●
N							
S							●
H							
O							

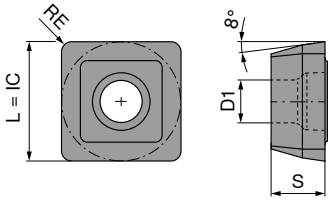
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -21 BK7935 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

▲ Positive geometry for steel materials
▲ Cutting edge rounded



-21
BK8430



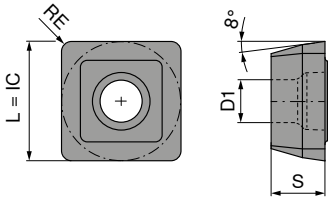
SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 822 ...
SOEX 050204EN	W83 13210.048430	5.56	2.30	2.38	5.56	0.4	**00521**
SOEX 060306EN	W83 18210.068430	6.35	2.65	3.18	6.35	0.6	**01621**
SOEX 060308EN	W83 18210.088430	6.35	2.65	3.18	6.35	0.8	**00621**
SOEX 07T308EN	W83 23210.088430	7.94	2.85	3.58	7.94	0.8	**00721**
SOEX 090408EN	W83 32210.088430	9.52	4.10	4.37	9.52	0.8	**00921**
SOEX 110508EN	W83 39210.088430	11.10	4.10	4.76	11.10	0.8	**01121**
SOEX 120508EN	W83 44210.088430	12.70	5.20	5.16	12.70	0.8	**01221**
P							●
M							●
K							●
N							●
S							
H							
O							●

→ Find the recommended values for cutting speeds here.

CoreLine – Carbide drilling indexable insert

SOEX





SOEX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 829 ...
SOEX 07T308EN	W83 23210.086130	7.94	2.85	3.58	7.94	0.8	**50721**
SOEX 090408EN	W83 32210.086130	9.52	4.10	4.37	9.52	0.8	**50921**

P	●
M	●
K	○
N	
S	●
H	
O	

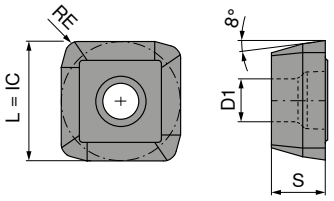
→ Find the recommended values for cutting speeds here.

Information on solid drilling:
Only use SOEX -21 BK6130 as an outer cutting edge,
Use SOEX -01 BK8425 as a central cutting edge!

CoreLine – Carbide drilling indexable insert

SOEX

- Cutting edge geometry for burr-minimizing drill exit for steel materials
- For cast iron materials (e.g., GG25), fractures at the drill exit can be reduced
- Using this geometry reduces the nominal tool diameter by 0.08 – 0.13 mm



-32 BK7935	-33 BK7935	-32 BK8425	-33 BK8425
			
SOEX	SOEX	SOEX	SOEX
IH	IH	IH	IH

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	10 822 ...	10 822 ...	10 822 ...	10 822 ...
SOEX 050204EN	W83 13320.047935	5.56	2.30	2.38	5.56	0.4	**50532**			
SOEX 050204EN	W83 13320.048425	5.56	2.30	2.38	5.56	0.4			**30532**	
SOEX 060306EN	W83 18330.068425	6.35	2.65	3.18	6.35	0.6			**30632**	
SOEX 07T308EN	W83 23330.087935	7.94	2.85	3.58	7.94	0.8		**50732**		
SOEX 07T308EN	W83 23330.088425	7.94	2.85	3.58	7.94	0.8				**30732**
SOEX 090408EN	W83 32320.087935	9.52	4.10	4.37	9.52	0.8	**50932**			
SOEX 090408EN	W83 32320.088425	9.52	4.10	4.37	9.52	0.8			**30932**	
SOEX 120508EN	W83 44320.087935	12.70	5.20	5.16	12.70	0.8	**51232**			
SOEX 120508EN	W83 44320.088425	12.70	5.20	5.16	12.70	0.8			**31232**	

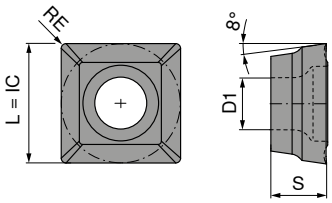
P	●	●	●	●
M	●	●	●	●
K			●	●
N				
S				
H				
O				

→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

SOHX

- Positive geometry for steel materials
- Cutting edge rounded, periphery ground
- Compatible with SOEX indexable inserts





SOHX



SOHX

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 618 ...	IH 62 618 ...
SOHX 090408EN	W82 32210.082730	9.52	4.1	4.37	9.52	0.8	**51801**	
SOHX 090408EN	W82 32210.088530	9.52	4.1	4.37	9.52	0.8		**61801**

	-21 BK2730	-21 BK8530
P	○	●
M	●	○
K	○	○
N		
S	●	●
H	●	●
O		

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -01					
	BK6115	BK6420	BK74	BK7615	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.					
P.1.1	230 - **300** - 370	245 - **320** - 380	230 - **300** - 370		195 - **250** - 310	200 - **260** - 320
P.1.2	230 - **300** - 370	245 - **320** - 380	230 - **300** - 370		170 - **220** - 270	200 - **260** - 320
P.1.3	210 - **270** - 330	170 - **220** - 260	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.1.4	195 - **250** - 310	225 - **290** - 340	195 - **250** - 310		195 - **250** - 310	195 - **250** - 310
P.1.5	230 - **300** - 370	215 - **280** - 330	230 - **300** - 370		155 - **200** - 245	210 - **270** - 330
P.2.1	210 - **270** - 330	255 - **330** - 390	210 - **270** - 330		210 - **270** - 330	210 - **270** - 330
P.2.2	200 - **260** - 320	245 - **320** - 380	200 - **260** - 320		200 - **260** - 320	200 - **260** - 320
P.2.3	185 - **240** - 295	170 - **220** - 260	185 - **240** - 295		125 - **160** - 195	140 - **180** - 220
P.2.4	155 - **200** - 245	140 - **180** - 210	155 - **200** - 245		100 - **130** - 160	115 - **150** - 185
P.3.1	155 - **200** - 245	155 - **200** - 235	155 - **200** - 245		110 - **140** - 170	125 - **160** - 195
P.3.2	125 - **160** - 195	125 - **160** - 190	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
P.3.3	110 - **140** - 170	115 - **150** - 175	110 - **140** - 170		85 - **110** - 135	90 - **120** - 150
P.4.1	170 - **220** - 270	170 - **220** - 260	170 - **220** - 270		115 - **150** - 185	140 - **180** - 220
P.4.2	125 - **160** - 195	125 - **160** - 190	125 - **160** - 195		90 - **120** - 150	100 - **130** - 160
M.1.1	170 - **220** - 270	140 - **185** - 220	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.2.1	170 - **220** - 270	140 - **185** - 220	170 - **220** - 270		125 - **160** - 195	115 - **150** - 185
M.3.1	155 - **200** - 245	125 - **160** - 190	155 - **200** - 245		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 295	155 - **200** - 235		200 - **260** - 305	115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 220	115 - **150** - 175		125 - **160** - 190	90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 195	155 - **200** - 235		140 - **180** - 210	115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 125	90 - **120** - 140		90 - **120** - 140	70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 150	115 - **150** - 175		110 - **140** - 165	85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 125	90 - **120** - 140		90 - **120** - 140	70 - **90** - 110	75 - **100** - 125
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1					45 - **60** - 75	
S.1.2					40 - **50** - 60	
S.2.1					45 - **60** - 75	
S.2.2					40 - **50** - 60	
S.2.3					25 - **30** - 35	
S.3.1						
S.3.2						
S.3.3						
H.1.1	40 - **50** - 60				40 - **50** - 60	
H.1.2	35 - **45** - 55				25 - **35** - 45	
H.1.3						
H.1.4						
H.2.1	75 - **100** - 125				60 - **75** - 90	
H.3.1	40 - **50** - 60				25 - **35** - 45	
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -03	
	BK6730	BK8430
	v_c (m/min) min. – Recommended – max.	
P.1.1	245 - **320** - 380	200 - **260** - 320
P.1.2	245 - **320** - 380	200 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310
P.1.5	215 - **280** - 330	210 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320
P.2.3	170 - **220** - 260	140 - **180** - 220
P.2.4	140 - **180** - 210	115 - **150** - 185
P.3.1	155 - **200** - 235	125 - **160** - 195
P.3.2	125 - **160** - 190	100 - **130** - 160
P.3.3	115 - **150** - 175	90 - **120** - 150
P.4.1	170 - **220** - 260	140 - **180** - 220
P.4.2	125 - **160** - 190	100 - **130** - 160
M.1.1	140 - **185** - 220	115 - **150** - 185
M.2.1	140 - **185** - 220	115 - **150** - 185
M.3.1	125 - **160** - 190	110 - **140** - 170
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -13			
	BK6420	BK74	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.			
P.1.1	245 - **320** - 380	230 - **300** - 370	195 - **250** - 310	255 - **260** - 320
P.1.2	245 - **320** - 380	230 - **300** - 370	170 - **220** - 270	255 - **260** - 320
P.1.3	170 - **220** - 260	210 - **270** - 330	210 - **270** - 330	175 - **270** - 330
P.1.4	225 - **290** - 340	195 - **250** - 310	195 - **250** - 310	200 - **250** - 310
P.1.5	215 - **280** - 330	230 - **300** - 370	155 - **200** - 245	200 - **270** - 330
P.2.1	255 - **330** - 390	210 - **270** - 330	210 - **270** - 330	210 - **270** - 330
P.2.2	245 - **320** - 380	200 - **260** - 320	200 - **260** - 320	195 - **260** - 320
P.2.3	170 - **220** - 260	185 - **240** - 295	125 - **160** - 195	210 - **180** - 220
P.2.4	140 - **180** - 210	155 - **200** - 245	100 - **130** - 160	210 - **150** - 185
P.3.1	155 - **200** - 235	155 - **200** - 245	110 - **140** - 170	200 - **160** - 195
P.3.2	125 - **160** - 190	125 - **160** - 195	90 - **120** - 150	140 - **130** - 160
P.3.3	115 - **150** - 175	110 - **140** - 170	85 - **110** - 135	115 - **120** - 150
P.4.1	170 - **220** - 260	170 - **220** - 270	115 - **150** - 185	125 - **180** - 220
P.4.2	125 - **160** - 190	125 - **160** - 195	90 - **120** - 150	100 - **130** - 160
M.1.1	140 - **185** - 220	170 - **220** - 270	125 - **160** - 195	90 - **150** - 185
M.2.1	140 - **185** - 220	170 - **220** - 270	125 - **160** - 195	140 - **150** - 185
M.3.1	125 - **160** - 190	155 - **200** - 245	115 - **150** - 185	100 - **140** - 170
K.1.1	155 - **200** - 235		115 - **150** - 185	125 - **160** - 190
K.1.2	115 - **150** - 175		90 - **120** - 150	90 - **120** - 140
K.2.1	155 - **200** - 235		115 - **150** - 185	125 - **160** - 190
K.2.2	90 - **120** - 140		70 - **90** - 110	75 - **100** - 120
K.3.1	115 - **150** - 175		85 - **110** - 135	90 - **120** - 140
K.3.2	90 - **120** - 140		70 - **90** - 110	75 - **100** - 125
N.1.1				
N.1.2				
N.2.1				
N.2.2				
N.2.3				
N.3.1				
N.3.2				
N.3.3				
N.4.1				
S.1.1				
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1				
S.3.2				
S.3.3				
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1				
O.1.2				
O.2.1				
O.2.2				
O.3.1				

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -21			
	BK6130	BK7710	BK7935	BK8430
	v_c (m/min) min. – Recommended – max.			
P.1.1	225 - **290** - 340		195 - **250** - 310	200 - **260** - 320
P.1.2	225 - **290** - 340		170 - **220** - 270	200 - **260** - 320
P.1.3	200 - **260** - 305		210 - **270** - 330	210 - **270** - 330
P.1.4	200 - **260** - 305		195 - **250** - 310	195 - **250** - 310
P.1.5	225 - **290** - 340		155 - **200** - 245	210 - **270** - 330
P.2.1	200 - **260** - 305		210 - **270** - 330	210 - **270** - 330
P.2.2	195 - **250** - 295		200 - **260** - 320	200 - **260** - 320
P.2.3	175 - **230** - 270		125 - **160** - 195	140 - **180** - 220
P.2.4	145 - **190** - 225		100 - **130** - 160	115 - **150** - 185
P.3.1	145 - **190** - 225		110 - **140** - 170	125 - **160** - 195
P.3.2	115 - **150** - 175		90 - **120** - 150	100 - **130** - 160
P.3.3	100 - **130** - 155		85 - **110** - 135	90 - **120** - 150
P.4.1	160 - **210** - 250		115 - **150** - 185	140 - **180** - 220
P.4.2	115 - **150** - 175		90 - **120** - 150	100 - **130** - 160
M.1.1	160 - **210** - 250		125 - **160** - 195	115 - **150** - 185
M.2.1	160 - **210** - 250		125 - **160** - 195	115 - **150** - 185
M.3.1	145 - **190** - 225		115 - **150** - 185	110 - **140** - 170
K.1.1	185 - 240 - 285		115 - **150** - 185	125 - **160** - 190
K.1.2	140 - 180 - 210		90 - **120** - 150	90 - **120** - 140
K.2.1	125 - 160 - 190		115 - **150** - 185	125 - **160** - 190
K.2.2	75 - 100 - 120		70 - **90** - 110	75 - **100** - 120
K.3.1	90 - 120 - 140		85 - **110** - 135	90 - **120** - 140
K.3.2	75 - 100 - 120		70 - **90** - 110	75 - **100** - 125
N.1.1		385 - **500** - 615		310 - **400** - 490
N.1.2		385 - **500** - 615		310 - **400** - 490
N.2.1		215 - **280** - 345		195 - **250** - 310
N.2.2		215 - **280** - 345		195 - **250** - 310
N.2.3		195 - **250** - 310		175 - **230** - 285
N.3.1		195 - **250** - 310		155 - **200** - 245
N.3.2		215 - **280** - 345		170 - **220** - 270
N.3.3		300 - **390** - 480		255 - **330** - 405
N.4.1		195 - **250** - 310		155 - **200** - 245
S.1.1	45 - **60** - 75		45 - **60** - 75	
S.1.2	40 - **50** - 60		40 - **50** - 60	
S.2.1	45 - **60** - 75		45 - **60** - 75	
S.2.2	40 - **50** - 60		40 - **50** - 60	
S.2.3	25 - **30** - 35		25 - **30** - 35	
S.3.1		75 - **100** - 125		
S.3.2		60 - **80** - 100		
S.3.3		40 - **50** - 60		
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1		75 - **100** - 125		
O.1.2		75 - **100** - 125		
O.2.1				155 - **200** - 245
O.2.2		75 - **100** - 125		155 - **200** - 245
O.3.1		75 - **100** - 125		155 - **200** - 245

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -32, -33	
	BK7935	BK8425
	v_c (m/min) min. – Recommended – max.	
P.1.1	170 - **220** - 270	255 - **260** - 320
P.1.2	145 - **190** - 235	255 - **260** - 320
P.1.3	185 - **240** - 295	175 - **270** - 330
P.1.4	170 - **220** - 270	200 - **250** - 310
P.1.5	130 - **170** - 210	200 - **270** - 330
P.2.1	185 - **240** - 295	210 - **270** - 330
P.2.2	175 - **230** - 285	195 - **260** - 320
P.2.3	100 - **130** - 160	210 - **180** - 220
P.2.4	75 - **100** - 125	210 - **150** - 185
P.3.1	85 - **110** - 135	200 - **160** - 195
P.3.2	70 - **90** - 110	140 - **130** - 160
P.3.3	60 - **80** - 100	115 - **120** - 150
P.4.1	90 - **120** - 150	125 - **180** - 220
P.4.2	85 - **110** - 135	100 - **130** - 160
M.1.1	100 - **130** - 160	90 - **150** - 185
M.2.1	100 - **130** - 160	140 - **150** - 185
M.3.1	90 - **120** - 150	100 - **140** - 170
K.1.1		125 - **160** - 190
K.1.2		90 - **120** - 140
K.2.1		125 - **160** - 190
K.2.2		75 - **100** - 120
K.3.1		90 - **120** - 140
K.3.2		75 - **100** - 120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -01					
	BK6115	BK6420	BK74	BK7615	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.					
P.1.1	755 - **985** - 1215	805 - **1050** - 1245	755 - **985** - 1215		640 - **820** - 1015	655 - **855** - 1050
P.1.2	755 - **985** - 1215	805 - **1050** - 1245	755 - **985** - 1215		560 - **720** - 885	655 - **855** - 1050
P.1.3	690 - **885** - 1085	560 - **720** - 855	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.1.4	640 - **820** - 1015	740 - **950** - 1115	640 - **820** - 1015		640 - **820** - 1015	640 - **820** - 1015
P.1.5	755 - **985** - 1215	705 - **920** - 1085	755 - **985** - 1215		510 - **655** - 805	690 - **885** - 1085
P.2.1	690 - **885** - 1085	835 - **1085** - 1280	690 - **885** - 1085		690 - **885** - 1085	690 - **885** - 1085
P.2.2	655 - **855** - 1050	805 - **1050** - 1245	655 - **855** - 1050		655 - **855** - 1050	655 - **855** - 1050
P.2.3	605 - **785** - 970	560 - **720** - 855	605 - **785** - 970		410 - **525** - 640	460 - **590** - 720
P.2.4	510 - **655** - 805	460 - **590** - 690	510 - **655** - 805		330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 805	510 - **655** - 770	510 - **655** - 805		360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 640	410 - **525** - 625	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
P.3.3	360 - **460** - 560	375 - **490** - 575	360 - **460** - 560		280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 885	560 - **720** - 855	560 - **720** - 885		375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 640	410 - **525** - 625	410 - **525** - 640		295 - **395** - 490	330 - **425** - 525
M.1.1	560 - **720** - 885	460 - **605** - 720	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.2.1	560 - **720** - 885	460 - **605** - 720	560 - **720** - 885		410 - **525** - 640	375 - **490** - 605
M.3.1	510 - **655** - 805	410 - **525** - 625	510 - **655** - 805		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 970	510 - **655** - 770		655 - **855** - 1000	375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 720	375 - **490** - 575		410 - **525** - 625	295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 640	510 - **655** - 770		460 - **590** - 690	375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 410	295 - **395** - 460		295 - **395** - 460	230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 490	375 - **490** - 575		360 - **460** - 540	280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 410	295 - **395** - 460		295 - **395** - 460	230 - **295** - 360	245 - **330** - 395
N.1.1						
N.1.2						
N.2.1						
N.2.2						
N.2.3						
N.3.1						
N.3.2						
N.3.3						
N.4.1						
S.1.1					150 - **195** - 245	
S.1.2					130 - **165** - 195	
S.2.1					150 - **195** - 245	
S.2.2					130 - **165** - 195	
S.2.3					80 - **100** - 115	
S.3.1						
S.3.2						
S.3.3						
H.1.1	130 - **165** - 195				130 - **165** - 195	
H.1.2	115 - **150** - 180				80 - **115** - 150	
H.1.3						
H.1.4						
H.2.1	245 - **330** - 410				195 - **245** - 295	
H.3.1	130 - **165** - 195				80 - **115** - 150	
O.1.1						
O.1.2						
O.2.1						
O.2.2						
O.3.1						

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Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -03	
	BK6730	BK8430
	v_c (ft/min) min. – Recommended – max.	
P.1.1	805 - **1050** - 1245	655 - **855** - 1050
P.1.2	805 - **1050** - 1245	655 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015
P.1.5	705 - **920** - 1085	690 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050
P.2.3	560 - **720** - 855	460 - **590** - 720
P.2.4	460 - **590** - 690	375 - **490** - 605
P.3.1	510 - **655** - 770	410 - **525** - 640
P.3.2	410 - **525** - 625	330 - **425** - 525
P.3.3	375 - **490** - 575	295 - **395** - 490
P.4.1	560 - **720** - 855	460 - **590** - 720
P.4.2	410 - **525** - 625	330 - **425** - 525
M.1.1	460 - **605** - 720	375 - **490** - 605
M.2.1	460 - **605** - 720	375 - **490** - 605
M.3.1	410 - **525** - 625	360 - **460** - 560
K.1.1		
K.1.2		
K.2.1		
K.2.2		
K.3.1		
K.3.2		
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -13			
	BK6420	BK74	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.			
P.1.1	805 - **1050** - 1245	755 - **985** - 1215	640 - **820** - 1015	655 - **855** - 1050
P.1.2	805 - **1050** - 1245	755 - **985** - 1215	560 - **720** - 885	655 - **855** - 1050
P.1.3	560 - **720** - 855	690 - **885** - 1085	690 - **885** - 1085	690 - **885** - 1085
P.1.4	740 - **950** - 1115	640 - **820** - 1015	640 - **820** - 1015	640 - **820** - 1015
P.1.5	705 - **920** - 1085	755 - **985** - 1215	510 - **655** - 805	690 - **885** - 1085
P.2.1	835 - **1085** - 1280	690 - **885** - 1085	690 - **885** - 1085	690 - **885** - 1085
P.2.2	805 - **1050** - 1245	655 - **855** - 1050	655 - **855** - 1050	655 - **855** - 1050
P.2.3	560 - **720** - 855	605 - **785** - 970	410 - **525** - 640	460 - **590** - 720
P.2.4	460 - **590** - 690	510 - **655** - 805	330 - **425** - 525	375 - **490** - 605
P.3.1	510 - **655** - 770	510 - **655** - 805	360 - **460** - 560	410 - **525** - 640
P.3.2	410 - **525** - 625	410 - **525** - 640	295 - **395** - 490	330 - **425** - 525
P.3.3	375 - **490** - 575	360 - **460** - 560	280 - **360** - 445	295 - **395** - 490
P.4.1	560 - **720** - 855	560 - **720** - 885	375 - **490** - 605	460 - **590** - 720
P.4.2	410 - **525** - 625	410 - **525** - 640	295 - **395** - 490	330 - **425** - 525
M.1.1	460 - **605** - 720	560 - **720** - 885	410 - **525** - 640	375 - **490** - 605
M.2.1	460 - **605** - 720	560 - **720** - 885	410 - **525** - 640	375 - **490** - 605
M.3.1	410 - **525** - 625	510 - **655** - 805	375 - **490** - 605	360 - **460** - 560
K.1.1	510 - **655** - 770		375 - **490** - 605	410 - **525** - 625
K.1.2	375 - **490** - 575		295 - **395** - 490	295 - **395** - 460
K.2.1	510 - **655** - 770		375 - **490** - 605	410 - **525** - 625
K.2.2	295 - **395** - 460		230 - **295** - 360	245 - **330** - 395
K.3.1	375 - **490** - 575		280 - **360** - 445	295 - **395** - 460
K.3.2	295 - **395** - 460		230 - **295** - 360	245 - **330** - 395
N.1.1				
N.1.2				
N.2.1				
N.2.2				
N.2.3				
N.3.1				
N.3.2				
N.3.3				
N.4.1				
S.1.1				
S.1.2				
S.2.1				
S.2.2				
S.2.3				
S.3.1				
S.3.2				
S.3.3				
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1				
O.1.2				
O.2.1				
O.2.2				
O.3.1				

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ..., 10 829 ... SOEX -21			
	BK6130	BK7710	BK7935	BK8430
	v_c (ft/min) min. – Recommended – max.			
P.1.1	740 - **950** - 1115		640 - **820** - 1015	655 - **855** - 1050
P.1.2	740 - **950** - 1115		560 - **720** - 885	655 - **855** - 1050
P.1.3	655 - **855** - 1000		690 - **885** - 1085	690 - **885** - 1085
P.1.4	655 - **855** - 1000		640 - **820** - 1015	640 - **820** - 1015
P.1.5	740 - **950** - 1115		510 - **655** - 805	690 - **885** - 1085
P.2.1	655 - **855** - 1000		690 - **885** - 1085	690 - **885** - 1085
P.2.2	640 - **820** - 970		655 - **855** - 1050	655 - **855** - 1050
P.2.3	575 - **755** - 885		410 - **525** - 640	460 - **590** - 720
P.2.4	475 - **625** - 740		330 - **425** - 525	375 - **490** - 605
P.3.1	475 - **625** - 740		360 - **460** - 560	410 - **525** - 640
P.3.2	375 - **490** - 575		295 - **395** - 490	330 - **425** - 525
P.3.3	330 - **425** - 510		280 - **360** - 445	295 - **395** - 490
P.4.1	525 - **690** - 820		375 - **490** - 605	460 - **590** - 720
P.4.2	375 - **490** - 575		295 - **395** - 490	330 - **425** - 525
M.1.1	525 - **690** - 820		410 - **525** - 640	375 - **490** - 605
M.2.1	525 - **690** - 820		410 - **525** - 640	375 - **490** - 605
M.3.1	475 - **625** - 740		375 - **490** - 605	360 - **460** - 560
K.1.1	605 - 785 - 935		375 - **490** - 605	410 - **525** - 625
K.1.2	460 - 590 - 690		295 - **395** - 490	295 - **395** - 460
K.2.1	410 - 525 - 625		375 - **490** - 605	410 - **525** - 625
K.2.2	245 - 330 - 395		230 - **295** - 360	245 - **330** - 395
K.3.1	295 - 395 - 460		280 - **360** - 445	295 - **395** - 460
K.3.2	245 - 330 - 395		230 - **295** - 360	245 - **330** - 395
N.1.1		1265 - **1640** - 2020		1015 - **1310** - 1610
N.1.2		1265 - **1640** - 2020		1015 - **1310** - 1610
N.2.1		705 - **920** - 1130		640 - **820** - 1015
N.2.2		705 - **920** - 1130		640 - **820** - 1015
N.2.3		640 - **820** - 1015		575 - **755** - 935
N.3.1		640 - **820** - 1015		510 - **655** - 805
N.3.2		705 - **920** - 1130		560 - **720** - 885
N.3.3		985 - **1280** - 1575		835 - **1085** - 1330
N.4.1		640 - **820** - 1015		510 - **655** - 805
S.1.1	150 - **195** - 245		150 - **195** - 245	
S.1.2	130 - **165** - 195		130 - **165** - 195	
S.2.1	150 - **195** - 245		150 - **195** - 245	
S.2.2	130 - **165** - 195		130 - **165** - 195	
S.2.3	80 - **100** - 115		80 - **100** - 115	
S.3.1		245 - **330** - 410		
S.3.2		195 - **260** - 330		
S.3.3		130 - **165** - 195		
H.1.1				
H.1.2				
H.1.3				
H.1.4				
H.2.1				
H.3.1				
O.1.1		245 - **330** - 410		
O.1.2		245 - **330** - 410		
O.2.1				510 - **655** - 805
O.2.2		245 - **330** - 410		510 - **655** - 805
O.3.1		245 - **330** - 410		510 - **655** - 805

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	10 822 ... SOEX -32, -33	
	BK7935	BK8425
	v_c (ft/min) min. – Recommended – max.	
P.1.1	560 - **720** - 885	655 - **855** - 1050
P.1.2	475 - **625** - 770	655 - **855** - 1050
P.1.3	605 - **785** - 970	690 - **885** - 1085
P.1.4	560 - **720** - 885	640 - **820** - 1015
P.1.5	425 - **560** - 690	690 - **885** - 1085
P.2.1	605 - **785** - 970	690 - **885** - 1085
P.2.2	575 - **755** - 935	655 - **855** - 1050
P.2.3	330 - **425** - 525	460 - **590** - 720
P.2.4	245 - **330** - 410	375 - **490** - 605
P.3.1	280 - **360** - 445	410 - **525** - 640
P.3.2	230 - **295** - 360	330 - **425** - 525
P.3.3	195 - **260** - 330	295 - **395** - 490
P.4.1	295 - **395** - 490	460 - **590** - 720
P.4.2	280 - **360** - 445	330 - **425** - 525
M.1.1	330 - **425** - 525	375 - **490** - 605
M.2.1	330 - **425** - 525	375 - **490** - 605
M.3.1	295 - **395** - 490	360 - **460** - 560
K.1.1		410 - **525** - 625
K.1.2		295 - **395** - 460
K.2.1		410 - **525** - 625
K.2.2		245 - **330** - 395
K.3.1		295 - **395** - 460
K.3.2		245 - **330** - 395
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1		
S.1.2		
S.2.1		
S.2.2		
S.2.3		
S.3.1		
S.3.2		
S.3.3		
H.1.1		
H.1.2		
H.1.3		
H.1.4		
H.2.1		
H.3.1		
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

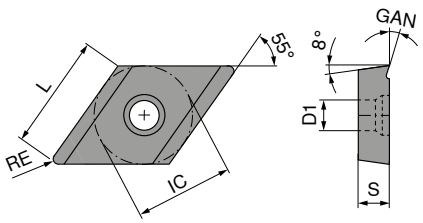
Index	62 618 ... SOHX -21	
	BK2730	BK8530
	v_c (m/min)	
P.1.1	200	**200**
P.1.2	200	**200**
P.1.3	200	**200**
P.1.4	180	**180**
P.1.5	180	**180**
P.2.1	160	**160**
P.2.2	160	**160**
P.2.3	160	**160**
P.2.4	160	**160**
P.3.1	140	**140**
P.3.2	140	**140**
P.3.3	140	**140**
P.4.1	120	**120**
P.4.2	120	**120**
M.1.1	**160**	160
M.2.1	**140**	140
M.3.1	**100**	100
K.1.1	180	180
K.1.2	160	160
K.2.1	140	140
K.2.2	140	140
K.3.1	120	120
K.3.2	120	120
N.1.1		
N.1.2		
N.2.1		
N.2.2		
N.2.3		
N.3.1		
N.3.2		
N.3.3		
N.4.1		
S.1.1	**60**	**60**
S.1.2	**50**	**50**
S.2.1	**60**	**60**
S.2.2	**50**	**50**
S.2.3	**30**	**30**
S.3.1	**100**	**100**
S.3.2	**80**	**80**
S.3.3	**50**	**50**
H.1.1	**100**	**100**
H.1.2	**80**	**80**
H.1.3	**50**	**50**
H.1.4		
H.2.1	**100**	**100**
H.3.1	**80**	**80**
O.1.1		
O.1.2		
O.2.1		
O.2.2		
O.3.1		

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

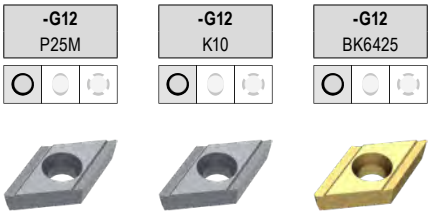
CoreLine – HM indexable insert

DOHT

▲ Extremely smooth-cutting thanks to the positive cutting edge geometry
▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces



Left indexable insert



Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	F DOHT IH 62 612 ...	F DOHT IH 62 612 ...	F DOHT IH 62 612 ...
DOHT 070202EL	W60 18120.0203	7.4	2.8	2.4	6.35	12°	0.2	**40202** [1]		
DOHT 070202FL	W60 18120.0221	7.4	2.8	2.4	6.35	12°	0.2		**50600**	
DOHT 070202EL	W60 18120.026425	7.4	2.8	2.4	6.35	12°	0.2			**10202**
DOHT 070204FL	W60 18120.0421	7.4	2.8	2.4	6.35	12°	0.4		**51400**	
DOHT 11T302FL	W60 32120.0221	11.2	4.3	4.0	9.52	12°	0.2		**52600**	
DOHT 11T304EL	W60 32120.0403	11.2	4.3	4.0	9.52	12°	0.4	**43002**		
DOHT 11T304FL	W60 32120.0421	11.2	4.3	4.0	9.52	12°	0.4		**53400**	
DOHT 11T304EL	W60 32120.046425	11.2	4.3	4.0	9.52	12°	0.4			**13002**
DOHT 11T308EL	W60 32120.086425	11.2	4.3	4.0	9.52	12°	0.8			**13802** [1]
P								●		●
M								●		●
K										●
N									●	
S									●	
H										
O									●	

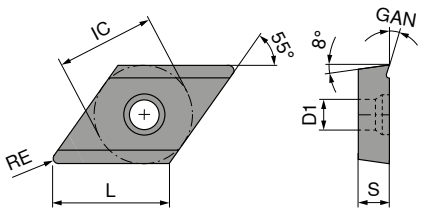
1) Not in stock

→ Find the recommended values for cutting speeds here.

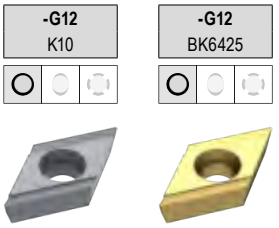
CoreLine – HM indexable insert

DOHT

▲ Extremely smooth-cutting thanks to the positive cutting edge geometry
▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces



Right indexable insert



Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	F DOHT IH 62 612 ...	F DOHT IH 62 612 ...
DOHT 070202FR	W60 18420.0221	7.4	2.8	2.4	6.35	12°	0.2	**50800**	
DOHT 070204FR	W60 18420.0421	7.4	2.8	2.4	6.35	12°	0.4	**51600**	
DOHT 11T302FR	W60 32420.0221	11.2	4.3	4.0	9.52	12°	0.2	**52800**	
DOHT 11T304FR	W60 32420.0421	11.2	4.3	4.0	9.52	12°	0.4	**53600**	
DOHT 11T304ER	W60 32420.046425	11.2	4.3	4.0	9.52	12°	0.4		**13202**

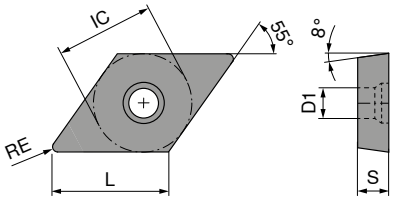
P		●
M		●
K		●
N	●	
S	●	
H		
O	●	

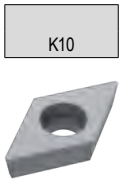
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

DOHW

▲ Particularly suitable for finishing long overhanging machining operations and thin-walled workpieces





DOHW

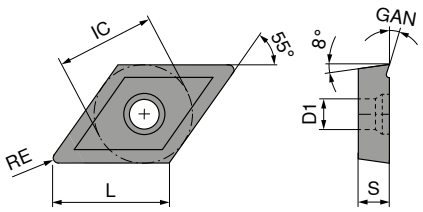
Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	RE mm	IH 62 616 ...
DOHW 11T304	W60 32600.0421	11.2	4.3	4.0	9.52	0.4	**52600**
P							
M							
K							●
N							
S							
H							
O							

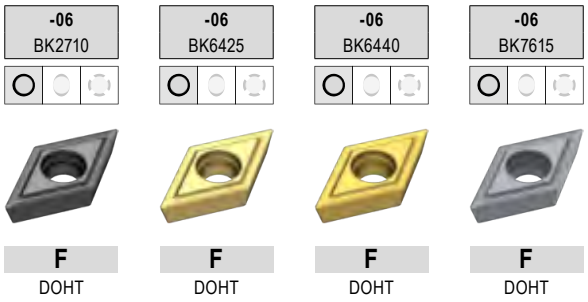
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

DOHT

▲ Universal usage thanks to the sintered chip former
▲ Positive cutting edge geometry and periphery-ground flanks ensure low cutting pressures





Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 613 ...	IH 62 613 ...	IH 62 613 ...	IH 62 613 ...
DOHT 070202EN	W79 18060.026425	7.4	2.8	2.4	6.35	12°	0.2		**10202**		
DOHT 070204EN	W79 18060.042710	7.4	2.8	2.4	6.35	12°	0.4	**10400**			
DOHT 070204EN	W79 18060.046425	7.4	2.8	2.4	6.35	12°	0.4		**10402**		
DOHT 070204EN	W79 18060.046440	7.4	2.8	2.4	6.35	12°	0.4			**20402**	
DOHT 070204EN	W79 18060.047615	7.4	2.8	2.4	6.35	12°	0.4				**80400**
DOHT 070208EN	W79 18060.086425	7.4	2.8	2.4	6.35	12°	0.8		**10602**		
DOHT 11T302EN	W79 32060.026425	11.2	4.3	4.0	9.52	12°	0.2		**12602**		
DOHT 11T304EN	W79 32060.046425	11.2	4.3	4.0	9.52	12°	0.4		**12802**		
DOHT 11T304EN	W79 32060.046440	11.2	4.3	4.0	9.52	12°	0.4			**22802**	
DOHT 11T308EN	W79 32060.082710	11.2	4.3	4.0	9.52	12°	0.8	**13000**			
DOHT 11T308EN	W79 32060.086425	11.2	4.3	4.0	9.52	12°	0.8		**13002**		
DOHT 11T308EN	W79 32060.086440	11.2	4.3	4.0	9.52	12°	0.8			**23002**	

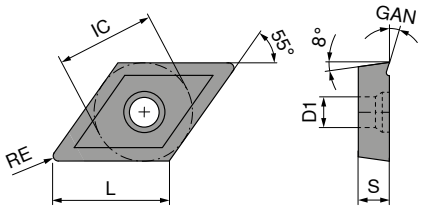
P	●	●	●	
M	●	●	●	
K	●	●		●
N				
S				
H				
O				

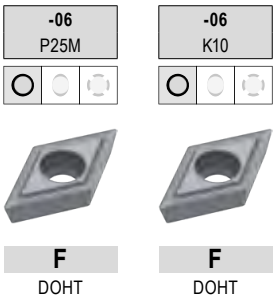
→ Find the recommended values for cutting speeds here.

CoreLine – HM indexable insert

DOHT

▲ Universal usage thanks to the sintered chip former
▲ Positive cutting edge geometry and periphery-ground flanks ensure low cutting pressures





Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 613 ...	IH 62 613 ...
DOHT 070202EN	W79 18060.0203	7.4	2.8	2.4	6.35	12°	0.2	**40202**	
DOHT 070202FN	W79 18060.0221	7.4	2.8	2.4	6.35	12°	0.2		**50200**
DOHT 070204EN	W79 18060.0403	7.4	2.8	2.4	6.35	12°	0.4	**40402**	
DOHT 070204FN	W79 18060.0421	7.4	2.8	2.4	6.35	12°	0.4		**50400**
DOHT 11T302FN	W79 32060.0221	11.2	4.3	4.0	9.52	12°	0.2		**52600**
DOHT 11T304EN	W79 32060.0403	11.2	4.3	4.0	9.52	12°	0.4	**42802**	
DOHT 11T304FN	W79 32060.0421	11.2	4.3	4.0	9.52	12°	0.4		**52800**

P	●	
M	●	
K		
N		●
S		●
H		
O		●

→ Find the recommended values for cutting speeds here.

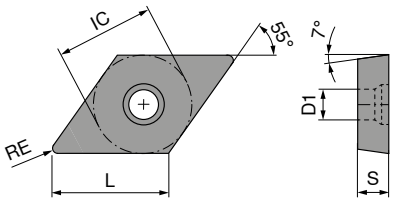
Cutting data standard values for indexable inserts – guideline recommendation (ISO standard)

Index	62 612 ..., 62 613 ..., 62 616 ... DOHT, DOHW						
	F K10	E K10	P25M	BK2710	BK6425	BK6440	BK7615
	v_c (m/min)						
P.1.1			100	230	320	240	
P.1.2			100	230	320	240	
P.1.3			90	230	220	220	
P.1.4			90	210	290	220	
P.1.5			90	210	280	220	
P.2.1			80	180	330	200	
P.2.2			80	180	320	200	
P.2.3			80	180	220	200	
P.2.4			80	180	180	200	
P.3.1			75	160	200	180	
P.3.2			70	160	160	160	
P.3.3			70	160	150	160	
P.4.1			60	140	220	140	
P.4.2			60	140	160	140	
M.1.1			90	180	185	200	
M.2.1			70	160	185	180	
M.3.1			70	120	160	160	
K.1.1		210		210	200		290
K.1.2		140		180	150		290
K.2.1		120		160	200		270
K.2.2		120		160	120		250
K.3.1		100		140	150		220
K.3.2		80		140	120		220
N.1.1	250						
N.1.2	250						
N.2.1	250						
N.2.2	250						
N.2.3	250						
N.3.1	230						
N.3.2	230						
N.3.3	230						
N.4.1	230						
S.1.1	20						
S.1.2	20						
S.2.1	20						
S.2.2	20						
S.2.3	20						
S.3.1	60						
S.3.2	30						
S.3.3	30						
H.1.1							
H.1.2							
H.1.3							
H.1.4							
H.2.1							
H.3.1							
O.1.1	100						
O.1.2	100						
O.2.1							
O.2.2	100						
O.3.1	100						

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

SpinTools – HM indexable insert

DCGW



BK6110



DCGW

Designation	L mm	D1 mm	S mm	IC mm	RE mm	XX 62 599 ...
DCGW 11T312EN	11.6	4.3	4.0	9.52	1.2	**01100**
DCGW 150412EN	15.5	5.5	4.76	12.70	1.2	**01500**

P	●
M	●
K	●
N	
S	
H	●
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (ISO standard)

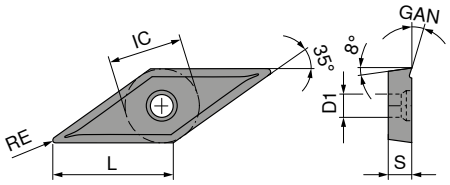
Index	62 599 ... DCGW BK6110 v_c (m/min)
P.1.1	300
P.1.2	300
P.1.3	300
P.1.4	300
P.1.5	300
P.2.1	270
P.2.2	270
P.2.3	270
P.2.4	270
P.3.1	250
P.3.2	250
P.3.3	250
P.4.1	220
P.4.2	220
M.1.1	220
M.2.1	220
M.3.1	200
K.1.1	290
K.1.2	290
K.2.1	270
K.2.2	250
K.3.1	220
K.3.2	220
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	100
H.1.2	80
H.1.3	50
H.1.4	
H.2.1	100
H.3.1	80
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

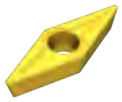
CoreLine – HM indexable insert

VOHT

- Universal usage thanks to the sintered chip former
- Positive cutting edge geometry and periphery-ground flanks ensure low cutting pressures



-07
BK66



VOHT

Designation	Product Reference No.	L mm	D1 mm	S mm	IC mm	GAN	RE mm	IH 62 617 ...
VOHT 110304	W78 18070.0466	11	2.8	3.18	6.35	12°	0.4	**41401**
VOHT 160404	W78 32070.0466	16	4.4	4.76	9.52	12°	0.4	**43801**
VOHT 160408	W78 32070.0866	16	4.4	4.76	9.52	12°	0.8	**44201**

P	●
M	●
K	
N	
S	
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (ISO standard)

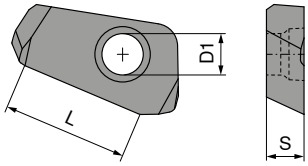
Index	62 617 ... VOHT -07
	BK66
	v_c (m/min)
P.1.1	240
P.1.2	240
P.1.3	220
P.1.4	220
P.1.5	220
P.2.1	200
P.2.2	200
P.2.3	200
P.2.4	200
P.3.1	180
P.3.2	160
P.3.3	160
P.4.1	140
P.4.2	140
M.1.1	200
M.2.1	180
M.3.1	160
K.1.1	
K.1.2	
K.2.1	
K.2.2	
K.3.1	
K.3.2	
N.1.1	
N.1.2	
N.2.1	
N.2.2	
N.2.3	
N.3.1	
N.3.2	
N.3.3	
N.4.1	
S.1.1	
S.1.2	
S.2.1	
S.2.2	
S.2.3	
S.3.1	
S.3.2	
S.3.3	
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – Carbide drilling indexable insert

XOHX

▲ Tangential, stable geometry for cast iron materials





Designation	Product Reference No.	for	L mm	D1 mm	S mm	XOHX IH 62 615 ...	XOHX IH 62 615 ...	XOHX IH 62 615 ...
XOHX 0802ER-20,5	H60 20500.84	Ø 20,5	8	2.5	2.5		**30203**	
XOHX 1003ER-21,0	H60 21000.2715	Ø 21,0	10	3.3	3.0	**70403** [1]		
XOHX 1003ER-21,0	H60 21000.84	Ø 21,0	10	3.3	3.0		**30403**	
XOHX 1003ER-21,0	H60 21000.8440	Ø 21,0	10	3.3	3.0			**00400**
XOHX 1003ER-21,1	H60 21100.84	Ø 21,1	10	3.3	3.0		**30603**	
XOHX 1003ER-21,5	H60 21500.2715	Ø 21,5	10	3.3	3.0	**70803**		
XOHX 1003ER-21,5	H60 21500.8440	Ø 21,5	10	3.3	3.0			**00800**
XOHX 1003ER-21,8	H60 21800.2715	Ø 21,8	10	3.3	3.0	**71003**		
XOHX 1003ER-22,0	H60 22000.2715	Ø 22,0	10	3.3	3.0	**71203**		
XOHX 1003ER-22,0	H60 22000.84	Ø 22,0	10	3.3	3.0		**31203**	
XOHX 1003ER-22,0	H60 22000.8440	Ø 22,0	10	3.3	3.0			**01200**
XOHX 1003ER-22,5	H60 22500.84	Ø 22,5	10	3.3	3.0		**31403**	
XOHX 1003ER-23,0	H60 23000.84	Ø 23,0	10	3.3	3.0		**31603**	
XOHX 1003ER-24,0	H60 24000.2715	Ø 24,0	10	3.3	3.0	**71803**		
XOHX 1003ER-24,0	H60 24000.84	Ø 24,0	10	3.3	3.0		**31803**	
XOHX 1003ER-24,5	H60 24500.2715	Ø 24,5	10	3.3	3.0	**72003** [1]		
XOHX 12T3ER-25,0	H60 25000.84	Ø 25,0	12	3.9	3.6		**32203**	
XOHX 12T3ER-26,0	H60 26000.84	Ø 26,0	12	3.9	3.6		**32403**	
XOHX 12T3ER-26,0	H60 26000.8440	Ø 26,0	12	3.9	3.6			**02400**
XOHX 12T3ER-26,5	H60 26500.84	Ø 26,5	12	3.9	3.6		**32603**	
XOHX 12T3ER-26,5	H60 26500.8440	Ø 26,5	12	3.9	3.6			**02600**
XOHX 12T3ER-28,0	H60 28000.2715	Ø 28,0	12	3.9	3.6	**72803**		
XOHX 12T3ER-29,3	H60 29300.8440	Ø 29,3	12	3.9	3.6			**03000**
XOHX 12T3ER-29,7	H60 29700.84	Ø 29,7	12	3.9	3.6		**33203**	
XOHX 1504ER-30,0	H60 30000.2715	Ø 30,0	15	4.5	4.3	**73403**		
XOHX 1504ER-30,0	H60 30000.8440	Ø 30,0	15	4.5	4.3			**03400**
XOHX 1504ER-31,0	H60 31000.2715	Ø 31,0	15	4.5	4.3	**73603**		
XOHX 1504ER-32,0	H60 32000.2715	Ø 32,0	15	4.5	4.3	**73803** [1]		
XOHX 1504ER-32,0	H60 32000.8440	Ø 32,0	15	4.5	4.3			**03800**
XOHX 1504ER-33,0	H60 33000.2715	Ø 33,0	15	4.5	4.3	**74003**		
XOHX 1504ER-36,0	H60 36000.8440	Ø 36,0	15	4.5	4.3			**04400**
XOHX 2205ER-37,5	H60 37500.84	Ø 37,5	22	4.5	4.3		**34603**	
XOHX 2205ER-44,0	H60 44000.2715	Ø 44,0	22	4.5	4.3	**75003**		
P								
M								
K						●	●	●
N								
S								
H								
O								

1) Not in stock

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	62 615 ... XOHX		
	BK2715	BK84	BK8440
	v_c (m/min) min. – Recommended – max.		
P.1.1			
P.1.2			
P.1.3			
P.1.4			
P.1.5			
P.2.1			
P.2.2			
P.2.3			
P.2.4			
P.3.1			
P.3.2			
P.3.3			
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1	130 - **170** - 200	90 - **120** - 140	90 - **120** - 140
K.1.2	115 - **150** - 175	80 - **105** - 125	55 - **74** - 85
K.2.1	125 - **160** - 190	85 - **110** - 130	85 - **110** - 130
K.2.2	110 - **140** - 165	75 - **95** - 110	75 - **95** - 110
K.3.1	125 - **160** - 190	85 - **110** - 130	85 - **110** - 130
K.3.2	110 - **140** - 165	75 - **95** - 110	75 - **95** - 110
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

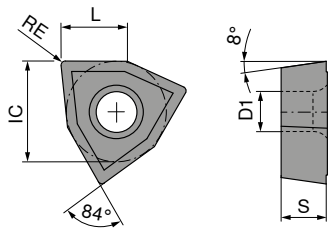
Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

Index	62 615 ... XOHX		
	BK2715	BK84	BK8440
	v_c (ft/min) min. – Recommended – max.		
P.1.1			
P.1.2			
P.1.3			
P.1.4			
P.1.5			
P.2.1			
P.2.2			
P.2.3			
P.2.4			
P.3.1			
P.3.2			
P.3.3			
P.4.1			
P.4.2			
M.1.1			
M.2.1			
M.3.1			
K.1.1	425 - **560** - 655	295 - **395** - 460	295 - **395** - 460
K.1.2	375 - **490** - 575	260 - **345** - 410	180 - **240** - 280
K.2.1	410 - **525** - 625	280 - **360** - 425	280 - **360** - 425
K.2.2	360 - **460** - 540	245 - **310** - 360	245 - **310** - 360
K.3.1	410 - **525** - 625	280 - **360** - 425	280 - **360** - 425
K.3.2	360 - **460** - 540	245 - **310** - 360	245 - **310** - 360
N.1.1			
N.1.2			
N.2.1			
N.2.2			
N.2.3			
N.3.1			
N.3.2			
N.3.3			
N.4.1			
S.1.1			
S.1.2			
S.2.1			
S.2.2			
S.2.3			
S.3.1			
S.3.2			
S.3.3			
H.1.1			
H.1.2			
H.1.3			
H.1.4			
H.2.1			
H.3.1			
O.1.1			
O.1.2			
O.2.1			
O.2.2			
O.3.1			

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

CoreLine – Carbide drilling indexable insert

WCGT



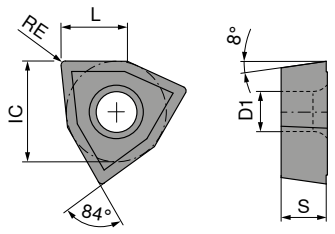


WCGT

Designation	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 812 ...
WCGT 030204FN	3.97	2.5	2.5	6	0.4	**650**
WCGT 050304FN	5.29	2.8	3.0	8	0.4	**652**
WCGT 060304FN	6.62	4.0	3.0	10	0.4	**654**
WCGT 07T304FN	7.94	4.4	3.8	12	0.4	**656**

CoreLine – Carbide drilling indexable insert

XOMT



CTPP430



XOMT

Designation	L mm	D1 mm	S mm	IC mm	RE mm	IH 10 814 ...
XOMT 020204SN	3.37	2.25	2.3	5.5	0.4	**098**
XOMT 030204SN	3.97	2.50	2.5	6.0	0.4	**100**
XOMT 050304SN	5.29	2.80	3.0	8.0	0.4	**102**
XOMT 060304SN	6.62	4.00	3.0	10.0	0.4	**104**
XOMT 07T304SN	7.94	4.40	3.8	12.0	0.4	**106**

P	●
M	●
K	○
N	○
S	○
H	
O	

→ Find the recommended values for cutting speeds here.

Cutting data standard values for indexable inserts – guideline recommendation (factory standard)

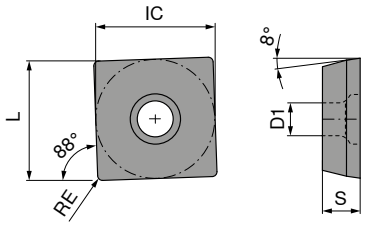
Index	10 814 ... XOMT CTPP430 v_c (m/min)
P.1.1	215
P.1.2	190
P.1.3	165
P.1.4	160
P.1.5	150
P.2.1	200
P.2.2	160
P.2.3	140
P.2.4	110
P.3.1	140
P.3.2	100
P.3.3	70
P.4.1	140
P.4.2	120
M.1.1	140
M.2.1	100
M.3.1	130
K.1.1	140
K.1.2	130
K.2.1	140
K.2.2	140
K.3.1	100
K.3.2	100
N.1.1	300
N.1.2	315
N.2.1	270
N.2.2	140
N.2.3	180
N.3.1	200
N.3.2	200
N.3.3	200
N.4.1	200
S.1.1	65
S.1.2	50
S.2.1	45
S.2.2	40
S.2.3	40
S.3.1	65
S.3.2	50
S.3.3	40
H.1.1	
H.1.2	
H.1.3	
H.1.4	
H.2.1	
H.3.1	
O.1.1	
O.1.2	
O.2.1	
O.2.2	
O.3.1	

The cutting data is significantly dependent on the external conditions, e.g., stability of the tool and workpiece clamping, material, and machine type! The specified values represent guideline values that can be adjusted within the range (more specifically by ± 20%) according to the application conditions.

SpinTools – HM indexable insert

SOXX

- ▲ Segment-specific special indexable insert
- ▲ Only indexable inserts that match the holder can be used
- ▲ Full tool design and details of operating conditions on request





SOXX



SOXX

Designation	L mm	D1 mm	S mm	IC mm	RE mm	XX 10 826 ...	XX 10 826 ...
SOXX 07T308	7.94	2.85	3.58	7.94	0.8		**05701**
SOXX 120508EL	12.70	5.20	5.16	12.70	0.8	**41200**	
P						●	
M						●	
K						●	●
N							
S							
H						○	
O							



CERATIZIT GROUP

HSS drilling



Contents

→ Explanation of symbols
→ Toolfinder
→ Content overview
→ Product program
Technical information
→ Cutting data
→ Recommended feed values
→ Coatings and cutting materials

Explanation of symbols

Shank



Plain cylindrical shank



Cylindrical shank with "Weldon" lateral driving face



Morse taper



Version



Self-centering

● = **Main application**
○ = Secondary application

Toolfinder

	Tool type	Cutting material / Coating	Description	DIN 1897	DIN 338	DIN 340	Series 1	Series 2	Series 3
				3xD	5xD	10xD	> 10xD		
Steel / Universal	VX	HSS-E TiN	▲ Universal high-performance drill ▲ Standard shank (DIN 1835 A) ▲ Self-centering	→	→				
Steel / Universal	UNI	HSS-E TiN	▲ As for Type VX ▲ Without DIN 1835 A standard shank ▲ Available as a set	→	→	→			
Steel / Universal	N	HSS vap.	▲ Stable twist drill ▲ Also suitable for hand drills ▲ Available as a set		→				
Steel / Universal	WT	HSS vap.	▲ For high alloy steels and special alloys (Hastelloy, Inconel, Nimonic)	→					
Steel / Universal	WTL	HSS-E F.-nit	▲ Special flute profile with large chip spaces ▲ Increased wear protection on cutting edges and guide chamfers due to chamfer nitriding		→	→			
Steel / Universal	WTL	HSS F.-nit	▲ Special flute profile with large chip spaces ▲ Increased wear protection on cutting edges and guide chamfers due to chamfer nitriding				→	→	→
Stainless steel	VA	HSS-E	▲ The specialist for materials that are resistant to rust and acid ▲ Special geometry	→	→				

Overview of HSS drills

	Tool type	Cutting material | Coating	Point angle SIG	Diameter in mm DC	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Hardened steel	O Non-metal materials	coated ■	uncoated □
3xD without through coolant													
→ 	VX	HSS-E TiN	118°	2–20	●	●	●	○	○		○	■	
→ 	UNI	HSS-E TiN	118°	1–14	●	●	●	○	○		○	■	
→ 	VA	HSS-E	130°	1–12	○	●		●	○				□
→ 	WT	HSS-E vap.	130°	0,4–25	●	●	●	○	○	○		■	
5xD without through coolant													
→ 	VX	HSS-E TiN	118°	2–20	●	●	●	○	○		○	■	
→ 	UNI	HSS-E TiN	118°	0,9–14	●	●	●	○	○		○	■	
→ 	N	HSS vap.	118°	0,2–20	○		●	○			○	■	
→ 	VA	HSS-E	130°	1–12	○	●		●	○				□
→ 	WTL	HSS-E F-nit.	130°	1–16	●	○	●	●	○	○	○	■	
10xD without through coolant													
→ 	UNI	HSS-E TiN	118°	1–14	●	●	●	○	○		○	■	
→ 	WTL	HSS-E F-nit.	130°	1–12	●	○	●	●	○	○	○	■	
Over 10xD without through coolant													
→	WTL	HSS F-nit. Series 1	130°	2–13	●		●	●			○	■	
→	WTL	HSS F-nit. Series 2	130°	2–13	●		●	●			○	■	
→	WTL	HSS F-nit. Series 3	130°	2,5–13	●		●	●			○	■	
Twist drill sets													
→ 	N	HSS vap.	118°	1–10	○		●	○			○	■	
	UNI	HSS-E TiN	118°	1–10	●	●	●	○	○		○	■	

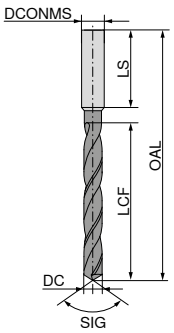
Overview of HSS drills

		Tool type	Cutting material | Coating	Point angle SIG	Diameter in mm DC	P Steel · M Stainless steel · K Cast iron · N Non-ferrous metals · S Heat-resistant · H Hardened steel · O Non-metal materials		coated ■	uncoated □
NC spot drills									
→		NC-A	HSS	**90°**	3–20	● ○ ● ○ ○ ○			□
→		NC-A	HSS TiN	**90° / 120°**	3–20	● ○ ● ○ ○ ○		■	
→		NC-A	HSS TiN	**90° / 120°**	3–20	● ○ ● ○ ○ ○		■	
→		NC-A	HSS TiN	**90° / 120°**	3–20	● ○ ● ○ ○ ○		■	
Centre drills									
→		ZB	HSS	**118°**	0,5–6,3	● ○ ● ○ ○ ○	DIN 333 – form A/B/R		□
→		ZB	HSS TiN	**118°**	0,5–6,3	● ○ ● ○ ○ ○	DIN 333 – form A	■	
Twist drills with Morse taper									
5xD									
→		N	HSS vap.	**118°**	10–50	○ ● ○ ○		■	
10xD									
→		N	HSS vap.	**118°**	10–50	○ ● ○ ○		■	
Over 10xD									
→		WTL	HSS F.-nit/vap. Series 1	**130°**	10–30	● ● ● ○		■	
→		WTL	HSS F.-nit/vap. Series 2	**130°**	10–30	● ● ● ○		■	

CoreLine – High-performance twist drill similar to DIN 1897, extra-short

- Standard shank (DIN 1835 A)
- Special point thinning
- Very good centering behavior
- 4-faceted finish
- Maximum performance

≤ 3xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 122 ...
2.00	44	12	3	28	020
2.10	44	12	3	28	021
2.20	45	13	3	28	022
2.30	45	13	3	28	023
2.40	46	14	3	28	024
2.50	46	14	3	28	025
2.60	46	14	3	28	026
2.70	48	16	3	28	027
2.80	48	16	3	28	028
2.90	48	16	3	28	029
3.00	48	16	3	28	030
3.10	50	18	4	28	031
3.20	50	18	4	28	032
3.30	50	18	4	28	033
3.40	52	20	4	28	034
3.50	52	20	4	28	035
3.60	52	20	4	28	036
3.70	52	20	4	28	037
3.80	54	22	4	28	038
3.90	54	22	4	28	039
4.00	54	22	4	28	040
4.10	66	22	6	36	041
4.20	66	22	6	36	042
4.30	68	24	6	36	043
4.40	68	24	6	36	044
4.50	68	24	6	36	045
4.60	68	24	6	36	046
4.70	68	24	6	36	047
4.80	70	26	6	36	048

P	●
M	●
K	●
N	○
S	○
H	
O	○

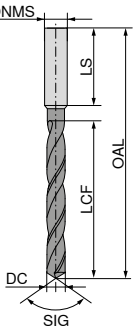
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 1897, extra-short

- Standard shank (DIN 1835 A)
- Special point thinning
- Very good centering behavior
- 4-faceted finish
- Maximum performance

≤ 3xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 122 ...
4.90	70	26	6	36	049
5.00	70	26	6	36	050
5.10	70	26	6	36	051
5.20	70	26	6	36	052
5.30	70	26	6	36	053
5.40	72	28	6	36	054
5.50	72	28	6	36	055
5.55	72	28	6	36	555
5.60	72	28	6	36	056
5.70	72	28	6	36	057
5.80	72	28	6	36	058
5.90	72	28	6	36	059
6.00	72	28	6	36	060
6.10	75	31	8	36	061
6.20	75	31	8	36	062
6.30	75	31	8	36	063
6.40	75	31	8	36	064
6.50	75	31	8	36	065
6.60	75	31	8	36	066
6.70	75	31	8	36	067
6.80	78	34	8	36	068
6.90	78	34	8	36	069
7.00	78	34	8	36	070
7.10	78	34	8	36	071
7.20	78	34	8	36	072
7.30	78	34	8	36	073
7.40	78	34	8	36	074
7.45	78	34	8	36	745
7.50	78	34	8	36	075

P	●
M	●
K	●
N	○
S	○
H	
O	○

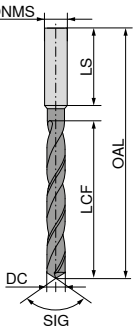
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 1897, extra-short

- Standard shank (DIN 1835 A)
- Special point thinning
- Very good centering behavior
- 4-faceted finish
- Maximum performance

≤ 3xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 122 ...
7.60	81	37	8	36	076
7.70	81	37	8	36	077
7.80	81	37	8	36	078
7.90	81	37	8	36	079
8.00	81	37	8	36	080
8.10	87	37	10	40	081
8.20	87	37	10	40	082
8.30	87	37	10	40	083
8.40	87	37	10	40	084
8.50	87	37	10	40	085
8.60	91	40	10	40	086
8.70	91	40	10	40	087
8.80	91	40	10	40	088
8.90	91	40	10	40	089
9.00	91	40	10	40	090
9.10	91	40	10	40	091
9.20	91	40	10	40	092
9.30	91	40	10	40	093
9.35	91	40	10	40	935
9.40	91	40	10	40	094
9.50	91	40	10	40	095
9.60	93	43	10	40	096
9.70	93	43	10	40	097
9.80	93	43	10	40	098
9.90	93	43	10	40	099
10.00	93	43	10	40	100
10.20	100	43	12	45	102
10.30	100	43	12	45	103
10.50	100	43	12	45	105

P	●
M	●
K	●
N	○
S	○
H	
O	○

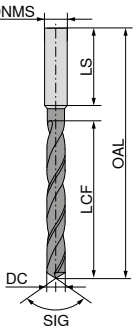
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 1897, extra-short

- Standard shank (DIN 1835 A)
- Special point thinning
- Very good centering behavior
- 4-faceted finish
- Maximum performance

≤ 3xD



VX

TiN



SIG 118°
HSS-E

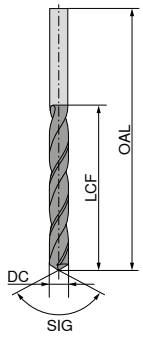
DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 122 ...
10.70	104	47	12	45	107
10.80	104	47	12	45	108
11.00	104	47	12	45	110
11.10	104	47	12	45	111
11.50	104	47	12	45	115
11.70	104	47	12	45	117
11.80	104	47	12	45	118
11.90	108	51	12	45	119
12.00	108	51	12	45	120
12.10	111	51	16	48	121
12.30	111	51	16	48	123
12.50	111	51	16	48	125
12.70	111	51	16	48	127
12.80	111	51	16	48	128
13.00	111	51	16	48	130
13.50	114	54	16	48	135
14.00	114	54	16	48	140
14.50	116	56	16	48	145
15.00	116	56	16	48	150
15.50	118	58	16	48	155
16.00	118	58	16	48	160
16.50	126	60	20	50	165
17.00	126	60	20	50	170
17.50	128	62	20	50	175
18.00	128	62	20	50	180
18.50	130	64	20	50	185
19.00	130	64	20	50	190
19.50	132	66	20	50	195
20.00	132	66	20	50	200

P	●
M	●
K	●
N	○
S	○
H	
O	○

→ Find the cutting data standard values here.

CoreLine – Twist drill (DIN 1897), extra-short

≤ 3xD



	UNI	VA	WT
	TiN		vap.
			
	SIG 118° HSS-E	SIG 130° HSS-E	SIG 130° HSS-E
	HD	HD	HD
DC h8 mm / DC inch / OAL mm / LCF mm	10 107 ...	10 130 ...	10 109 ...
0.40 / / 19 / 2.5			00400 1)
0.50 / / 20 / 3.0			00500 1)
0.55 / / 21 / 3.5			00550 1)
0.60 / / 21 / 3.5			00600 1)
0.65 / / 22 / 4.0			00650 1)
0.70 / / 23 / 4.5			00700 1)
0.75 / / 23 / 4.5			00750 1)
0.80 / / 24 / 5.0			00800 1)
0.85 / / 24 / 5.0			00850 1)
0.90 / / 25 / 5.5			00900 1)
0.95 / / 25 / 5.5			00950 1)
1.00 / / 26 / 6.0	010 2)	010	01000 1)
1.05 / / 26 / 6.0			01050 1)
1.10 / / 28 / 7.0	011 2)	011	01100 1)
1.15 / / 28 / 7.0			01150 1)
1.20 / / 30 / 8.0	012 2)	012	01200 1)
1.25 / / 30 / 8.0			01250 1)
1.30 / / 30 / 8.0	013 2)	013	01300 1)
1.35 / / 32 / 9.0			01350 1)
1.40 / / 32 / 9.0	014 2)	014	01400 1)
1.45 / / 32 / 9.0			01450 1)
1.50 / / 32 / 9.0	015 2)	015	01500 1)
1.55 / / 34 / 10.0			01550 1)
1.60 / / 34 / 10.0	016 2)	016	01600 1)
1.65 / / 34 / 10.0			01650 1)
1.70 / / 34 / 10.0	017 2)	017	01700 1)
1.75 / / 36 / 11.0			01750 1)
1.80 / / 36 / 11.0	018 2)	018	01800 1)
1.83 / / 36 / 11.0			01830 1)
1.85 / / 36 / 11.0			01850 1)
1.90 / / 36 / 11.0	019 2)	019	01900 1)
1.95 / / 38 / 12.0			01950 1)
2.00 / / 38 / 12.0	020 2)	020	02000 1)
2.05 / / 38 / 12.0			02050 1)
2.10 / / 38 / 12.0	021 2)	021	02100 1)
2.15 / / 40 / 13.0			02150 1)
2.20 / / 40 / 13.0	022 2)	022	02200 1)
2.25 / / 40 / 13.0			02250 1)
2.30 / / 40 / 13.0	023 2)	023	02300 1)
2.35 / / 40 / 13.0			02350 1)
2.38 / 3/32 / 43 / 14.0	238 2)		
2.40 / / 43 / 14.0	024 2)	024	02400
P	●	○	●
M	●	●	●
K	●		●
N	○	●	○
S	○	○	○
H			○
O	○		

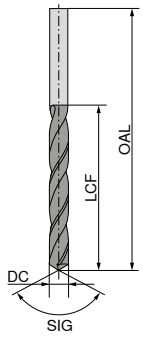
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drill (DIN 1897), extra-short

≤ 3xD



UNI	VA	WT
TiN		vap.
		
SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS-E	HSS-E
HD	HD	HD
10 107 ...	**10 130 ...**	**10 109 ...**

DC h8 mm	DC inch	OAL mm	LCF mm	10 107 ...	10 130 ...	10 109 ...
2.45		43	14.0			02450
2.50		43	14.0	025 [2]	025	02500
2.55		43	14.0			02550
2.60		43	14.0	026 [2]	026	02600
2.65		43	14.0			02650
2.70		46	16.0	027 [2]	027	02700
2.75		46	16.0			02750
2.78	7/64	46	16.0	278 [2]		
2.80		46	16.0	028 [2]	028	02800
2.85		46	16.0			02850
2.90		46	16.0	029 [2]	029	02900
2.95		46	16.0			02950
3.00		46	16.0	030 [2]	030	03000
3.05		49	18.0			03050
3.10		49	18.0	031 [2]	031	03100
3.15		49	18.0			03150
3.17	1/8	49	18.0	317 [2]		
3.20		49	18.0	032 [2]	032	03200
3.25		49	18.0			03250
3.30		49	18.0	033 [2]	033	03300
3.35		49	18.0			03350
3.40		52	20.0	034 [2]	034	03400
3.45		52	20.0			03450
3.50		52	20.0	035 [2]	035	03500
3.55		52	20.0			03550
3.57	9/64	52	20.0	357 [2]		
3.60		52	20.0	036 [2]	036	03600
3.70		52	20.0	037 [2]	037	03700
3.75		52	20.0			03750
3.80		55	22.0	038 [2]	038	03800
3.85		55	22.0			03850
3.90		55	22.0	039 [2]		03900
3.95		55	22.0			03950
3.97	5/32	55	22.0	397 [2]		
4.00		55	22.0	040 [2]	040	04000
4.05		55	22.0			04050
4.10		55	22.0	041 [2]	041	04100
4.15		55	22.0			04150
4.20		55	22.0	042 [2]	042	04200
4.25		55	22.0			04250
4.30		58	24.0	043 [2]	043	04300
4.35		58	24.0			04350

P	●	○	●
M	●	●	●
K	●		●
N	○	●	○
S	○	○	○
H			○
O	○		

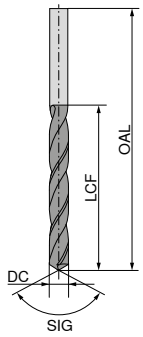
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drill (DIN 1897), extra-short

≤ 3xD



UNI | VA | WT

TiN | | vap.



SIG 118° HSS-E | SIG 130° HSS-E | SIG 130° HSS-E

DC h8 mm	DC inch	OAL mm	LCF mm	HD 10 107 ...	HD 10 130 ...	HD 10 109 ...
4.37	11/64	58	24.0	437 2)		
4.40		58	24.0	044 2)		04400
4.45		58	24.0			04450
4.50		58	24.0	045 2)	045	04500
4.55		58	24.0			04550
4.60		58	24.0	046 2)	046	04600
4.65		58	24.0			04650
4.70		58	24.0	047 2)	047	04700
4.75		58	24.0			04750
4.76	3/16	62	26.0	476 2)		
4.80		62	26.0	048 2)	048	04800
4.85		62	26.0			04850
4.90		62	26.0	049 2)	049	04900
4.95		62	26.0			04950
5.00		62	26.0	050 2)	050	05000
5.05		62	26.0			05050
5.10		62	26.0	051 2)	051	
5.16	13/64	62	26.0	516 2)		
5.20		62	26.0	052 2)	052	05200
5.25		62	26.0			05250
5.30		62	26.0	053 2)	053	05300
5.40		66	28.0	054 2)		
5.50		66	28.0	055 2)	055	05500
5.56	7/32	66	28.0	556 2)		
5.60		66	28.0	056 2)	056	05600
5.70		66	28.0	057 2)	057	
5.80		66	28.0	058 2)	058	05800
5.90		66	28.0	059 2)	059	05900
5.95	15/64	66	28.0	595 2)		05950
6.00		66	28.0	060 2)	060	06000
6.05		70	31.0			06050
6.10		70	31.0	061 2)		
6.20		70	31.0	062 2)		
6.30		70	31.0	063 2)		
6.35	1/4	70	31.0	635 2)		
6.40		70	31.0	064 2)		
6.50		70	31.0	065 2)	065	06500
6.60		70	31.0	066 2)	066	
6.70		70	31.0	067 2)	067	
6.75		74	34.0	675 2)		
6.80		74	34.0	068 2)	068	06800
6.90		74	34.0	069 2)	069	
P				●	○	●
M				●	●	●
K				●		●
N				○	●	○
S				○	○	○
H						○
O				○		

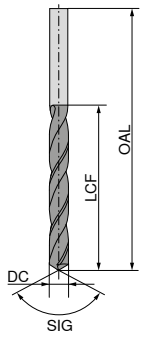
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drill (DIN 1897), extra-short

≤ 3xD



UNI | VA | WT

TiN | | vap.





SIG 118° HSS-E | SIG 130° HSS-E | SIG 130° HSS-E

DC h8 mm	DC inch	OAL mm	LCF mm	HD 10 107 ...	HD 10 130 ...	HD 10 109 ...
7.00		74	34.0	070 [2]	070	07000
7.10		74	34.0	071 [2]		
7.14	9/32	74	34.0	714 [2]		
7.20		74	34.0	072 [2]	072	
7.30		74	34.0	073 [2]		
7.40		74	34.0	074 [2]		
7.50		74	34.0	075 [2]	075	07500
7.60		79	37.0	076 [2]		
7.70		79	37.0	077 [2]	077	
7.80		79	37.0	078 [2]		07800
7.90		79	37.0	079 [2]	079	
7.94	5/16	79	37.0	794 [2]		
8.00		79	37.0	080 [2]	080	08000
8.05		79	37.0			08050
8.10		79	37.0	081 [2]		
8.15		79	37.0			08150
8.20		79	37.0	082 [2]		
8.30		79	37.0	083 [2]		
8.40		79	37.0	084 [2]	084	
8.50		79	37.0	085 [2]	085	08500
8.60		84	40.0	086 [2]	086	
8.70		84	40.0	087 [2]	087	
8.73	11/32	84	40.0	873 [2]		
8.80		84	40.0	088 [2]		08800
8.90		84	40.0	089 [2]		
9.00		84	40.0	090 [2]	090	09000
9.10		84	40.0	091 [2]		
9.20		84	40.0	092 [2]	092	
9.30		84	40.0	093 [2]	093	
9.40		84	40.0	094 [2]		
9.50		84	40.0	095 [2]	095	09500
9.60		89	43.0	096 [2]		09600
9.65		89	43.0			09650
9.70		89	43.0	097 [2]		
9.80		89	43.0	098 [2]	098	09800
9.90		89	43.0	099 [2]		
10.00		89	43.0	100 [2]	100	10000
10.10		89	43.0	101 [2]		
10.20		89	43.0	102 [2]	102	10200
10.30		89	43.0	103 [2]		
10.40		89	43.0	104 [2]		
10.50		89	43.0	105 [2]	105	10500

P	●	○	●
M	●	●	●
K	●		●
N	○	●	○
S	○	○	○
H			○
O	○		

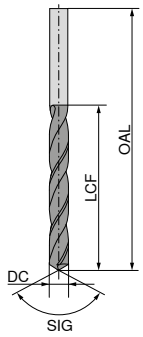
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drill (DIN 1897), extra-short

≤ 3xD



UNI	VA	WT
TiN		vap.
		
SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS-E	HSS-E
HD	HD	HD
10 107 ...	**10 130 ...**	**10 109 ...**

DC h8 mm	DC inch	OAL mm	LCF mm			
11.00		95	47.0	**110** [2]	**110**	**11000**
11.11	7/16	95	47.0	**111** [2]		
11.50		95	47.0	**115** [2]	**115**	**11500**
11.70		95	47.0		**117**	**11700**
11.80		95	47.0			**11800**
12.00		102	51.0	**120** [2]	**120**	**12000**
12.30		102	51.0	**123** [2]		
12.50		102	51.0	**125** [2]		**12500**
12.70		102	51.0	**127** [2]		
13.00		102	51.0	**130** [2]		**13000**
13.50		107	54.0	**135** [2]		**13500**
14.00		107	54.0	**140** [2]		**14000**
14.50		111	56.0			**14500**
15.00		111	56.0			**15000**
15.50		115	58.0			**15500**
16.00		115	58.0			**16000**
16.50		119	60.0			**16500**
17.00		119	60.0			**17000**
17.50		123	62.0			**17500**
18.00		123	62.0			**18000**
18.50		127	64.0			**18500**
19.00		127	64.0			**19000**
19.50		131	66.0			**19500**
20.00		131	66.0			**20000**
20.50		136	68.0			**20500**
21.00		136	68.0			**21000**
22.00		141	70.0			**22000**
23.00		146	72.0			**23000**
24.00		151	75.0			**24000**
25.00		151	75.0			**25000**

P	●	○	●
M	●	●	●
K	●		●
N	○	●	○
S	○	○	○
H			○
O	○		

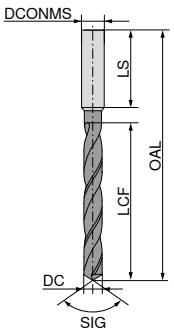
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

CoreLine – High-performance twist drill similar to DIN 338, short

- With standard shank (DIN 1835 A)
- Special point thinning
- 4-faceted finish
- Maximum performance
- Very good centering behavior

≤ 5xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 124 ...
2.00	56	24	3	28	020
2.10	56	24	3	28	021
2.20	59	27	3	28	022
2.30	59	27	3	28	023
2.40	62	30	3	28	024
2.50	62	30	3	28	025
2.60	62	30	3	28	026
2.70	65	33	3	28	027
2.80	65	33	3	28	028
2.90	65	33	3	28	029
3.00	65	33	3	28	030
3.10	68	36	4	28	031
3.20	68	36	4	28	032
3.30	68	36	4	28	033
3.40	71	39	4	28	034
3.50	71	39	4	28	035
3.60	71	39	4	28	036
3.70	71	39	4	28	037
3.80	75	43	4	28	038
3.90	75	43	4	28	039
4.00	75	43	4	28	040
4.10	87	43	6	36	041
4.20	87	43	6	36	042
4.30	91	47	6	36	043
4.40	91	47	6	36	044
4.50	91	47	6	36	045
4.60	91	47	6	36	046
4.65	91	47	6	36	465
4.70	91	47	6	36	047
4.80	96	52	6	36	048
4.90	96	52	6	36	049
5.00	96	52	6	36	050
5.10	96	52	6	36	051
5.20	96	52	6	36	052

P	●
M	●
K	●
N	○
S	○
H	
O	○

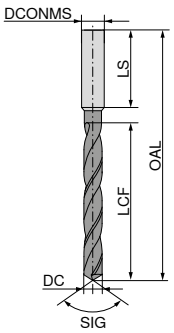
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 338, short

- With standard shank (DIN 1835 A)
- Special point thinning
- 4-faceted finish
- Maximum performance
- Very good centering behavior

≤ 5xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 124 ...
5.30	96	52	6	36	053
5.40	101	57	6	36	054
5.50	101	57	6	36	055
5.55	101	57	6	36	555
5.60	101	57	6	36	056
5.70	101	57	6	36	057
5.80	101	57	6	36	058
5.90	101	57	6	36	059
6.00	101	57	6	36	060
6.10	107	63	8	36	061
6.20	107	63	8	36	062
6.30	107	63	8	36	063
6.40	107	63	8	36	064
6.50	107	63	8	36	065
6.60	107	63	8	36	066
6.70	107	63	8	36	067
6.80	113	69	8	36	068
6.90	113	69	8	36	069
7.00	113	69	8	36	070
7.10	113	69	8	36	071
7.20	113	69	8	36	072
7.30	113	69	8	36	073
7.40	113	69	8	36	074
7.50	113	69	8	36	075
7.55	119	75	8	36	755
7.60	119	75	8	36	076
7.70	119	75	8	36	077
7.80	119	75	8	36	078
7.90	119	75	8	36	079
8.00	119	75	8	36	080
8.10	125	75	10	40	081
8.20	125	75	10	40	082
8.30	125	75	10	40	083
8.40	125	75	10	40	084

P	●
M	●
K	●
N	○
S	○
H	
O	○

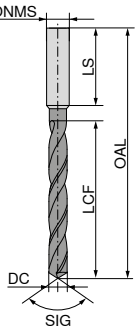
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 338, short

- With standard shank (DIN 1835 A)
- Special point thinning
- 4-faceted finish
- Maximum performance
- Very good centering behavior

≤ 5xD



VX

TiN



SIG 118°
HSS-E

DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 124 ...
8.50	125	75	10	40	085
8.60	131	81	10	40	086
8.70	131	81	10	40	087
8.80	131	81	10	40	088
8.90	131	81	10	40	089
9.00	131	81	10	40	090
9.10	131	81	10	40	091
9.20	131	81	10	40	092
9.30	131	81	10	40	093
9.40	131	81	10	40	094
9.50	131	81	10	40	095
9.55	137	87	10	40	955
9.60	137	87	10	40	096
9.70	137	87	10	40	097
9.80	137	87	10	40	098
9.90	137	87	10	40	099
10.00	137	87	10	40	100
10.10	144	87	12	45	101
10.20	144	87	12	45	102
10.30	144	87	12	45	103
10.40	144	87	12	45	104
10.50	144	87	12	45	105
10.70	151	94	12	45	107
10.80	151	94	12	45	108
11.00	151	94	12	45	110
11.20	151	94	12	45	112
11.30	151	94	12	45	113
11.40	151	94	12	45	114
11.50	151	94	12	45	115
11.60	151	94	12	45	116
11.70	151	94	12	45	117
11.80	151	94	12	45	118
11.90	158	101	12	45	119
12.00	158	101	12	45	120
P					●
M					●
K					●
N					○
S					○
H					
O					○

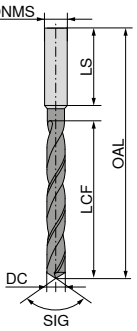
→ Find the cutting data standard values here.

Continued on next page

CoreLine – High-performance twist drill similar to DIN 338, short

- With standard shank (DIN 1835 A)
- Special point thinning
- 4-faceted finish
- Maximum performance
- Very good centering behavior

≤ 5xD



VX

TiN



SIG 118°
HSS-E

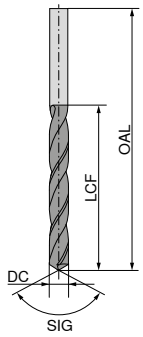
DC h8 mm	OAL mm	LCF mm	DCONMS h6 mm	LS mm	HD 10 124 ...
12.20	161	101	16	48	122
12.30	161	101	16	48	123
12.50	161	101	16	48	125
12.70	161	101	16	48	127
12.80	161	101	16	48	128
13.00	161	101	16	48	130
13.50	166	106	16	48	135
14.00	166	106	16	48	140
14.50	169	109	16	48	145
15.00	169	109	16	48	150
15.50	172	112	16	48	155
16.00	172	112	16	48	160
16.50	181	115	20	50	165
17.00	181	115	20	50	170
17.50	184	118	20	50	175
18.00	184	118	20	50	180
18.50	188	122	20	50	185
19.00	188	122	20	50	190
19.50	191	125	20	50	195
20.00	191	125	20	50	200

P	●
M	●
K	●
N	○
S	○
H	
O	○

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 338), short

≤ 5xD



UNI	N	VA	WTL
TiN	vap.		F.-nit
			
SIG 118°	SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS	HSS-E	HSS-E
HD	CX	HD	HD
10 171 ...	**10 152 ...**	**10 175 ...**	**10 168 ...**

DC h8 mm	DC inch	OAL mm	LCF mm				
0.20		19	2.5		00200 1)		
0.25		19	3.0		00250 1)		
0.30		19	3.0		00300 1)		
0.35		19	4.0		00350 1)		
0.40		20	5.0		00400 1)		
0.45		20	5.0		00450 1)		
0.50		22	6.0		00500 1)		
0.55		24	7.0		00550 1)		
0.60		24	7.0		00600 1)		
0.65		26	8.0		00650 1)		
0.70		28	9.0		00700 1)		
0.75		28	9.0		00750 1)		
0.80		30	10.0		00800 1)		
0.85		30	10.0		00850 1)		
0.90		32	11.0	009 2)	00900 1)		
0.95		32	11.0		00950 1)		
1.00		34	12.0	010 2)	01000 1)	010	010 1)
1.05		34	12.0		01050 1)		
1.10		36	14.0	011 2)	01100 1)	011	011 1)
1.15		36	14.0		01150 1)		
1.20		38	16.0	012 2)	01200 1)	012	012 1)
1.25		38	16.0	125 2)	01250 1)		
1.30		38	16.0	013 2)	01300 1)	013	013 1)
1.35		40	18.0		01350 1)		
1.40		40	18.0	014 2)	01400 1)	014	014 1)
1.45		40	18.0	145 2)	01450 1)		
1.50		40	18.0	015 2)	01500 1)	015	015 1)
1.55		43	20.0	155 2)	01550 1)		
1.60		43	20.0	016 2)	01600 1)	016	016 1)
1.65		43	20.0	165 2)	01650 1)		
1.70		43	20.0	017 2)	01700 1)	017	017 1)
1.75		46	22.0		01750 1)		
1.80		46	22.0	018 2)	01800 1)	018	018 1)
1.85		46	22.0		01850 1)		
1.90		46	22.0	019 2)	01900 1)	019	019 1)
1.95		49	24.0		01950 1)		
2.00		49	24.0	020 2)	02000 1)	020	020 1)
2.05		49	24.0		02050 1)		
2.10		49	24.0	021 2)	02100 1)	021	021 1)
2.15		53	27.0		02150 1)		
2.20		53	27.0	022 2)	02200 1)	022	022 1)
2.25		53	27.0		02250 1)		
2.30		53	27.0	023 2)	02300 1)	023	023 1)
2.35		53	27.0		02350 1)		

P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

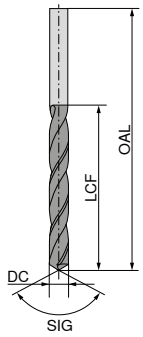
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 338), short

≤ 5xD



UNI	N	VA	WTL
TiN	vap.		F.-nit
			
SIG 118°	SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS	HSS-E	HSS-E
HD	CX	HD	HD
10 171 ...	**10 152 ...**	**10 175 ...**	**10 168 ...**

DC $_{h8}$ mm	DC inch	OAL mm	LCF mm				
2.38	3/32	57	30.0	238 [2]			
2.40		57	30.0	024 [2]	02400	024	024
2.45		57	30.0		02450		
2.50		57	30.0	025 [2]	02500	025	025
2.55		57	30.0	255 [2]	02550		
2.60		57	30.0	026 [2]	02600	026	026
2.65		57	30.0		02650		
2.70		61	33.0	027 [2]	02700	027	027
2.75		61	33.0		02750		
2.78	7/64	61	33.0	278 [2]			
2.80		61	33.0	028 [2]	02800	028	028
2.85		61	33.0		02850		
2.90		61	33.0	029 [2]	02900	029	029
2.95		61	33.0		02950		
3.00		61	33.0	030 [2]	03000	030	030
3.05		65	36.0		03050		
3.10		65	36.0	031 [2]	03100	031	031
3.15		65	36.0		03150		
3.17	1/8	65	36.0	317 [2]			
3.20		65	36.0	032 [2]	03200	032	032
3.25		65	36.0	325 [2]	03250		
3.30		65	36.0	033 [2]	03300	033	033
3.35		65	36.0		03350		
3.40		70	39.0	034 [2]	03400	034	034
3.45		70	39.0		03450		
3.50		70	39.0	035 [2]	03500	035	035
3.55		70	39.0		03550		
3.57	9/64	70	39.0	357 [2]			
3.60		70	39.0	036 [2]	03600	036	036
3.65		70	39.0		03650		
3.70		70	39.0	037 [2]	03700	037	037
3.75		70	39.0		03750		
3.80		75	43.0	038 [2]	03800	038	038
3.85		75	43.0		03850		
3.90		75	43.0	039 [2]	03900	039	039
3.95		75	43.0		03950		
3.97	5/32	75	43.0	397 [2]			
4.00		75	43.0	040 [2]	04000	040	040
4.05		75	43.0		04050		
4.10		75	43.0	041 [2]	04100	041	041
4.15		75	43.0		04150		
4.20		75	43.0	042 [2]	04200	042	042
4.25		75	43.0	425 [2]	04250		
4.30		80	47.0	043 [2]	04300	043	043

P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

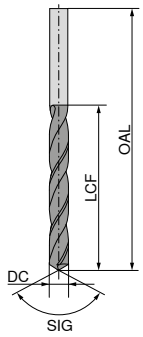
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 338), short

≤ 5xD



	UNI	N	VA	WTL
	TiN	vap.		F.-nit
				
	SIG 118°	SIG 118°	SIG 130°	SIG 130°
	HSS-E	HSS	HSS-E	HSS-E
	HD	CX	HD	HD
DC h8 mm / DC inch / OAL mm / LCF mm	10 171 ...	10 152 ...	10 175 ...	10 168 ...
4.35 / / 80 / 47.0		04350		
4.37 / 11/64 / 80 / 47.0	437 2)			
4.40 / / 80 / 47.0	044 2)	04400	044	044
4.45 / / 80 / 47.0		04450		
4.50 / / 80 / 47.0	045 2)	04500	045	045
4.55 / / 80 / 47.0		04550		
4.60 / / 80 / 47.0	046 2)	04600	046	046
4.65 / / 80 / 47.0	465 2)	04650		
4.70 / / 80 / 47.0	047 2)	04700	047	047
4.75 / / 80 / 47.0		04750		
4.76 / 3/16 / 86 / 52.0	476 2)			
4.80 / / 86 / 52.0	048 2)	04800	048	048
4.85 / / 86 / 52.0		04850		
4.90 / / 86 / 52.0	049 2)	04900	049	049
4.95 / / 86 / 52.0	495 2)	04950		
5.00 / / 86 / 52.0	050 2)	05000	050	050
5.05 / / 86 / 52.0	505 2)	05050		
5.10 / / 86 / 52.0	051 2)	05100	051	051
5.15 / / 86 / 52.0		05150		
5.16 / 13/64 / 86 / 52.0	516 2)			
5.20 / / 86 / 52.0	052 2)	05200	052	052
5.25 / / 86 / 52.0		05250		
5.30 / / 86 / 52.0	053 2)	05300	053	
5.35 / / 93 / 57.0		05350		
5.40 / / 93 / 57.0	054 2)	05400		
5.45 / / 93 / 57.0		05450		
5.50 / / 93 / 57.0	055 2)	05500	055	055
5.55 / / 93 / 57.0	555 2)	05550		
5.56 / 7/32 / 93 / 57.0	556 2)			
5.60 / / 93 / 57.0	056 2)	05600	056	056
5.65 / / 93 / 57.0		05650		
5.70 / / 93 / 57.0	057 2)	05700	057	057
5.75 / / 93 / 57.0	575 2)	05750		
5.80 / / 93 / 57.0	058 2)	05800	058	058
5.85 / / 93 / 57.0		05850		
5.90 / / 93 / 57.0	059 2)	05900	059	059
5.95 / 15/64 / 93 / 57.0	595 2)	05950		
6.00 / / 93 / 57.0	060 2)	06000	060	060
6.05 / / 101 / 63.0		06050		
6.10 / / 101 / 63.0	061 2)	06100		
6.15 / / 101 / 63.0		06150		
6.20 / / 101 / 63.0	062 2)	06200	062	
6.25 / / 101 / 63.0		06250		
6.30 / / 101 / 63.0	063 2)	06300		
P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

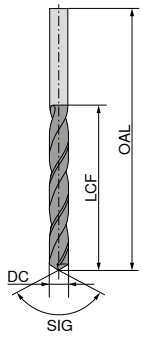
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 338), short

≤ 5xD



UNI	N	VA	WTL
TiN	vap.		F.-nit



SIG 118°	SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS	HSS-E	HSS-E
HD	CX	HD	HD
10 171 ...	**10 152 ...**	**10 175 ...**	**10 168 ...**

DC h8 mm	DC inch	OAL mm	LCF mm				
6.35	1/4	101	63.0	635 [2]	06350		
6.40		101	63.0	064 [2]	06400		
6.50		101	63.0	065 [2]	06500	065	065
6.55		101	63.0		06550		
6.60		101	63.0	066 [2]	06600		
6.70		101	63.0	067 [2]	06700		
6.75		109	69.0	675 [2]	06750		
6.80		109	69.0	068 [2]	06800	068	068
6.85		109	69.0		06850		
6.90		109	69.0	069 [2]	06900	069	
7.00		109	69.0	070 [2]	07000	070	070
7.05		109	69.0		07050		
7.10		109	69.0	071 [2]	07100		
7.14	9/32	109	69.0	714 [2]			
7.20		109	69.0	072 [2]	07200	072	
7.25		109	69.0		07250		
7.30		109	69.0	073 [2]	07300		
7.35		109	69.0		07350		
7.40		109	69.0	074 [2]	07400	074	
7.45		109	69.0	745 [2]			
7.50		109	69.0	075 [2]	07500	075	075
7.55		117	75.0		07550		
7.60		117	75.0	076 [2]	07600	076	
7.70		117	75.0	077 [2]	07700	077	
7.75		117	75.0		07750		
7.80		117	75.0	078 [2]	07800	078	078
7.90		117	75.0	079 [2]	07900	079	079
7.94	5/16	117	75.0	794 [2]			
8.00		117	75.0	080 [2]	08000	080	080
8.05		117	75.0		08050		
8.10		117	75.0	081 [2]	08100		
8.15		117	75.0		08150		
8.20		117	75.0	082 [2]	08200		
8.25		117	75.0		08250		
8.30		117	75.0	083 [2]	08300		
8.35		117	75.0		08350		
8.40		117	75.0	084 [2]	08400	084	084
8.50		117	75.0	085 [2]	08500	085	085
8.55		125	81.0		08550		
8.60		125	81.0	086 [2]	08600	086	
8.70		125	81.0	087 [2]	08700		
8.73	11/32	125	81.0	873 [2]			
8.75		125	81.0		08750		
8.80		125	81.0	088 [2]	08800	088	088

P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

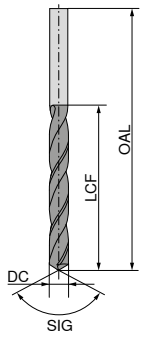
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 338), short

≤ 5xD



	UNI	N	VA	WTL
	TiN	vap.		F.-nit
				
	SIG 118°	SIG 118°	SIG 130°	SIG 130°
	HSS-E	HSS	HSS-E	HSS-E
	HD	CX	HD	HD
DC h8 mm	10 171 ...	10 152 ...	10 175 ...	10 168 ...
8.90	089 2)	08900		
9.00	090 2)	09000	090	090
9.05		09050		
9.10	091 2)	09100		
9.20	092 2)	09200	092	092
9.25		09250		
9.30	093 2)	09300	093	093
9.35	935 2)			
9.40	094 2)	09400	094	094
9.50	095 2)	09500	095	095
9.55		09550		
9.60	096 2)	09600	096	
9.70	097 2)	09700	097	097
9.75		09750		
9.80	098 2)	09800	098	098
9.90	099 2)	09900	099	
10.00	100 2)	10000	100	100
10.10	101 2)	10100		
10.15		10150		
10.20	102 2)	10200	102	102
10.25		10250		
10.30	103 2)	10300	103	
10.40	104 2)	10400		
10.50	105 2)	10500	105	105
10.55	955 2)			
10.60		10600		
10.70		10700	107	107
10.75		10750		
10.80		10800		
10.90		10900		
11.00	110 2)	11000	110	110
11.10		11100		
11.11 (7/16)	111 2)			
11.20	112 2)	11200	112	
11.30	113 2)		113	
11.40	114 2)	11400	114	114
11.50	115 2)	11500	115	115
11.60	116 2)	11600	116	
11.70		11700	117	
11.80		11800	118	118
11.90		11900	119	
12.00	120 2)	12000	120	120
12.15	121 2)			
12.20		12200		
P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

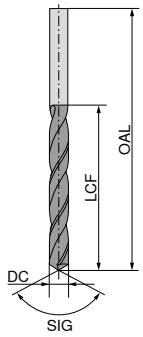
1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 338), short

≤ 5xD



UNI	N	VA	WTL
TiN	vap.		F.-nit
			
SIG 118°	SIG 118°	SIG 130°	SIG 130°
HSS-E	HSS	HSS-E	HSS-E
HD	CX	HD	HD
10 171 ...	**10 152 ...**	**10 175 ...**	**10 168 ...**

DC $_{h8}$ mm	DC inch	OAL mm	LCF mm
12.25		151	101.0		**12250**		
12.30		151	101.0	**123** [2]			
12.50		151	101.0	**925** [2]	**12500**		**125**
12.70		151	101.0	**127** [2]	**12700**		
12.80		151	101.0		**12800**		**128**
13.00		151	101.0	**130** [2]	**13000**		**130**
13.10		151	101.0	**131** [2]			
13.20		151	101.0		**13200**		
13.30		160	108.0	**133** [2]			
13.50		160	108.0	**135** [2]	**13500**		**135**
13.80		160	108.0		**13800**		**138**
14.00		160	108.0	**140** [2]	**14000**		**140**
14.50		169	114.0		**14500**		**145**
14.80		169	114.0				**148**
15.00		169	114.0		**15000**		**150**
15.25		178	120.0		**15250**		
15.50		178	120.0		**15500**		**155**
15.80		178	120.0		**15800**		
16.00		178	120.0		**16000**		**160**
16.50		184	125.0		**16500**		
17.00		184	125.0		**17000**		
17.50		191	130.0		**17500**		
18.00		191	130.0		**18000**		
18.50		198	135.0		**18500**		
19.00		198	135.0		**19000**		
19.50		205	140.0		**19500**		
20.00		205	140.0		**20000**		

	UNI	N	VA	WTL
P	●	○	○	●
M	●		●	○
K	●	●		●
N	○	○	●	●
S	○		○	○
H				○
O	○	○		○

1) Uncoated
2) Self-centering

→ Find the cutting data standard values here.

CoreLine – Twist drill sets (DIN 338), short

▲ In a cartridge
▲ In 0.1 mm steps

≤ 5xD

N vap.

UNI TiN







DC_{h8} mm	Drill set type N	Drill set type UNI TiN
	HSS	HSS-E
	CX	HD
	10 158 ...	**10 158 ...**
1,0 - 5,9	050	054 [1]
6,0 - 10,0	100	104 [1]
P	○	●
M		●
K	●	●
N	○	○
S		○
H		
O	○	○

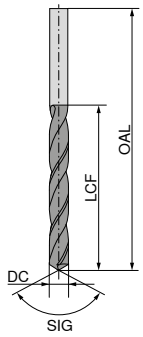
1) Self-centering

→ Find the cutting data standard values here.

Set type N vap. contains twist drills with article no. 10 152 ...
Set type UNI TiN contains twist drills with article no. 10 171 ...

CoreLine – Twist drills (DIN 340), long

≤ 10xD



UNI | TiN



SIG 118°
HSS-E

WTL | F.-nit



SIG 130°
HSS-E

DC h8 mm	OAL mm	LCF mm	HD 10 270 ...	HD 10 225 ...
1.0	56	33	010	010 [1]
1.1	60	37	011	011 [1]
1.2	65	41	012	012 [1]
1.3	65	41	013	013 [1]
1.4	70	45	014	014 [1]
1.5	70	45	015	015 [1]
1.6	76	50	016	016 [1]
1.7	76	50	017	017 [1]
1.8	80	53	018	018 [1]
1.9	80	53	019	019 [1]
2.0	85	56	020	020 [1]
2.1	85	56	021	021 [1]
2.2	90	59	022	022 [1]
2.3	90	59	023	023 [1]
2.4	95	62	024	024
2.5	95	62	025	025
2.6	95	62	026	026
2.7	100	66	027	027
2.8	100	66	028	028
2.9	100	66	029	029
3.0	100	66	030	030
3.1	106	69	031	031
3.2	106	69	032	032
3.3	106	69	033	033
3.4	112	73	034	034
3.5	112	73	035	035
3.6	112	73	036	036
3.7	112	73	037	037
3.8	119	78	038	038
3.9	119	78	039	039
4.0	119	78	040	040
4.1	119	78	041	041
4.2	119	78	042	042
4.3	126	82	043	043
4.4	126	82	044	044

P	●	●
M	●	○
K	●	●
N	○	●
S	○	○
H		○
O	○	○

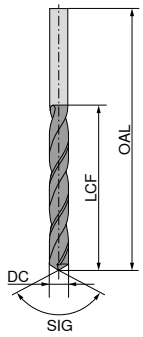
1) Uncoated

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 340), long

≤ 10xD



UNI
TiN



SIG 118°
HSS-E

WTL
F.-nit



SIG 130°
HSS-E

DC h8 mm	OAL mm	LCF mm	HD 10 270 ...	HD 10 225 ...
4.5	126	82	045	045
4.6	126	82	046	046
4.7	126	82	047	047
4.8	132	87	048	048
4.9	132	87	049	049
5.0	132	87	050	050
5.1	132	87	051	051
5.2	132	87	052	052
5.3	132	87	053	053
5.4	139	91	054	054
5.5	139	91	055	055
5.6	139	91	056	056
5.7	139	91	057	057
5.8	139	91	058	058
5.9	139	91	059	059
6.0	139	91	060	060
6.1	148	97	061	061
6.2	148	97	062	062
6.3	148	97	063	063
6.4	148	97	064	064
6.5	148	97	065	065
6.6	148	97	066	066
6.7	148	97	067	067
6.8	156	102	068	068
6.9	156	102	069	069
7.0	156	102	070	070
7.1	156	102	071	071
7.2	156	102	072	072
7.3	156	102	073	073
7.4	156	102	074	074
7.5	156	102	075	075
7.6	165	109	076	
7.7	165	109	077	077
7.8	165	109	078	078
7.9	165	109	079	079
P			●	●
M			●	○
K			●	●
N			○	●
S			○	○
H				○
O			○	○

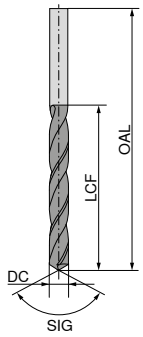
1) Uncoated

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 340), long

≤ 10xD



UNI | TiN



SIG 118°
HSS-E

WTL | F.-nit



SIG 130°
HSS-E

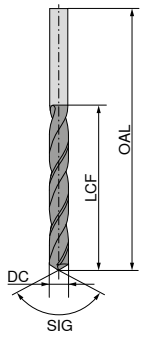
DC h8 mm	OAL mm	LCF mm	HD 10 270 ...	HD 10 225 ...
8.0	165	109	080	080
8.1	165	109	081	081
8.2	165	109	082	082
8.3	165	109	083	083
8.4	165	109	084	084
8.5	165	109	085	085
8.6	175	115	086	086
8.7	175	115	087	087
8.8	175	115	088	088
8.9	175	115	089	089
9.0	175	115	090	090
9.1	175	115	091	091
9.2	175	115	092	092
9.3	175	115	093	093
9.4	175	115	094	094
9.5	175	115	095	095
9.6	184	121	096	
9.7	184	121	097	097
9.8	184	121	098	098
9.9	184	121	099	099
10.0	184	121	100	100
10.1	184	121	101	
10.2	184	121	102	102
10.3	184	121	103	
10.4	184	121	104	
10.5	184	121	105	105
10.8	195	128		108
11.0	195	128	110	110
11.5	195	128	115	115
11.8	195	128		118
12.0	205	134	120	120
12.5	205	134	125	
13.0	205	134	130	
13.5	214	140	135	
14.0	214	140	140	
P			●	●
M			●	○
K			●	●
N			○	●
S			○	○
H				○
O			○	○

1) Uncoated

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 1869), extra-long, series 1

> 10xD



WTL

F.-nit



SIG 130°
HSS

DC h8 mm	OAL mm	LCF mm	HD 10 235 ...
2.0	125	85	020 1)
2.1	125	85	021 1)
2.2	135	90	022 1)
2.3	135	90	023 1)
2.4	140	95	024
2.5	140	95	025
2.6	140	95	026
2.7	150	100	027
2.8	150	100	028
2.9	150	100	029
3.0	150	100	030
3.1	155	105	031
3.2	155	105	032
3.3	155	105	033
3.4	165	115	034
3.5	165	115	035
3.6	165	115	036
3.7	165	115	037
3.8	175	120	038
3.9	175	120	039
4.0	175	120	040
4.1	175	120	041
4.2	175	120	042
4.3	185	125	043
4.4	185	125	044
4.5	185	125	045
4.6	185	125	046
4.7	185	125	047
4.8	195	135	048
4.9	195	135	049
5.0	195	135	050
5.1	195	135	051
5.2	195	135	052
5.3	195	135	053
5.4	205	140	054

P	●
M	
K	●
N	●
S	
H	
O	○

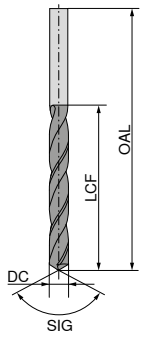
1) Uncoated

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 1869), extra-long, series 1

> 10xD



WTL

F.-nit



SIG 130°
HSS

DC h8 mm	OAL mm	LCF mm	HD 10 235 ...
5.5	205	140	055
5.6	205	140	056
5.7	205	140	057
5.8	205	140	058
5.9	205	140	059
6.0	205	140	060
6.1	215	150	061
6.2	215	150	062
6.3	215	150	063
6.4	215	150	064
6.5	215	150	065
6.6	215	150	066
6.7	215	150	067
6.8	225	155	068
6.9	225	155	069
7.0	225	155	070
7.1	225	155	071
7.3	225	155	073
7.4	225	155	074
7.5	225	155	075
7.7	240	165	077
7.8	240	165	078
7.9	240	165	079
8.0	240	165	080
8.1	240	165	081
8.2	240	165	082
8.3	240	165	083
8.4	240	165	084
8.5	240	165	085
8.6	250	175	086
8.7	250	175	087
8.8	250	175	088
9.0	250	175	090
9.2	250	175	092
9.4	250	175	094

P	●
M	
K	●
N	●
S	
H	
O	○

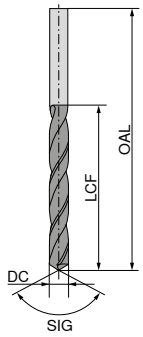
1) Uncoated

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 1869), extra-long, series 1

> 10xD



WTL

F.-nit



SIG 130°
HSS

DC h8 mm	OAL mm	LCF mm	HD 10 235 ...
9.5	250	175	095
9.6	265	185	096
9.7	265	185	097
9.8	265	185	098
9.9	265	185	099
10.0	265	185	100
10.5	265	185	105
11.0	280	195	110
11.5	280	195	115
12.0	295	205	120
12.5	295	205	125
13.0	295	205	130

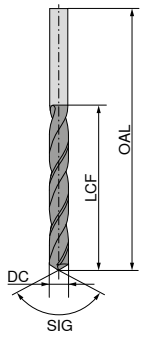
P	●
M	
K	●
N	●
S	
H	
O	○

1) Uncoated

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 1869), extra-long, series 2

> 10xD



WTL

F.-nit



SIG 130°
HSS

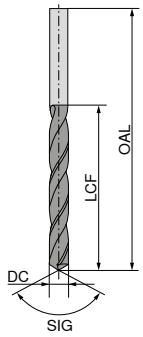
DC h8 mm	OAL mm	LCF mm	HD 10 245 ...
2.0	160	110	020 [1]
2.5	180	120	025
3.0	190	130	030
3.5	210	145	035
4.0	220	150	040
4.5	235	160	045
5.0	245	170	050
5.5	260	180	055
6.0	260	180	060
6.5	275	190	065
7.0	290	200	070
7.5	290	200	075
8.0	305	210	080
8.5	305	210	085
9.0	320	220	090
9.5	320	220	095
10.0	340	235	100
10.5	340	235	105
11.0	365	250	110
11.5	365	250	115
12.0	375	260	120
12.5	375	260	125
13.0	375	260	130
P			●
M			
K			●
N			●
S			
H			
O			○

1) Uncoated

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 1869), extra-long, series 3

> 10xD



WTL

F.-nit



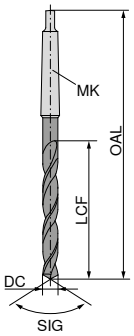
SIG 130°
HSS

DC h8 mm	OAL mm	LCF mm	HD 10 255 ...
2.5	225	150	025
3.0	240	160	030
3.5	265	180	035
4.0	280	190	040
4.5	295	200	045
5.0	315	210	050
5.5	330	225	055
6.0	330	225	060
6.5	350	235	065
7.0	370	250	070
7.5	370	250	075
8.0	390	265	080
8.5	390	265	085
9.0	410	280	090
9.5	410	280	095
10.0	430	295	100
10.5	430	295	105
11.0	455	310	110
11.5	455	310	115
12.0	480	330	120
12.5	480	330	125
13.0	480	330	130
P			●
M			
K			●
N			●
S			
H			
O			○

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 345)

≤ 5xD



N

vap.



SIG 118°
HSS

DC h8 mm	OAL mm	LCF mm	MK	HD 10 265 ...
10.00	168	87	1	100
10.20	168	87	1	102
10.50	168	87	1	105
10.80	175	94	1	108
11.00	175	94	1	110
11.50	175	94	1	115
11.80	175	94	1	118
12.00	182	101	1	120
12.20	182	101	1	122
12.50	182	101	1	125
13.00	182	101	1	130
13.50	189	108	1	135
13.80	189	108	1	138
14.00	189	108	1	140
14.25	212	114	2	142
14.50	212	114	2	145
14.75	212	114	2	147
15.00	212	114	2	150
15.25	218	120	2	152
15.50	218	120	2	155
15.75	218	120	2	157
16.00	218	120	2	160
16.25	223	125	2	162
16.50	223	125	2	165
16.75	223	125	2	167
17.00	223	125	2	170
17.50	228	130	2	175
17.75	228	130	2	177
18.00	228	130	2	180
18.25	233	135	2	182
18.50	233	135	2	185
18.75	233	135	2	187
19.00	233	135	2	190
19.25	238	140	2	192

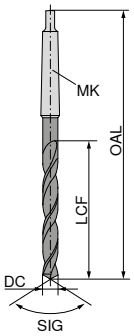
P	○
M	
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 345)

≤ 5xD



N

vap.



SIG 118°
HSS

DC h8 mm	OAL mm	LCF mm	MK	HD 10 265 ...
19.50	238	140	2	195
19.75	238	140	2	197
20.00	238	140	2	200
20.25	243	145	2	202
20.50	243	145	2	205
20.75	243	145	2	207
21.00	243	145	2	210
21.50	248	150	2	215
21.75	248	150	2	217
22.00	248	150	2	220
22.50	253	155	2	225
22.75	253	155	2	227
23.00	253	155	2	230
23.50	276	155	3	235
23.75	281	160	3	237
24.00	281	160	3	240
24.50	281	160	3	245
24.75	281	160	3	247
25.00	281	160	3	250
25.50	286	165	3	255
25.75	286	165	3	257
26.00	286	165	3	260
26.50	286	165	3	265
26.75	291	170	3	267
27.00	291	170	3	270
27.50	291	170	3	275
27.75	291	170	3	277
28.00	291	170	3	280
28.50	296	175	3	285
28.75	296	175	3	287
29.00	296	175	3	290
29.50	296	175	3	295
29.75	296	175	3	297
30.00	296	175	3	300

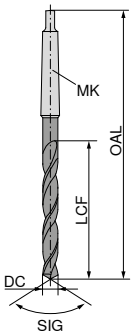
P	○
M	
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 345)

≤ 5xD



N

vap.



SIG 118°
HSS

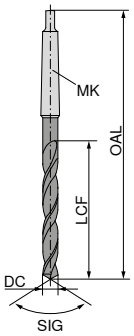
DC h8 mm	OAL mm	LCF mm	MK	HD 10 265 ...
30.50	301	180	3	305
31.00	301	180	3	310
31.50	301	180	3	315
32.00	334	185	4	320
33.00	334	185	4	330
34.00	339	190	4	340
35.00	339	190	4	350
36.00	344	195	4	360
37.00	344	195	4	370
38.00	349	200	4	380
39.00	349	200	4	390
40.00	349	200	4	400
41.00	354	205	4	410
42.00	354	205	4	420
43.00	359	210	4	430
44.00	359	210	4	440
45.00	359	210	4	450
46.00	364	215	4	460
47.00	364	215	4	470
48.00	369	220	4	480
49.00	369	220	4	490
50.00	369	220	4	500

P	○
M	
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 341), long

≤ 10xD



N

vap.



SIG 118°
HSS

DC h8 mm	OAL mm	LCF mm	MK	HD 10 295 ...
10.00	197	116	1	100
10.20	197	116	1	102
10.50	197	116	1	105
10.80	206	125	1	108
11.00	206	125	1	110
11.50	206	125	1	115
12.00	215	134	1	120
12.50	215	134	1	125
13.00	215	134	1	130
13.50	223	142	1	135
13.80	223	142	1	138
14.00	223	142	1	140
14.25	245	147	2	142
14.50	245	147	2	145
14.75	245	147	2	147
15.00	245	147	2	150
15.25	251	153	2	152
15.50	251	153	2	155
15.75	251	153	2	157
16.00	251	153	2	160
16.25	257	159	2	162
16.50	257	159	2	165
16.75	257	159	2	167
17.00	257	159	2	170
17.50	263	165	2	175
17.75	263	165	2	177
18.00	263	165	2	180
18.50	269	171	2	185
19.00	269	171	2	190
19.50	275	177	2	195
20.00	275	177	2	200
20.50	282	184	2	205
21.00	282	184	2	210
21.50	289	191	2	215

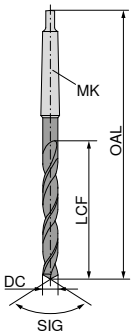
P	○
M	
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

Continued on next page

CoreLine – Twist drills (DIN 341), long

≤ 10xD



N

vap.



SIG 118°
HSS

DC h8 mm	OAL mm	LCF mm	MK	HD 10 295 ...
22.00	289	191	2	220
22.50	296	198	2	225
23.00	296	198	2	230
23.50	319	198	3	235
24.00	327	206	3	240
24.50	327	206	3	245
25.00	327	206	3	250
25.50	335	214	3	255
26.00	335	214	3	260
26.50	335	214	3	265
27.00	343	222	3	270
27.50	343	222	3	275
28.00	343	222	3	280
29.00	351	230	3	290
30.00	351	230	3	300
31.00	360	239	3	310
32.00	397	248	4	320
33.00	397	248	4	330
34.00	406	257	4	340
35.00	406	257	4	350
36.00	416	267	4	360
37.00	416	267	4	370
38.00	426	277	4	380
39.00	426	277	4	390
40.00	426	277	4	400
42.00	436	287	4	420
43.00	447	298	4	430
44.00	447	298	4	440
45.00	447	298	4	450
50.00	470	321	4	500

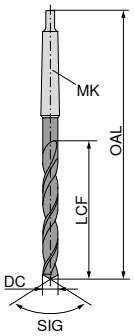
P	○
M	
K	●
N	○
S	
H	
O	○

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 1870), extra-long, series 1

> 10xD

WTL





SIG 130°
HSS

DC h8 mm	OAL mm	LCF mm	MK	HD 10 305 ...
10.0	285	185	1	100 1)
10.5	285	185	1	105 1)
11.0	300	195	1	110 1)
11.5	300	195	1	115 1)
12.0	310	205	1	120 1)
12.5	310	205	1	125 1)
13.0	310	205	1	130 1)
13.5	325	220	1	135 1)
14.0	325	220	1	140 1)
14.5	340	220	2	145 1)
15.0	340	220	2	150 1)
15.5	355	230	2	155 1)
16.0	355	230	2	160 1)
16.5	355	230	2	165 2)
17.0	355	230	2	170 2)
17.5	370	245	2	175 2)
18.0	370	245	2	180 2)
18.5	370	245	2	185 2)
19.0	370	245	2	190 2)
19.5	385	260	2	195 2)
20.0	385	260	2	200 2)
21.0	385	260	2	210 2)
22.0	405	270	2	220 2)
23.0	405	270	2	230 2)
24.0	440	290	3	240 2)
25.0	440	290	3	250 2)
26.0	440	290	3	260 2)
28.0	460	305	3	280 2)
30.0	460	305	3	300 2)

P	●
M	
K	●
N	●
S	
H	
O	○

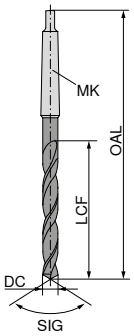
1) Nitrided chamfer
2) Vaporized

→ Find the cutting data standard values here.

CoreLine – Twist drills (DIN 1870), extra-long, series 2

> 10xD

WTL





SIG 130°
HSS

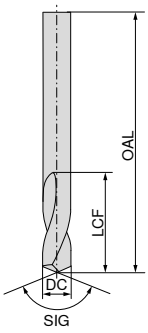
DC h8 mm	OAL mm	LCF mm	MK	HD 10 315 ...
10.0	360	235	1	100 1)
10.5	360	235	1	105 1)
11.0	375	250	1	110 1)
11.5	375	250	1	115 1)
12.0	395	260	1	120 1)
13.0	395	260	1	130 1)
13.5	410	275	1	135 1)
14.0	410	275	1	140 1)
14.5	425	275	2	145 1)
15.0	425	275	2	150 1)
15.5	445	295	2	155 1)
16.0	445	295	2	160 1)
16.5	445	295	2	165 2)
17.0	445	295	2	170 2)
17.5	465	310	2	175 2)
18.0	465	310	2	180 2)
18.5	465	310	2	185 2)
19.0	465	310	2	190 2)
19.5	490	325	2	195 2)
20.0	490	325	2	200 2)
21.0	490	325	2	210 2)
22.0	515	345	2	220 2)
23.0	515	345	2	230 2)
24.0	555	365	3	240 2)
25.0	555	365	3	250 2)
26.0	555	365	3	260 2)
28.0	580	385	3	280 2)
30.0	580	385	3	300 2)
P				●
M				
K				●
N				●
S				
H				
O				○

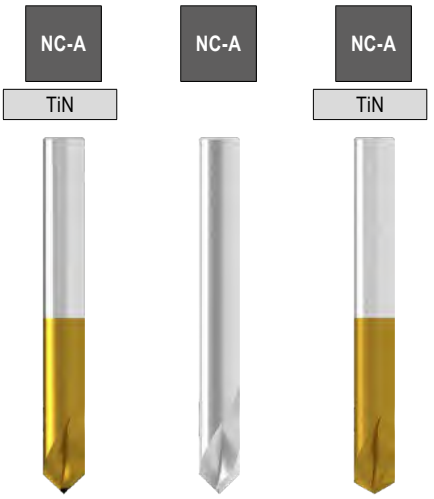
1) Nitrided chamfer
2) Vaporized

→ Find the cutting data standard values here.

CoreLine – NC spot drills, factory standard

▲ Helical flutes





SIG 90°
HSS

SIG 90°
HSS

SIG 120°
HSS

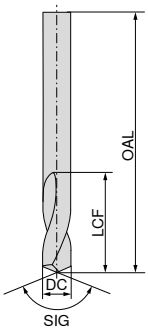
DC h6 mm	OAL mm	LCF mm	CX 10 522 ...	CX 10 520 ...	CX 10 512 ...
3	46	12.0	030	030	030
4	55	12.0	040	040	040
5	62	14.0	050	050	050
6	66	16.0	060	060	060
8	79	21.0	080	080	080
10	89	25.0	100	100	100
12	102	30.0	120	120	120
16	115	37.5	160	160	160
20	131	45.0	200	200	200
P			●	●	●
M			○	○	○
K			●	●	●
N			○	○	○
S			○	○	○
H					
O			○	○	○

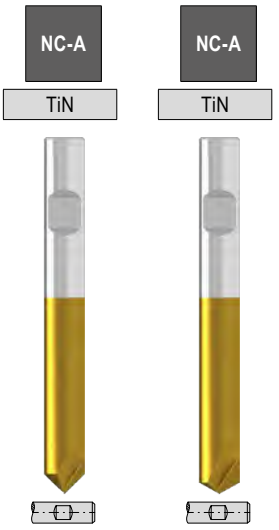
→ Find the cutting data standard values here.

Suitable only for spot drilling!

CoreLine – NC spot drills, factory standard

▲ With clamping flat similar to DIN 1835 B





DC h6 mm	OAL mm	LCF mm	SIG 90° HSS CX 10 523 ...	SIG 120° HSS CX 10 513 ...
6	66	7.0	**060**	**060**
8	79	9.0	**080**	**080**
10	89	11.5	**100**	**100**
12	102	14.0	**120**	**120**
16	115	18.0	**160**	**160**
20	131	23.0	**200**	**200**

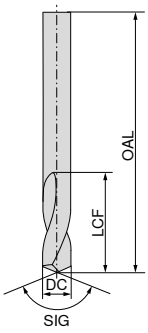
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

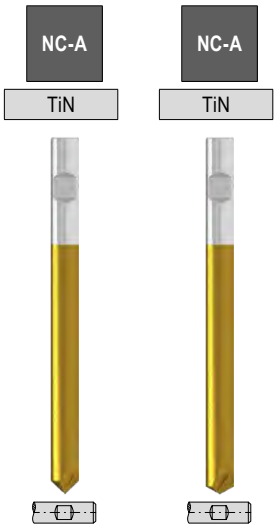
→ Find the cutting data standard values here.

Suitable only for spot drilling!

CoreLine – NC spot drills, factory standard, long

▲ With clamping flat similar to DIN 1835 B





DC h6 mm	OAL mm	LCF mm	SIG 90° HSS CX 10 528 ...	SIG 120° HSS CX 10 532 ...
6	93	7.0	**060**	**060**
8	117	9.0	**080**	**080**
10	133	11.5	**100**	**100**
12	151	14.0	**120**	**120**
16	178	18.0	**160**	**160**
20	205	23.0	**200**	**200**

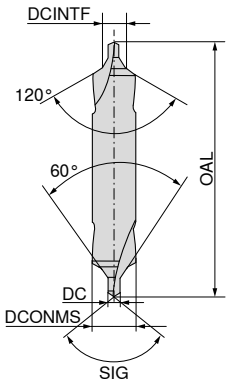
P	●	●
M	○	○
K	●	●
N	○	○
S	○	○
H		
O	○	○

→ Find the cutting data standard values here.

Suitable only for spot drilling!

CoreLine – Centre drills (DIN 333), form B

▲ With protective countersink 120°



ZB



Right

SIG 118°

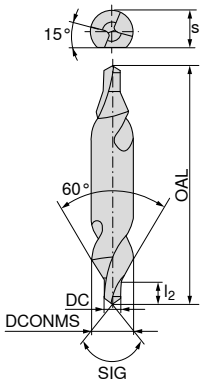
HSS

DC mm	DCONMS h8 mm	DCINTF k12 mm	OAL mm	CX 10 480 ...
1.00	4.0	2.12	35.5	**100**
1.25	5.0	2.65	40.0	**125**
1.60	6.3	3.35	45.0	**160**
2.00	8.0	4.25	50.0	**200**
2.50	10.0	5.30	56.0	**250**
3.15	11.2	6.70	62.0	**315**
4.00	14.0	8.50	69.0	**400**
5.00	18.0	10.60	77.0	**500**

P	●
M	○
K	●
N	○
S	○
H	
O	○

→ Find the cutting data standard values here.

CoreLine – Centre drills (DIN 333), form A





Right
SIG 118°
HSS

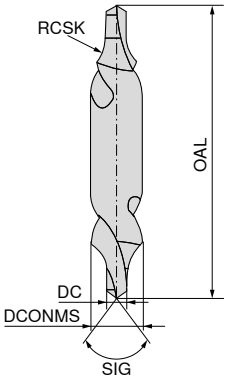
Right
SIG 118°
HSS

DC mm	DCONMS $_{h8}$ mm	OAL mm	l_2 mm	CX 10 415 ...	CX 10 425 ...
0.50	3.15	25.0	0.8	**050** [1]	**050** [1]
0.80	3.15	25.0	1.1	**080** [1]	**080** [1]
1.00	3.15	31.5	1.3	**100**	**100**
1.25	3.15	31.5	1.6	**125**	**125**
1.60	4.00	35.5	2.0	**160**	**160**
2.00	5.00	40.0	2.5	**200**	**200**
2.50	6.30	45.0	3.1	**250**	**250**
3.15	8.00	50.0	3.9	**315**	**315**
4.00	10.00	56.0	5.0	**400**	**400**
5.00	12.50	63.0	6.3	**500**	**500**
6.30	16.00	71.0	8.0	**630**	**630**
P				●	●
M				○	○
K				●	●
N				○	○
S				○	○
H					
O				○	○

1) Can only be used on one side

→ Find the cutting data standard values here.

CoreLine – Centre drills (DIN 333), form R



ZB



Right

SIG 118°

HSS

CX

10 455 ...

ZB



Left

SIG 118°

HSS

CX

10 475 ...

DC mm	DCONMS h8 mm	OAL mm	RCSK mm	10 455 ...	10 475 ...
0.50	3.15	25.0	2.00	**050** [1]	
0.80	3.15	25.0	2.50	**080** [1]	**080** [1]
1.00	3.15	31.5	2.90	**100**	**100**
1.25	3.15	31.5	3.15	**125**	**125**
1.60	4.00	35.5	4.00	**160**	**160**
2.00	5.00	40.0	5.00	**200**	**200**
2.50	6.30	45.0	6.30	**250**	**250**
3.15	8.00	50.0	8.00	**315**	**315**
4.00	10.00	56.0	10.00	**400**	**400**
5.00	12.50	63.0	12.50	**500**	**500**
6.30	16.00	71.0	16.00	**630**	
P				●	●
M				○	○
K				●	●
N				○	○
S				○	○
H					
O				○	○

1) Can only be used on one side

→ Find the cutting data standard values here.

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment	Hardness HB / HRC Tensile strength at rupture (Rm) lbf/in²	Material number Material designation		Material number Material designation	
P	Unalloyed steel	P.1.1	< 0.15 % C, annealed	60900 lbf/in² / 125 HB	1.0401	1015	1.0301	1010
		P.1.2	< 0.45 % C, annealed	92800 lbf/in² / 190 HB	1.1191	1045	1.0737	12L14
		P.1.3	< 0.45 % C, tempered	121800 lbf/in² / 250 HB	1.1191	1045	1.0503	1043
		P.1.4	< 0.75 % C, annealed	132000 lbf/in² / 270 HB	1.1223	1060	1.0535	1055
		P.1.5	< 0.75 % C, tempered	146500 lbf/in² / 300 HB	1.1223	1060	1.1274	1095
	Low-alloy steel	P.2.1	Annealed	88500 lbf/in² / 180 HB	1.7131	5115	1.6523	8620
		P.2.2	Tempered	134900 lbf/in² / 275 HB	1.7131	5115	1.6582	4340
		P.2.3	Tempered	146500 lbf/in² / 300 HB	1.7225	4142	1.7131	5115
		P.2.4	Tempered	174000 lbf/in² / 375 HB	1.7225	4142	17223	4140
	High-alloy steel and high-alloy tool steel	P.3.1	Annealed	98600 lbf/in² / 200 HB	1.4021	420	1.2379	D2
		P.3.2	Hardened and tempered	159500 lbf/in² / 300 HB	1.2343	H11	1.3343	M2
		P.3.3	Hardened and tempered	188500 lbf/in² / 400 HB	1.2343	H11	1.2363	A2
	Stainless steel	P.4.1	Ferritic / martensitic, annealed	98600 lbf/in² / 200 HB	1.4016	430	1.4125	440C
		P.4.2	Martensitic, tempered	117500 lbf/in² / 300 HB	1.4112	S44003	1.4021	420
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic, quenched	88500 lbf/in² / 180 HB	1.4301	304	1.4401	316
		M.2.1	Austenitic, tempered	300 HB	1.4841	314	1.4568	17-7 PH
		M.3.1	Austenitic / ferritic (Duplex)	113100 lbf/in² / 230 HB	1.4462	S32205	1.4410	S32750
K	Grey cast iron	K.1.1	Pearlitic / ferritic	88500 lbf/in² / 180 HB	0.6010	A48-20B	0.6025	A48-40 B
		K.1.2	Pearlitic (martensitic)	127600 lbf/in² / 260 HB	0.6030	A48-45B	0.6040	A48-60 B
	Spherulitic graphite cast iron	K.2.1	Ferritic	78300 lbf/in² / 160 HB	0.7040	60-40-18	0.7050	65-45-12
		K.2.2	Pearlitic	122600 lbf/in² / 250 HB	0.7070	100-70-03	0.7660	A439 Type D2
	Malleable iron	K.3.1	Ferritic	63800 lbf/in² / 130 HB	0.8035	GTW-35-04		
		K.3.2	Pearlitic	113100 lbf/in² / 230 HB	0.8170	70003		
N	Aluminium wrought alloy	N.1.1	Non-hardenable	60 HB	3.0255	A91060	3.0255	A91060
		N.1.2	Hardenable, age-hardened	49300 lbf/in² / 100 HB	3.1355	2024	3.1355	2024
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable	36300 lbf/in² / 75 HB	3.2581	A04130 / A413-0	3.2581	A04130 / A413-0
		N.2.2	≤ 12 % Si, hardenable, age-hardened	43500 lbf/in² / 90 HB	3.2134	G-AlSi5Cu1Mg		
		N.2.3	> 12 % Si, non-hardenable	63800 lbf/in² / 130 HB		G-AlSi17Cu4Mg		
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, Pb > 1 %	54400 lbf/in² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0380	C37700
		N.3.2	CuZn, CuSnZn	43500 lbf/in² / 90 HB	2.0331	CuZn15	2.0331	C34000
		N.3.3	CuSn, lead-free copper and electrolytic copper	49300 lbf/in² / 100 HB	2.0060	E-Cu57		
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys	70 HB	3.5612	MgAl6Zn		
S	Heat-resistant alloys	S.1.1	Fe basis, annealed	98600 lbf/in² / 200 HB	1.4864	X12NiCrSi 36-16	1.4864	330
		S.1.2	Fe basis, age-hardened	137800 lbf/in² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4980	S66286
		S.2.1	Ni or Co basis, annealed	121800 lbf/in² / 250 HB	2.4856	Inconel 625	2.4812	Hastelloy C
		S.2.2	Ni or Co basis, age-hardened	171100 lbf/in² / 350 HB	2.4952	Nimonic 80A	2.4668	Inconel 718
		S.2.3	Ni or Co basis, cast	156600 lbf/in² / 320 HB	2.4674	Nimocast PK24	2.4670	Nimocast 713
	Titanium alloys	S.3.1	Pure titanium	5800 lbf/in²	3.7025	Ti99,8		
		S.3.2	Alpha + beta alloys, age-hardened	152300 lbf/in² / 320 HB	3.7165	TiAl6V4		
		S.3.3	Beta alloys	203100 lbf/in² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr		
H	Hardened steel	H.1.1	Hardened and tempered	46–55 HRC				
		H.1.2	Hardened and tempered	56–60 HRC				
		H.1.3	Hardened and tempered	61–65 HRC				
		H.1.4	Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1	Cast	400 HB				
	Hardened cast iron	H.3.1	Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic	≤ 21800 lbf/in²	EP, MF, PF, UP			
		O.1.2	Plastics, thermoplastic	≤ 14500 lbf/in²	PA, PC, PE, PI, PMMA, POM, PP, PS, PTFE, PVC			
		O.2.1	Aramid fibre-reinforced	≤ 145000 lbf/in²	AFK			
		O.2.2	Glass/carbon-fibre reinforced	≤ 145000 lbf/in²	CFRP, GFRP			
		O.3.1	Graphite					

Cutting data standard values – Hole depth 3xD

Index	10 122 ... Type VX-TiN		10 107 ... Type UNI-TiN		10 130 ... Type VA		10 109 ... Type WT	
	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F
P.1.1	**46**	6	**46**	6	38	5	**38**	6
P.1.2	**39**	5	**39**	5	32	4	**32**	5
P.1.3	**35**	5	**35**	5	29	4	**29**	5
P.1.4	**32**	5	**32**	5	27	4	**27**	5
P.1.5	**28**	5	**28**	5			**23**	5
P.2.1	**35**	5	**35**	5	25	5	**25**	5
P.2.2	**24**	4	**24**	4	18	4	**18**	4
P.2.3	**21**	4	**21**	4			**15**	4
P.2.4	**19**	3	**19**	3			**14**	3
P.3.1	**17**	4	**17**	4			**16**	4
P.3.2	**13**	3	**13**	3			**12**	3
P.3.3	**12**	3	**12**	3			**12**	3
P.4.1	**18**	4	**18**	4	15	3	**14**	3
P.4.2	**17**	3	**17**	3	14	2	**14**	2
M.1.1	**15**	4	**15**	4	**13**	3	**12**	3
M.2.1	**12**	3	**12**	3	**11**	2	**10**	2
M.3.1	**10**	3	**10**	3	**9**	2	**8**	2
K.1.1	**41**	6	**41**	6			**35**	6
K.1.2	**33**	6	**33**	6			**28**	6
K.2.1	**35**	6	**35**	6			**30**	6
K.2.2	**27**	5	**27**	5			**23**	5
K.3.1	**35**	6	**35**	6			**30**	6
K.3.2	**27**	5	**27**	5			**23**	5
N.1.1					**80**	7		
N.1.2					**80**	7		
N.2.1	75	6	75	6	**65**	6		
N.2.2	60	5	60	5	**52**	5		
N.2.3	52	5	52	5	**46**	5		
N.3.1	69	5	69	5	**60**	5	62	5
N.3.2	41	4	41	4	**36**	4	37	4
N.3.3	55	4	55	4	**48**	4		
N.4.1	70	5	70	5	**60**	5		
S.1.1					8	1	8	1
S.1.2					6	1	6	1
S.2.1					7	1	7	1
S.2.2								
S.2.3								
S.3.1	9	2	9	2	10	2	10	2
S.3.2	6	1	6	1	7	1	7	1
S.3.3					6	2	6	2
H.1.1							4	1
H.1.2								
H.1.3								
H.1.4								
H.2.1							8	3
H.3.1								
O.1.1	29	4	29	4				
O.1.2	29	4	29	4				
O.2.1	29	4	29	4				
O.2.2	29	4	29	4				
O.3.1								

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

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by 10% for hole depths > 4xD, by 15-20% for hole depths > 6xD.
It is also recommended use cooling emulsion.

v_c = Cutting speed in m/min.
F = Feed factor

→ You can find the recommended feed values here.

Cutting data standard values – Hole depth 5xD

Index	10 124 ... Type VX-TiN		10 171 ... Type UNI-TiN		10 152 ... Type N		10 175 ... Type VA		10 168 ... Type WTL		10 265 ... Type N-MK	
	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F
P.1.1	**46**	6	**46**	6	28	6	38	5	**32**	6	28	6
P.1.2	**39**	5	**39**	5	24	5	32	4	**27**	5	24	5
P.1.3	**35**	5	**35**	5	21	5	29	4	**24**	5	21	5
P.1.4	**32**	5	**32**	5	20	5	27	4	**23**	5	20	5
P.1.5	**28**	5	**28**	5	17	5			**19**	5	17	5
P.2.1	**35**	5	**35**	5	17	4	25	5	**20**	5	17	4
P.2.2	**24**	4	**24**	4	12	3	18	4	**14**	4	12	3
P.2.3	**21**	4	**21**	4	10	3			**12**	4	10	3
P.2.4	**19**	3	**19**	3	9	2			**11**	3	9	2
P.3.1	**17**	4	**17**	4	13	4			**15**	4	13	4
P.3.2	**13**	3	**13**	3					**11**	3		
P.3.3	**12**	3	**12**	3					**10**	3		
P.4.1	**18**	4	**18**	4			15	3	**10**	3		
P.4.2	**17**	3	**17**	3			14	2	**10**	2		
M.1.1	**15**	4	**15**	4			**13**	3	9	3		
M.2.1	**14**	4	**14**	4			**12**	3	8	2		
M.3.1	**10**	3	**10**	3			**9**	2				
K.1.1	**41**	6	**41**	6	**30**	6			**35**	6	**30**	6
K.1.2	**33**	6	**33**	6	**24**	6			**28**	6	**24**	6
K.2.1	**35**	6	**35**	6	**26**	6			**29**	6	**26**	6
K.2.2	**27**	5	**27**	5	**20**	5			**22**	5	**20**	5
K.3.1	**35**	6	**35**	6	**26**	6			**29**	6	**26**	6
K.3.2	**27**	5	**27**	5	**20**	5			**22**	5	**20**	5
N.1.1							**80**	7	**69**	7		
N.1.2							**80**	7	**69**	7		
N.2.1	75	6	75	6	50	6	**65**	6	**58**	6	50	6
N.2.2	60	5	60	5	40	5	**52**	5	**46**	5	40	5
N.2.3	52	5	52	5	35	5	**46**	5	**40**	5	35	5
N.3.1	69	5	69	5	60	5	**60**	5	**69**	5	60	5
N.3.2	41	4	41	4	36	4	**36**	4	**41**	4	36	4
N.3.3	55	4	55	4	48	4	**48**	4	**55**	4	48	4
N.4.1	75	6	70	6	45	6	**60**	6	**6**	6	45	6
S.1.1							8	1	7	2		
S.1.2							6	1	6	1		
S.2.1							7	1	6	2		
S.2.2									3	1		
S.2.3									4	1		
S.3.1	9	2	9	2			10	2	6	2		
S.3.2	6	1	6	1			7	1	4	1		
S.3.3							6	1				
H.1.1									5	1		
H.1.2												
H.1.3												
H.1.4												
H.2.1									9	3		
H.3.1												
O.1.1	29	4	29	4	20	5			23	4	20	5
O.1.2	29	4	29	4	20	5			23	4	20	5
O.2.1	29	4	29	4	20	5			23	4	20	5
O.2.2	29	4	29	4	20	5			23	4	20	5
O.3.1												

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When drilling into tough materials and materials that tend to jam, chips should be removed for hole depths ≥ 4xD and the cutting speed v_c reduced as follows:
by 10% for hole depths > 4xD, by 15-20% for hole depths > 6xD.
It is also recommended use cooling emulsion.

v_c = Cutting speed in m/min.
F = Feed factor

→ You can find the recommended feed values here.

Cutting data standard values – Hole depth 10xD

Index	10 270 ... Type UNI-TiN		10 225 ... Type WTL		10 295 ... Type N-MK	
	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F
P.1.1	**41**	6	**29**	6	**25**	6
P.1.2	**35**	5	**25**	5	**21**	5
P.1.3	**31**	5	**22**	5	**19**	5
P.1.4	**29**	5	**20**	5	**18**	5
P.1.5	**25**	5	**17**	5	**15**	5
P.2.1	**31**	5	**18**	5	**15**	4
P.2.2	**22**	4	**12**	4	**11**	3
P.2.3	**19**	4	**11**	4	**9**	3
P.2.4	**17**	3	**10**	3	**8**	2
P.3.1	**16**	4	**13**	4	**12**	4
P.3.2	**12**	3	**10**	3		
P.3.3	**10**	2	**8**	3		
P.4.1	**16**	4	**9**	3		
P.4.2	**15**	3	**9**	2		
M.1.1	**13**	4	**8**	3		
M.2.1	**8**	3	**2**	2		
M.3.1	**9**	3				
K.1.1	**37**	6	**31**	6	**27**	6
K.1.2	**30**	6	**25**	6	**22**	6
K.2.1	**32**	6	**26**	6	**23**	6
K.2.2	**24**	5	**20**	5	**18**	5
K.3.1	**32**	6	**26**	6	**23**	6
K.3.2	**24**	5	**20**	5	**18**	5
N.1.1			**62**	7		
N.1.2			**62**	7		
N.2.1	67	6	**52**	6	45	6
N.2.2	54	5	**41**	5	36	5
N.2.3	47	5	**36**	5	32	5
N.3.1	62	5	**62**	5	54	5
N.3.2	37	4	**37**	4	32	4
N.3.3	50	4	**50**	4	43	4
N.4.1	50	6	**50**	6	60	6
S.1.1			6	2		
S.1.2			5	1		
S.2.1			5	2		
S.2.2			3	1		
S.2.3			4	1		
S.3.1	8	2	5	2		
S.3.2	5	1	3	1		
S.3.3						
H.1.1			4	1		
H.1.2						
H.1.3						
H.1.4						
H.2.1			8	3		
H.3.1						
O.1.1	26	4	21	4	18	5
O.1.2	26	4	21	4	18	5
O.2.1	26	4	21	4	18	5
O.2.2	26	4	21	4	18	5
O.3.1						

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by 10% for hole depths > 4xD, by 15-20% for hole depths > 6xD.
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v_c = Cutting speed in m/min.
F = Feed factor

→ You can find the recommended feed values here.

Cutting data standard values – Hole depth greater than 10xD

Index	10 235 ... Type WTL-R1		10 245 ... Type WTL-R2		10 255 ... Type WTL-R3		10 305 ... Type WTL-MK-R1		10 315 ... Type WTL-MK-R2	
	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F
P.1.1	21	5	21	5	21	5	21	5	21	5
P.1.2	18	4	18	4	18	4	18	4	18	4
P.1.3	16	4	16	4	16	4	16	4	16	4
P.1.4	15	4	15	4	15	4	15	4	15	4
P.1.5	13	4	13	4	13	4	13	4	13	4
P.2.1	13	4	13	4	13	4	13	4	13	4
P.2.2	9	3	9	3	9	3	9	3	9	3
P.2.3	8	3	8	3	8	3	8	3	8	3
P.2.4	7	2	7	2	7	2	7	2	7	2
P.3.1	10	3	10	3	10	3	10	3	10	3
P.3.2	7	2	7	2	7	2	7	2	7	2
P.3.3	6	2	6	2	6	2	6	2	6	2
P.4.1										
P.4.2										
M.1.1										
M.2.1										
M.3.1										
K.1.1	23	5	23	5	23	5	23	5	23	5
K.1.2	18	5	18	5	18	5	18	5	18	5
K.2.1	19	5	19	5	19	5	19	5	19	5
K.2.2	15	4	15	4	15	4	15	4	15	4
K.3.1	19	5	19	5	19	5	19	5	19	5
K.3.2	15	4	15	4	15	4	15	4	15	4
N.1.1	45	6	45	6	45	6	45	6	45	6
N.1.2	45	6	45	6	45	6	45	6	45	6
N.2.1	38	5	38	5	38	5	38	5	38	5
N.2.2	30	4	30	4	30	4	30	4	30	4
N.2.3	26	4	26	4	26	4	26	4	26	4
N.3.1	45	4	45	4	45	4	45	4	45	4
N.3.2	27	3	27	3	27	3	27	3	27	3
N.3.3	36	3	36	3	36	3	36	3	36	3
N.4.1	55	5	55	5	55	5	55	5	55	5
S.1.1										
S.1.2										
S.2.1										
S.2.2										
S.2.3										
S.3.1										
S.3.2										
S.3.3										
H.1.1										
H.1.2										
H.1.3										
H.1.4										
H.2.1										
H.3.1										
O.1.1	15	3	15	3	15	3	15	3	15	3
O.1.2	15	3	15	3	15	3	15	3	15	3
O.2.1	15	3	15	3	15	3	15	3	15	3
O.2.2	15	3	15	3	15	3	15	3	15	3
O.3.1										

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that must be corrected according to the usage conditions.

When drilling into tough materials and materials that tend to jam, chips should be removed for hole depths ≥ 4xD and the cutting speed v_c reduced as follows:
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It is also recommended use cooling emulsion.

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F = Feed factor

→ You can find the recommended feed values here.

Cutting data standard values – NC spot drills, center drills, core drills, stepped drills

Index	10 520 ...		10 512 ... / 10 522 ... / 10 513 ... / 10 523 ... / 10 532 ... / 10 528 ...		10 480 ... / 10 415 ... / 10 455 ... / 10 475 ...		10 425 ...	
	Type NC-A		Type NC-A TiN		Type ZB		Type ZB	
	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F	v_c (m/min)	F
P.1.1	**28**	6	**32**	6	**28**	6	**32**	6
P.1.2	**24**	5	**27**	5	**24**	5	**27**	5
P.1.3	**24**	5	**27**	5	**24**	5	**27**	5
P.1.4	**20**	5	**23**	5	**20**	5	**23**	5
P.1.5	**17**	5	**19**	5	**17**	5	**19**	5
P.2.1	**17**	4	**20**	4	**17**	4	**20**	4
P.2.2	**12**	3	**14**	3	**12**	3	**14**	3
P.2.3	**10**	3	**12**	3	**10**	3	**12**	3
P.2.4	**9**	2	**11**	2	**9**	2	**11**	2
P.3.1	**13**	4	**15**	4	**13**	4	**15**	4
P.3.2	**13**	4	**15**	4	**13**	4	**15**	4
P.3.3								
P.4.1	**9**	3	**10**	3	**9**	3	**10**	3
P.4.2	**8**	2	**9**	2	**9**	2	**10**	2
M.1.1	8	3	9	3	8	3	9	3
M.2.1	7	2	8	2	7	2	9	2
M.3.1	7	2	8	2	6	2	7	2
K.1.1	**30**	6	**35**	6	**30**	6	**35**	6
K.1.2	**24**	6	**28**	6	**24**	6	**28**	6
K.2.1	**26**	6	**29**	6	**26**	6	**29**	6
K.2.2	**20**	5	**22**	5	**20**	5	**22**	5
K.3.1	**26**	6	**29**	6	**26**	6	**29**	6
K.3.2	**20**	5	**22**	5	**20**	5	**22**	5
N.1.1	60	6	65	6	60	7	65	7
N.1.2	60	6	65	6	60	7	65	7
N.2.1	50	6	58	6	50	6	58	6
N.2.2	40	5	46	5	40	5	46	5
N.2.3	35	5	40	5	35	5	40	5
N.3.1	60	5	69	5	60	5	69	5
N.3.2	36	4	41	4	36	4	41	4
N.3.3	48	4	55	4	48	4	55	4
N.4.1	20	5	23	5	20	5	23	5
S.1.1	6	2	7	2	6	2	7	2
S.1.2	5	1	6	1	5	1	6	1
S.2.1	5	2	6	2	5	2	6	2
S.2.2	3	1	3	1	3	1	3	1
S.2.3	4	1	4	1	4	1	4	1
S.3.1	5	2	6	2	5	2	6	2
S.3.2	3	1	4	1	3	1	4	1
S.3.3								
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1	20	5	23	5	20	5	23	5
O.1.2	20	5	23	5	20	5	23	5
O.2.1								
O.2.2	20	5	23	5	20	5	23	5
O.3.1								

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by 10% for hole depths > 4xD, by 15-20% for hole depths > 6xD.
It is also recommended use cooling emulsion.

v_c = Cutting speed in m/min.
F = Feed factor

→ You can find the recommended feed values here.

Recommended feed values for HSS twist drills

Factor F	Drill diameter in mm															
	0,5	1	2	3	4	5	6	8	10	12	14	16	18	20	26	30
	Feed rate f in mm/rev.															
1	0,004	0,006	0,02	0,03	0,04	0,04	0,05	0,06	0,08	0,08	0,09	0,1	0,12	0,15	0,18	0,19
2	0,006	0,008	0,02	0,03	0,05	0,05	0,05	0,08	0,1	0,1	0,1	0,12	0,12	0,2	0,2	0,2
3	0,007	0,012	0,03	0,05	0,06	0,069	0,08	0,1	0,12	0,13	0,13	0,16	0,16	0,25	0,25	0,25
4	0,008	0,014	0,04	0,06	0,08	0,09	0,1	0,14	0,16	0,16	0,16	0,2	0,2	0,3	0,3	0,3
5	0,01	0,016	0,06	0,08	0,1	0,12	0,13	0,16	0,2	0,2	0,22	0,25	0,25	0,4	0,4	0,4
6	0,012	0,018	0,06	0,1	0,12	0,14	0,16	0,2	0,25	0,25	0,25	0,3	0,3	0,5	0,5	0,5
7	0,014	0,02	0,08	0,13	0,16	0,18	0,2	0,25	0,35	0,35	0,35	0,4	0,4	0,6	0,6	0,6
8	0,016	0,023	0,1	0,16	0,2	0,2	0,25	0,35	0,4	0,4	0,4	0,4	0,5	0,6	0,7	0,8
9	0,019	0,025	0,13	0,17	0,2	0,23	0,32	0,4	0,4	0,5	0,5	0,5	0,6	0,8	0,9	0,9

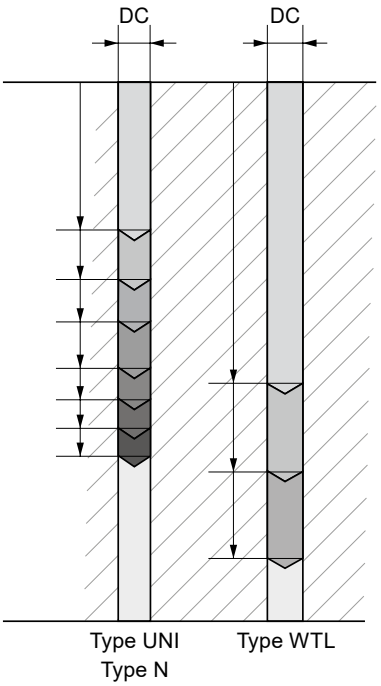
All the indicated data are recommended values only and represent average values.

RPM for HSS twist drills

v_c (m/min)	Drill diameter in mm															
	2,0	2,5	3,15	4,0	5,0	6,3	8,0	10,0	12,5	16,0	20,0	25,0	31,5	40,0	50,0	63,0	80,0
	Speed in RPM																
80	12.500	10.000	8.000	6.300	5.000	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320
63	10.000	8.000	6.300	5.000	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250
50	8.000	6.300	5.000	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200
40	6.300	5.000	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160
32	5.000	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125
25	4.000	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125	100
20	3.200	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125	100	80
16	2.500	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125	100	80	63
12	2.000	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125	100	80	63	50
10	1.600	1.250	1.000	800	630	500	400	320	250	200	160	125	100	80	63	50	40
8	1.250	1.000	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32
6	1.000	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25
5	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20
4	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20	16
3	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20	16	12

Peck frequency for deep drilling:

- Cutting edge needs to be sufficiently cooled; this is achieved by removing chips from the hole
- Chip removal frequency depends on the material to be machined, the hole depth and the drill type used
- Using a drill with a flat flute profile (WTL) significantly improves chip transport, which makes it possible to reduce the number of chip removal processes
- When drilling into tough materials and materials that tend to jam, chips should be removed for hole depths ≥ 4xD and the cutting speed v_c reduced as follows: by 10% for hole depths > 4xD, by 15-20% for hole depths > 6xD. It is also recommended use cooling emulsion
- In the case of deep holes and to improve the positional accuracy, it is recommended to bore a pilot/centering hole
- Drills with coolant holes and a through coolant supply are recommended for extremely deep holes or horizontal drilling applications



Coatings

TiN

- TiN coating
- Maximum application temperature: 450 °C

F.-nit

- Nitrided chamfers
- For improved wear protection and lubricant adhesion
- For machining steels and cast iron materials

vap.

- Vaporized
- Vaporizing (steam tempering) prevents cold welding forming on the tool and increases surface hardness and therefore also wear resistance

Cutting materials

HSS

- Conventional high speed steel
- Universal cutting material

HSS-E

- Cobalt-alloyed high speed steel
- Cutting material with increased elevated-temperature hardness and heat resistance as well as wear resistance
- Suitable for high cutting temperatures and difficult-to-machine materials