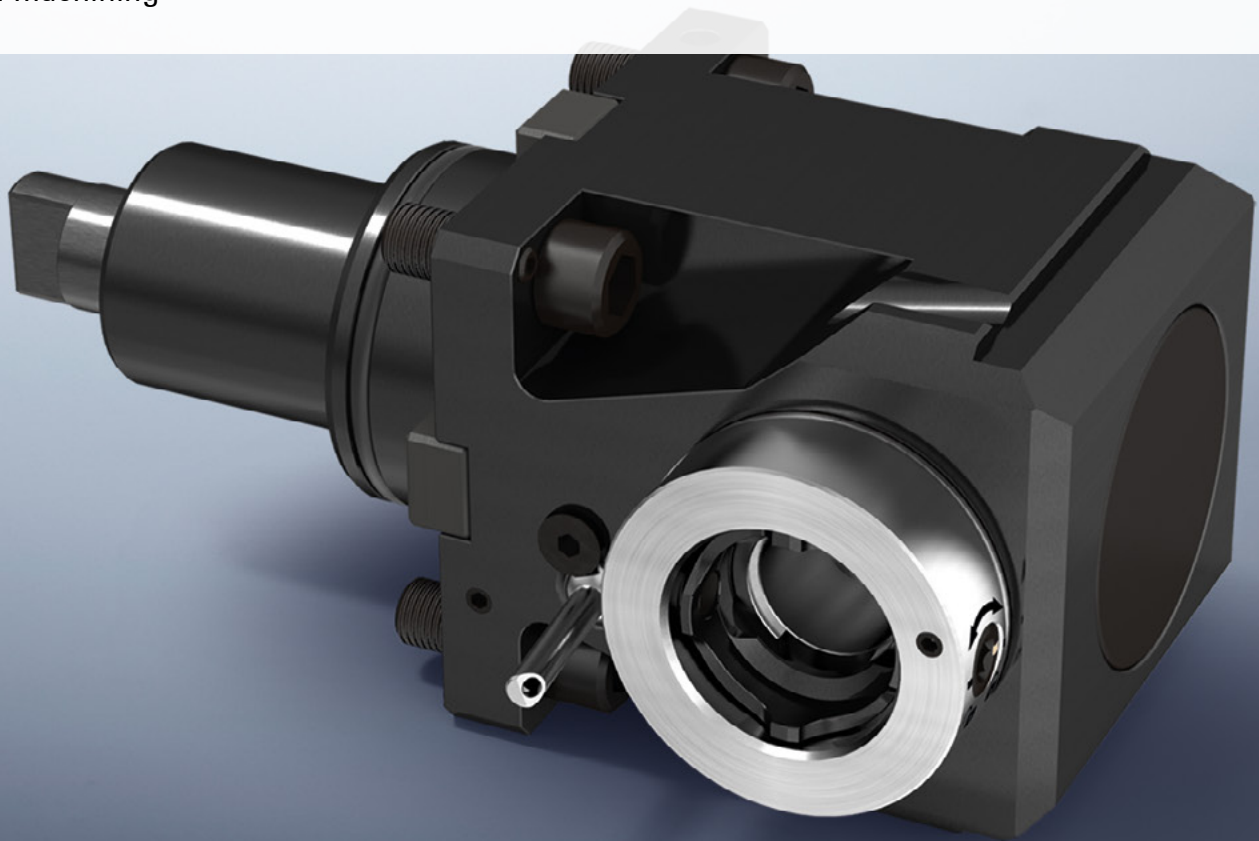


TOOLING TECHNOLOGY

HAAS Lathes BMT & VDI

Live Tools
Static Holders

Metal Machining



HAAS
OEM SUPPLIER

BENZ GMBH WERKZEUGSYSTEME

At BENZ Werkzeugsysteme, our maxim, „Innovation. Precision. Passion.“ is far more than just a marketing formula. Rather, it describes the core goals of our business while also outlining the reasons why we have been able to compete in the market successfully with tool systems for woodworking, metal machining and composite material processing for more than 30 years.

Innovations are important to us. But we also recognize that they can be successful only if they precisely meet the needs of our customers. This is why we have maintained a strict focus on our customers for many years. We ensure that our developments and innovations simplify your production processes and lower your manufacturing costs - and ultimately improve your competitiveness as a result.

INNOVATION. With an eye on what is currently within the bounds of feasibility, we strive to always make use of innovative technologies. And we keep in close contact with our customers to ensure we already know today what our customers will need tomorrow. Technical progress is ingrained into our very identity, which means you can always find smart, detailed solutions in our product range.

PRECISION. We ensure our products have the highest level of precision and reliability. This is vital in our industry. Our customers also rely on absolute precision during production - and need to be able to put all their trust in us. But production is not the only area where we strive for precision. We also seek minimal tolerances and maximum accuracy in other areas as well - from development to sales to delivery.

PASSION. BENZ precision products are composed of a vast array of different individual parts. They are the result of great care that starts in the design phase and even includes the selection of raw materials. Primarily, however, they are the expression of our employee's experience and passion to do good work. We are tool specialists through and through and we are willing to move mountains to reach the perfect solution and to ensure the satisfaction of our customers.



TOOLING TECHNOLOGIE FOR HAAS LATHES

CONTENT

COMMONS

- 04 1 - SYSTEM DESIGN - OVERVIEW OF VARIANTS
- 06 2 - TOOL INTERFACES

MACHINES & TOOLS

- 08 3 - OVERVIEW OF MACHINES AND TOOLS
- 10 4 - LIVE TOOLS & STATIC HOLDER - BMT 65
- 24 5 - LIVE TOOLS & STATIC HOLDER - VDI 40
- 36 6 - CUSTOMIZED SOLUTIONS
- 38 7 - ADAPTERS, TOOL HOLDERS & ACCESSORIES

INFORMATION

- 64 8 - SERVICE
- 68 9 - EXPLANATION OF PICTOGRAMS & ABBREVIATIONS

SYSTEM DESIGN

OVERVIEW OF VARIANTS

OUTPUT SPINDLES & CLAMPING SYSTEMS



BENZ Solidfix®



BENZ CAPTO™



Collet Chuck System ER DIN 6499



HSK Form A+C



Milling Arbor



Weldon & Whistle Notch



KM™



ABS® License | License Komet®



..... other output spindles on request

Standard tool interfaces in the catalog

Other tool interfaces upon request



similar to Whistle Notch



Prism interface

OVERVIEW - TYPES OF AGGREGATES



AXIAL
Angle 0°



ADJUSTABLE
Free angle 0°-105°



RADIAL, RECESSED
Fixed angle 90°



AXIAL, BROACHING UNIT
Angle 0°

MACHINE / TURRET CONNECTION



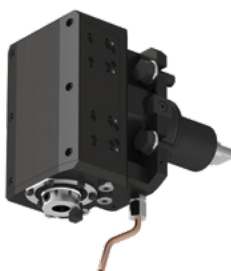
AXIAL, OFFSET
Angle $0^\circ \pm X$



RADIAL
Fixed angle 90°



RADIAL, DOUBLE
Fixed angle $2 \times 90^\circ$



RADIAL, BROACHING UNITS
Fixed angle 90°



VDI



BMT

TOOL INTERFACES IN COMPARISON

BENZ SOLIDFIX®



User-friendly, stable and extremely precise

Thanks to the combination of a zero-play co-axial centering unit with an extremely large and flat contact surface in conjunction with high clamping forces, BENZ Solidfix® provides a maximum of tilt resistance and stability, which also meets the requirements for milling. The high torque transfer and the high potential speeds also characterize the performance capability. This is supported by a special clamping mechanism, which operates centrally, without lateral forces, and works together with the high-precision and compact components to achieve top values for concentricity, bending stiffness and repeatability. The structural design makes the system optimally suited for IC tools.

BENZ CAPTO™



Increase efficiency and processing quality

The BENZ CAPTO™ modular quick-change system guarantees an extremely compact design through the well-conceived integration of the clamping set into the spindle. Special clamping kinematics provide for clamping forces that are significantly above the specifications in ISO/DIS 26623-2.

BENZ CAPTO™ can be used for turning on a lathe, milling and drilling with a coolant pressure of up to 100 bar. The system is particularly suited also for heavy-duty cutting.

COLLET CHUCK



The proven device that does it all

The collet chuck system is a market standard and stands for high precision paired with a compact design. Thanks to the broad product range of sizes ER 8 to ER 50 and their clamping ranges, a high degree of flexibility is achieved with a reduced inventory. A typical application example of the system is the processing of workpieces in extremely small machine room environments.

INTERFACES IN THE STANDARD PRODUCT LINE

Size	Technical data		Recommended combination	
	T* [Nm]	Size Wrench	VDI	BMT
S1	25	SW 3	-	-
S2	50	SW 4	20	-
S3	100	SW 5	25 / 30	45 / 55
S4	200	SW 6	40	65
S5	400	SW 6	50 / 60	75 / 85

*transferable torque of the interface

			
+++	++	+++	+++



BENZ Solidfix® –
live in action

Size	Technical data		Recommended combination	
	T* [Nm]	Size Wrench	VDI	BMT
C3	250	Size=6	30	45 / 55
C4	500	Size=8	40	65
C5	1000	Size=10	50	75
C6	2000	Size=12	60	85

*transferable torque of the polygon

			
+++	+	+++	+++



BENZ CAPTO™ –
live in action

Size	Technical data		Recommended combination	
	T* [Nm]	Spannbereich Ø [mm]	VDI	BMT
ER 20	K.A.	1-13	20	-
ER 25		2-16	25 / 30	45 / 55
ER 32		3-20	40	65
ER 40		4-26	50	75 / 85

			
+	++	+	+

FIND YOUR TOOLS BASED ON MACHINE TYPES

HAAS LATHES OVERVIEW

Your tools fitting for Haas lathes

LATHES OVERVIEW TOOLS

- Standard
- Option
- For these tools contact the BENZ Sales Team
-  Shaped profile tools available

TOOLS

MACHINES	TURRET	BMT 65	VDI 40				
	TYPE		VDI		VB 12		VB 24
	COUPLING LENGTH	112,00 [mm]	104,85 [mm]	117,55 [mm]	117,55 [mm]	130,25 [mm]	117,55 [mm]
							
HAAS ST	10						
	10Y						
	15						
	15 Y						
	20						
	20 Y						
	20 SS						
	20 SSY						
	25						
	25 Y						
	30						
	30 Y						
	30 SS						
	30 SSY						
	35						
	35 Y						
	40						
	40 L						
HAAS SL	20						
	30						
HAAS DS	30						
	30 Y						
	30 SS						
	30 SSY						

BMT 65

Live Tools | Static Holders



LIVE TOOLS

	AXIAL	12		AXIAL, OFFSET	13
	RADIAL	14		RADIAL, RECESSED	15
	RADIAL, DOUBLE	16		ADJUSTABLE	17
	BROACHING UNIT BENZ LinA 4.0	18		BROACHING UNIT BENZ LinA	19

STATIC HOLDERS

	STANDARD	20		BENZ CAPTO™	23
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ACCESSORIES

	ADAPTER & TOOL FIXTURES COLLET CHUCK & MISCELLANEOUS	38
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LIVE TOOL – BMT 65

AXIAL

TECHNICAL DATA



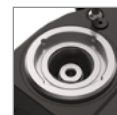
OUTPUT SPINDLES



BENZ
Solidfix®



Collet chuck
System ER
DIN 6499

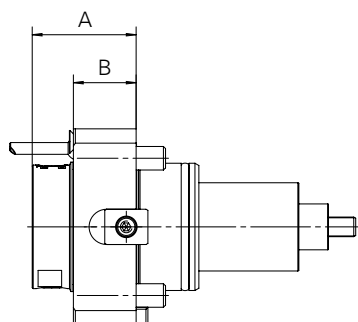


BENZ
CAPTO™

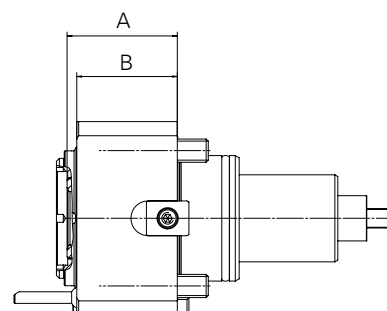
 Other output spindles
available upon request

 Accessories from p. 38

BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Output spindle	Technical data								Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	53	32	114DA12700S4-Z
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	53	32	114EA12700S4
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	45,1	32	114DA12700E6A-Z ■
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	50,2	32	114EA12700E6A
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	57	52	114DA12700L4BD
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	57	52	114EA12700L4BD

*Internal cooling $p_{\max} = 50$ bar

■ HAAS Order No. BMT65-STRAIGHT $\triangleq$ BENZ Order No. 114DA12700E6A-Z (-Z inkl. Schlüssel)

LIVE TOOL – BMT 65

AXIAL, OFFSET

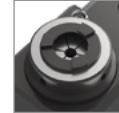
TECHNICAL DATA



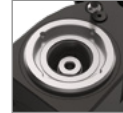
OUTPUT SPINDLES



BENZ
Solidfix®



Collet chuck
System ER
DIN 6499

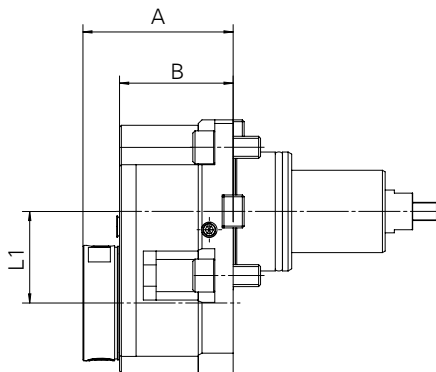


BENZ
CAPTO™

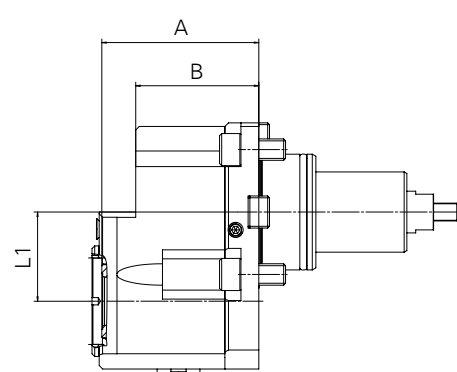
i Other output spindles
available upon request

W Accessories from p. 38

BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Output spindle	Technical data									Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	50 / 50	82	62	50	114DM12781S4D
	S4	1:1	✓	✓	6.000 / 6.000	50 / 50	97	77	50	114EM12781S4D
	S3	1:2	✓	-	4.500 / 9.000	50 / 25	81	62	50	114DI12781S3D
	S3	1:2	✓	✓	4.500 / 9.000	50 / 25	96	77	50	114EI12781S3D
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	82,1	62	50	114DM12781E6AD
	ER32	1:1	✓	✓	6.000 / 6.000	50 / 50	102,2	77	50	114EM12781E6AD
	ER25	1:2	✓	-	4.500 / 9.000	50 / 25	75,9	62	50	114DI12781E5AD
	ER25	1:2	✓	✓	4.500 / 9.000	50 / 25	95,9	77	50	114EI12781E5AD
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	50 / 50	88	69	50	114DM12781L4BD
	C4	1:1	✓	✓	6.000 / 6.000	50 / 50	103	84	50	114EM12781L4BD
	C3	1:2	✓	-	4.500 / 9.000	50 / 25	81,5	69	50	114DI12781L3BD
	C3	1:2	✓	✓	4.500 / 9.000	50 / 25	96,5	84	50	114EI12781L3BD

*Internal cooling $p_{\max} = 100$ bar

LIVE TOOL – BMT 65

RADIAL

TECHNICAL DATA



LENGTH L1

72

Available upon request

85

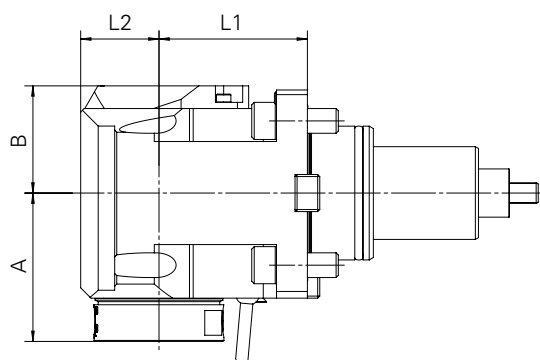
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OUTPUT SPINDLES

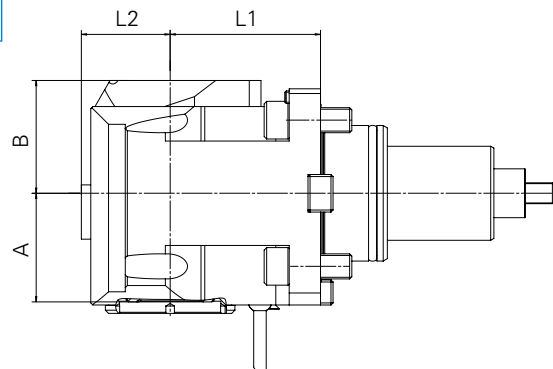
BENZ
Solidfix®Collet chuck
System ER
DIN 6499BENZ
CAPTO™Other output spindles
available upon request

Accessories from p. 38

BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Technical data											Order No.
Output spindle	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	L2 [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	72	38	114FAX12749S4D-72-Z
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	72	38	114GAX12749S4D-72
	S3	1:2	✓	-	5.000 / 10.000	40 / 20	79	52	72	38	114FWX12749S3D-72
	S3	1:2	✓	✓	5.000 / 10.000	40 / 20	79	60	72	38	114GWX12749S3D-72
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	72	38	114FAX12749E6AD-72-Z ■
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	72	38	114GAX12749E6AD-72
	ER25	1:2	✓	-	5.000 / 10.000	40 / 20	78,6	52	72	38	114FWX12749E5AD-72
	ER25	1:2	✓	✓	5.000 / 10.000	40 / 20	83,9	60	72	38	114GWX12749E5AD-72
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	52	54	72	42,5	114FAX12749L4BD-72
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	72	42,5	114GAX12749L4BD-72

*Internal cooling $p_{\max} = 100$ bar■ HAAS Order No. BMT65-90-DEGREE $\triangle$ BENZ Order No. 114FAX12749E6AD-72-Z (-Z inkl. Schlüssel)

LIVE TOOL – BMT 65

RADIAL, RECESSED

TECHNICAL DATA



LENGTH L1

72

Available upon request

85

100

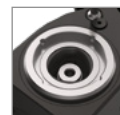
OUTPUT SPINDLES



BENZ Solidfix®



Collet chuck
System ER
DIN 6499



BENZ CAPTO™



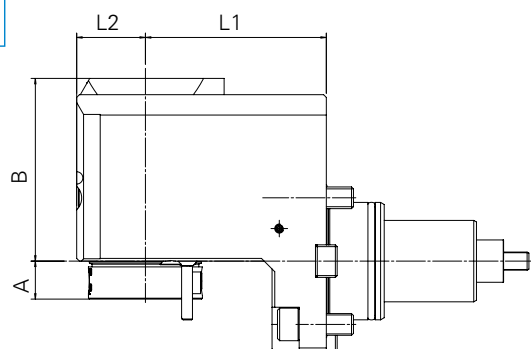
Other output spindles
available upon request



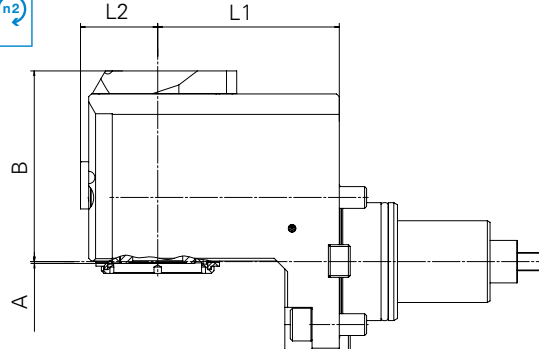
Accessories from p. 38



BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Output spindle	Technical data										Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	L2 [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	21	101	72	38	114FBX12749S4D-72
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	21	111	72	38	114GBX12749S4D-72
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	18,1	101	72	38	114FBX12749E6AD-72
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	23,2	111	72	38	114GBX12749E6AD-72
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	1	105	72	42,5	114FBX12749L4BD-72
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	1	111,5	72	42,5	114GBX12749L4BD-72

*Internal cooling $p_{\max} = 100$ bar

LIVE TOOL – BMT 65

RADIAL, DOUBLE

TECHNICAL DATA



LENGTH L1

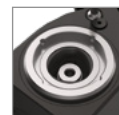
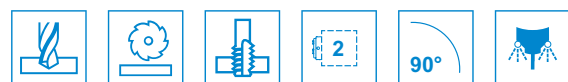
72

Available upon request

85

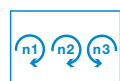
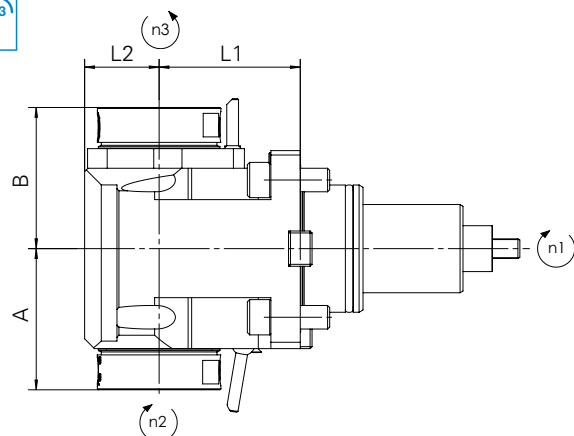
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OUTPUT SPINDLES

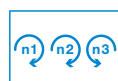
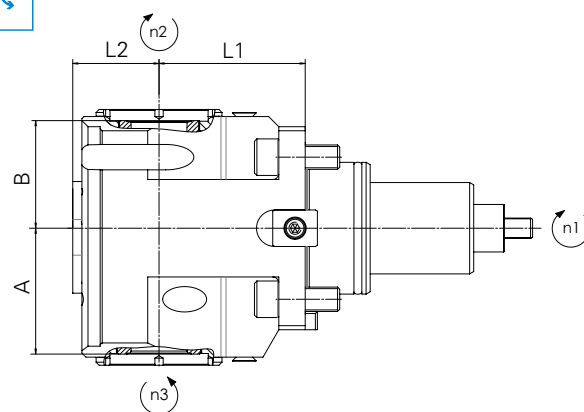
BENZ
Solidfix®Collet chuck
System ER
DIN 6499BENZ
CAPTO™Other output spindles
available upon request

Accessories from p. 38

BENZ Solidfix® / Collet chuck



BENZ CAPTO™



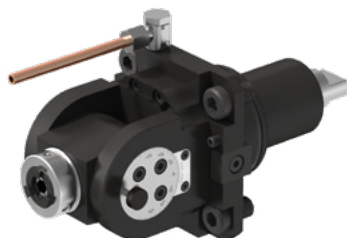
Technical data

Output spindle	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	72	38	114FAX12749S42-72
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	72	38	114FAX12749E6A2-72
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	72	42,5	114FAX12749L4BD2-72

LIVE TOOL – BMT 65

ADJUSTABLE

TECHNICAL DATA



OUTPUT SPINDLE

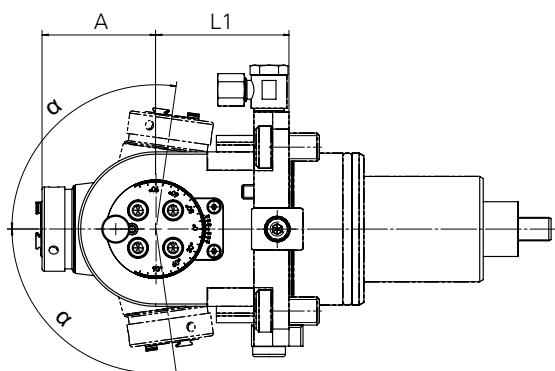


Collet chuck
System ER
DIN 6499

i Other output spindles
available upon request

W Accessories from p. 38

Collet chuck



Output spindle	Technical data									Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	L1 [mm]	alpha [°]	
	ER16	1:0,879	✓	-	8.000 / 7.000	10 / 12	51,1	57	± 98	114FDX12739E3A
Collet chuck	ER16	1:0,879	✓	✓	8.000 / 7.000	10 / 12	56	57	± 98	114GDX12739E3A
	ER16	1:2	✓	-	4.000 / 8.000	16 / 8	50,6	46	± 105	114FK12738E3

*Internal cooling $p_{\max} = 50$ bar

LIVE TOOL – BMT 65

RADIAL, BROACHING UNIT - BENZ LINA 4.0

TECHNICAL DATA



LENGTH L1

72

Available upon request

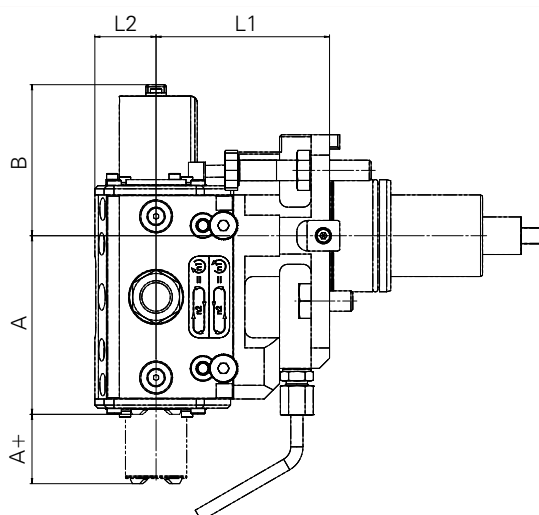
85

100

OUTPUT SPINDLE

similar to prism
Ø 30mmIndustry 4.0 ready
Contact the BENZ Sales Team

Accessories from p. 38

**NEW**

- STROKE 32MM
- INTERNAL COOLANT
- HIGHER SPEEDS
- HIGHER PRODUCTIVITY
- INDUSTRY 4.0 READY

Performance data

Typee	$n_{1 \max} / *n_{2 \max}$ [rpm]	$M_{1 \max} / F_{c \max}$ [Nm]	f [mm]	Groove width _{max} [mm]
GS	3000 / 1500	15 / 1700	0,02 - 0,10	10/12

Technical data

Typee	Size Stößel	i	EC	IC	**Hub [mm]	A [mm]	A+ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
GS	30	2:1	✓	✓	32	85,5	34	74	72	30	114GS12702B2D-72

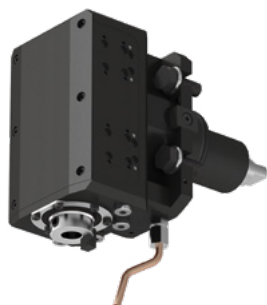
*number of double stroke per minute

**usable working stroke

LIVE TOOL – BMT 65

RADIAL, BROACHING UNIT - BENZ LINA

TECHNICAL DATA



LENGTH L1

77

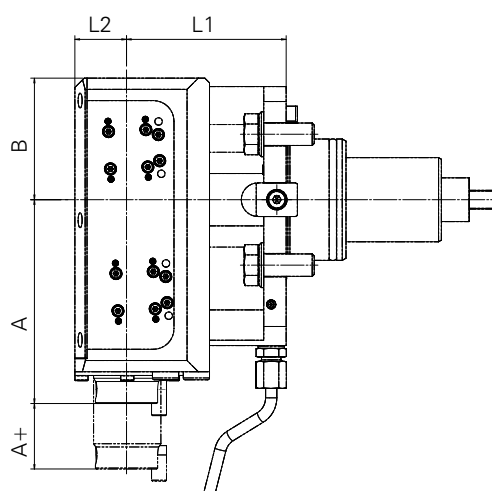
OUTPUT SPINDLE



similar to
Whistle Notch
16 mm



Accessories from p. 38



Performance data

Typee	$n_{1max} / *n_{2max}$ [rpm]	$M_{1max} / F_{c max}$ [Nm]	f [mm]	Groove width _{max} [mm]
FSL	750 / 750	50 / 1900	0,02 - 0,10	8/10

Technical data

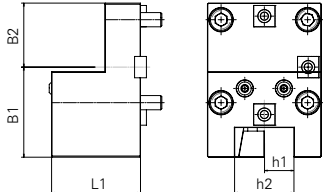
Typee	Size Tappet	i	EC	IC	**Stroke [mm]	A [mm]	A+ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
FSL	16	1:1	✓	-	51	135	53	85	77	32	114FSL12749F8D-77

*number of double stroke per minute

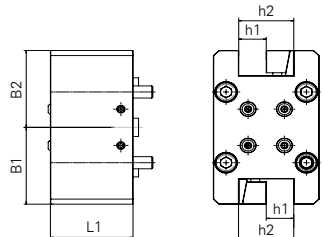
**usable working stroke

STATIC HOLDERS – BMT 65

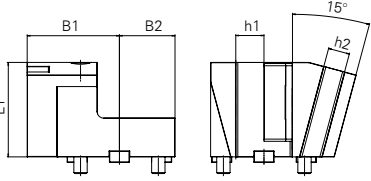
O.D. TURNING TOOL | SINGLE

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		25	50	75	81	49	✓	114A127560001

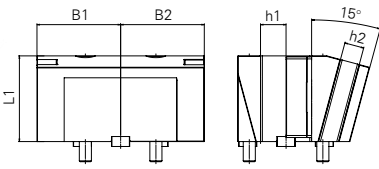
O.D. TURNING TOOL | 2 TOOLS - MAIN & SUB SPINDLE

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		25	50	75	76	76	✓	114A127567001

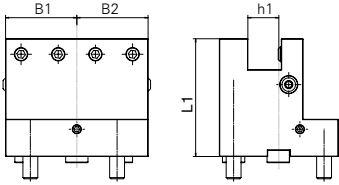
O.D. TURNING TOOL | 2 TOOLS - HALF INDEX

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		25	50	85	83	50	✓	114A127567005

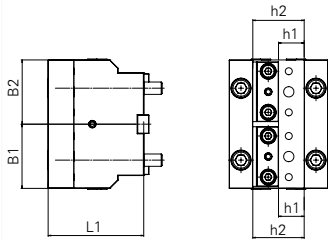
O.D. TURNING TOOL | 4 TOOLS - HALF INDEX - MAIN & SUB SPINDLE

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		20	25	85	83	83	✓	114A127567007

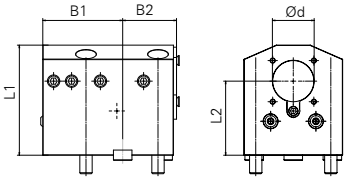
FACE AND I.D. TURNING TOOL | SINGLE

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		25	-	95	60	55	✓	114A127559001

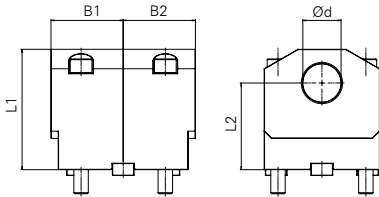
FACE AND I.D. TURNING TOOL | 2 TOOLS - MAIN & SUB SPINDLE

Model	Drawing	Technical data						Order No.
		h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		25	50	93	62,5	62,5	✓	114A127567004

BORING BAR HOLDER | SINGLE

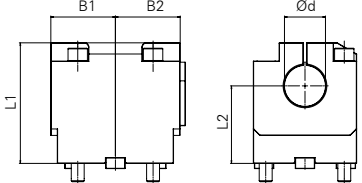
Model	Drawing	Technical data							Order No.
		Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	EC	IC	
		40	102	72	77	56	✓	✓	114A127578001

BORING BAR HOLDER | 2 TOOLS - MAIN & SUB SPINDLE

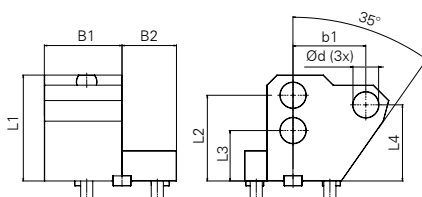
Model	Drawing	Technical data							Order No.
		Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	EC	IC	
		32	100	72	60	60	✓	✓	114A127578021

STATIC HOLDERS – BMT 65

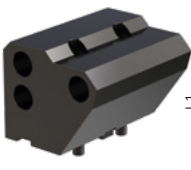
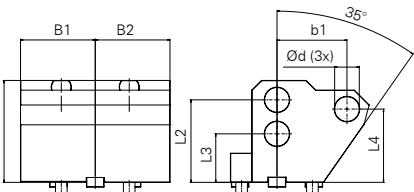
BORING BAR HOLDER | SINGLE - SLOTTED

Model	Drawing	Technical data						Order No.
		Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	EC IC	
		40	112	72	60	60	✓ ✓	114A127584003
		50	118,5	72	60	60	✓ ✓	114A127584005

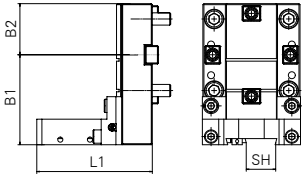
BORING BAR HOLDER | 3 TOOLS - HALF INDEX

		Technical data										
Model	Drawing	Ød [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	b1 [mm]	B1 [mm]	B2 [mm]	EC	IC	Order No.
		25	105	85	50	75,5	72,13	77	54	✓	✓	114A127578017

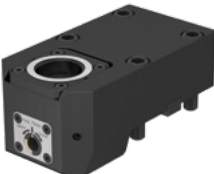
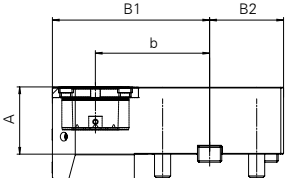
BORING BAR HOLDER | 6 TOOLS - HALF INDEX - MAIN & SUB SPINDLE

		Technical data										
Model	Drawing	Ød [mm]	L1 [mm]	L2 [mm]	L1 [mm]	L2 [mm]	b1 [mm]	B1 [mm]	B2 [mm]	EC	IC	Order No.
		25	105	85	50	75,5	72,13	77	77	✓	✓	114A127578019

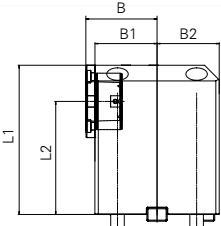
CUT-OFF HOLDER

Model	Drawing	Technical data					Order No.
		SH [mm]	L1 [mm]	B1 [mm]	B2 [mm]	EC	
		32	113	88	50	✓	114A127583001

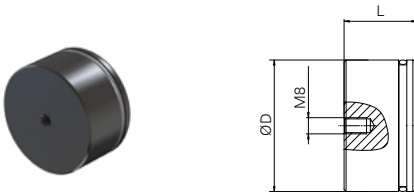
AXIAL HOLDER | SINGLE - BENZ CAPTO™

		Technical data						
Model	Drawing	Size Adapter [mm]	A [mm]	b [mm]	B1 [mm]	B2 [mm]	IC	Order No.
		C4	60	71	95	47	✓	114A127L4BDU-60
		C5	50	88	120	47	✓	114A127L5BDU-50

RADIAL HOLDER | SINGLE - BENZ CAPTO™

		Technical data							
Model	Drawing	Size Adapter	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	IC	Order No.
		C4	96	72	70	63	47	✓	114AP127L4BDU-72
		C5	104	72	70	62	47	✓	114AP127L5BDU-72

PLUG

Model	Drawing	Technical data		Order No.
		ØD [mm]	L1 [mm]	
		65	26	114A127581001

VDI 40

Live Tools | Static Holders

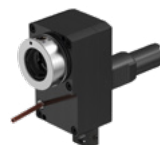


LIVE TOOLS



AXIAL

26



AXIAL, OFFSET

27



AXIAL, DOUBLE

28



RADIAL

29



ADJUSTABLE

30

BROACHING UNIT
BENZ LinA

31

STATIC HOLDERS



STATIC HOLDER

32



BENZ CAPTO™

44

ACCESSORIES



ADAPTER & ACCESSORIES

38

LIVE TOOL – VDI 40

AXIAL

TECHNICAL DATA



OUTPUT SPINDLES



BENZ
Solidfix®



Collet chuck
System ER
DIN 6499



BENZ
CAPTO™

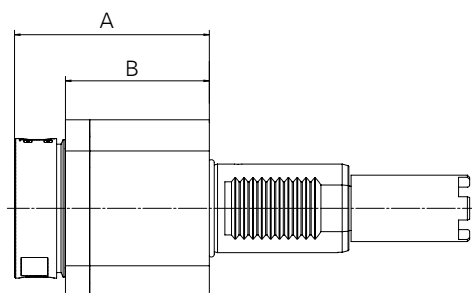


Other output spindles
available upon request

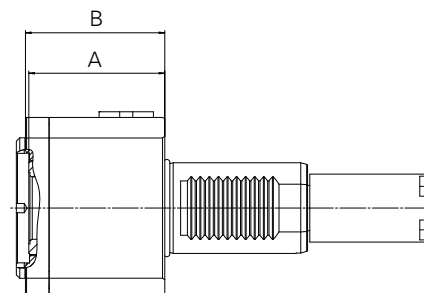


Accessories from p. 38

BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Output spindle	Technical data								Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	50 / 50	88	65	114DA10441S4-Z
	S4	1:1	✓	✓	6.000 / 6.000	50 / 50	88	65	114EA10441S4
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	76,1	65	114DA10441E6A-Z ■
	ER32	1:1	✓	✓	6.000 / 6.000	50 / 50	81,2	65	114EA10441E6A
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	50 / 50	60	61,5	114DA10400L4BL
	C4	1:1	✓	✓ ¹⁾	6.000 / 6.000	50 / 50	75	76,5	114EA10441L4B

*Internal cooling $p_{\max} = 50$ bar

¹⁾Innenkühlung $p_{\max} = 70$ bar

■ HAAS Order No. HLT-AHTH ≙ BENZ Order No. 114DA10441E6A-Z (-Z includes wrenches)



Also available with shaped profile for all SS and SSY machine models

LIVE TOOL – VDI 40

AXIAL, OFFSET

TECHNICAL DATA



OUTPUT SPINDLES



BENZ
Solidfix®

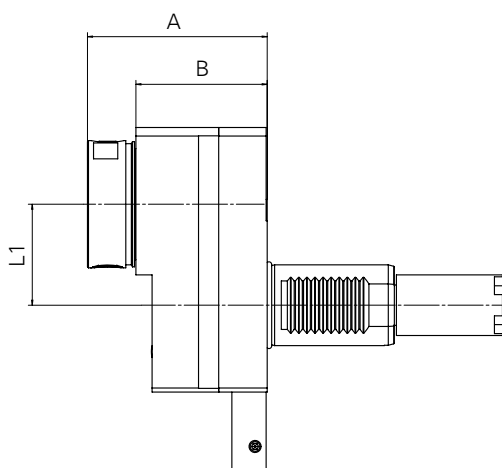


Collet chuck
System ER
DIN 6499

i Other output spindles
available upon request

W Accessories from p. 38

BENZ Solidfix® / Collet chuck



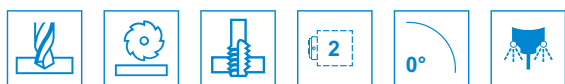
Output spindle	Technical data									Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	50 / 50	89	65	50	114DM10481S4L
	S4	1:1	✓	✓	6.000 / 6.000	50 / 50	96	76	50	114EM10481S4L
	S3	1:2	✓	-	4.500 / 9.000	50 / 25	83	65	50	114DI10481S3L
	S3	1:2	✓	✓	4.500 / 9.000	50 / 25	95	76	50	114EI10481S3L
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	84,1	65	50	114DM10481E6AL
	ER32	1:1	✓	✓	6.000 / 6.000	50 / 50	96	76	50	114EM10481E6AL
	ER25	1:2	✓	-	4.500 / 9.000	50 / 25	77,9	65	50	114DI10481E5AL
	ER25	1:2	✓	✓	4.500 / 9.000	50 / 25	89,9	76	50	114EI10481E5AL

*Internal cooling $p_{\max} = 50$ bar

LIVE TOOL – VDI 40

AXIAL, DOUBLE

TECHNICAL DATA



OUTPUT SPINDLES



BENZ
Solidfix®



Collet chuck
System ER
DIN 6499



BENZ
CAPTO™

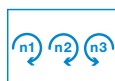
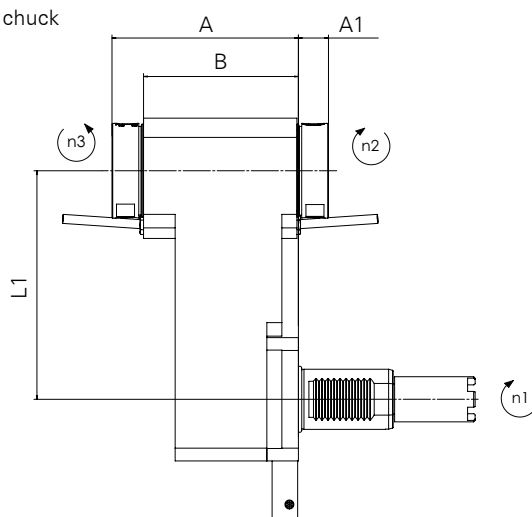


Other output spindles
available upon request



Accessories from p. 38

BENZ Solidfix® / Collet chuck



Technical data

Output spindle	Size	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	$A1_{\max}$ [mm]	B [mm]	L1 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	50 / 50	124	20	103	152	114DM10449S42L-152
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	121,1	17,1	103	152	114DM10449E6A2L-152

*Internal cooling $p_{\max} = 50$ bar

LIVE TOOL – VDI 40

RADIAL

TECHNICAL DATA



LENGTH L1

65

100

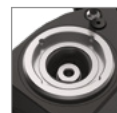
OUTPUT SPINDLES



BENZ Solidfix®



Collet chuck System ER
DIN 6499



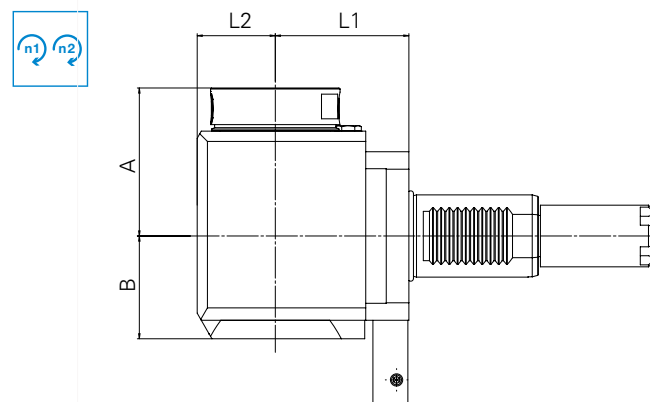
BENZ CAPTO™

i Other output spindles available upon request

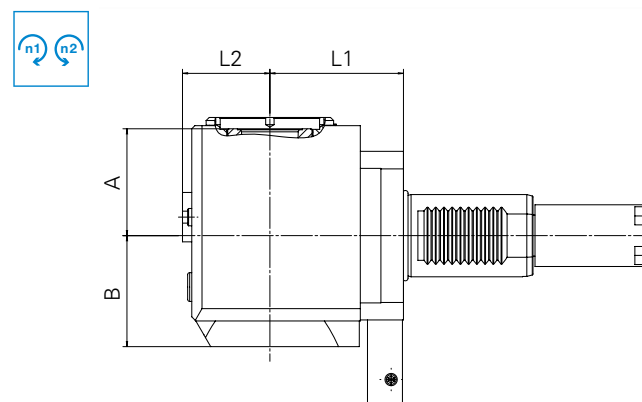
W Accessories from p. 38



BENZ Solidfix® / Collet chuck



BENZ CAPTO™



Technical data

Output spindle	Size	i	EC	IC*	$n_{1 \max} / n_{2 \max}$ [rpm]	$M_{1 \max} / M_{2 \max}$ [Nm]	$A_{\max}$ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	50	65	38	114FAX10449S4L-Z
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	65	38	114GAX10449S4L
	S3	1:2	✓	-	5.000 / 10.000	40 / 20	79	52	65	38	114FWX10449S3L
	S3	1:2	✓	✓	5.000 / 10.000	40 / 20	79	60	65	38	114GWX10449S3L
	S3	1:4	✓	-	4.000 / 16.000	40 / 10	51	54	100	26	114GNX10449S3L-100
	S3	1:4	✓	✓	4.000 / 16.000	40 / 10	51	76	100	26	114FNX10449S3L-100
	S4	2:1	✓	-	6.000 / 3.000	40 / 80	81	61	65	38	114FHH10449S4L
	S4	2:1	✓	✓	6.000 / 3.000	40 / 80	81	69	65	38	114GHH10449S4L
Collet chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	50	65	38	114FAX10449E6AL-Z ■
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	65	38	114GAX10449E6AL
	ER25	1:2	✓	-	5.000 / 10.000	40 / 20	78,9	52	65	38	114FWX10449E5AL
	ER25	1:2	✓	✓	5.000 / 10.000	40 / 20	83,9	60	65	38	114GWX10449E5AL
	ER25	1:4	✓	-	4.000 / 16.000	40 / 10	47,5	54	100	26	114FNX10449E4AL-100
	ER25	1:4	✓	✓	4.000 / 16.000	40 / 10	52,5	76	100	26	114GNX10449E4AL-100
	ER32	2:1	✓	-	6.000 / 3.000	40 / 80	80,6	61	65	38	114FHH10449E6AL
	ER32	2:1	✓	✓	6.000 / 3.000	40 / 80	85,7	69	65	38	114GHH10449E6AL
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	52	54	65	38	114FAX10449L4BL
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	65	38	114GAX10449L4BL

*Internal cooling $p_{\max} = 100$ bar

■ HAAS Order No.: HLT-RHTH $\triangle$ BENZ Order No. 114FAX10449E6AL-Z (-Z includes wrenches)



Also available with shaped profile for all SS and SSY machine models

www.benz-tools.de

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LIVE TOOL – VDI 40

ADJUSTABLE

TECHNICAL DATA



OUTPUT SPINDLES



BENZ
Solidfix®



Collet chuck
System ER
DIN 6499

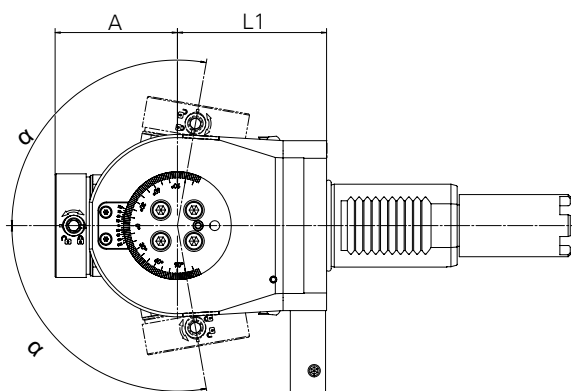


Other output spindles
available upon request



Accessories from p. 38

BENZ Solidfix® / Collet chuck



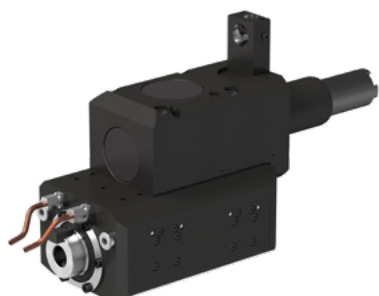
Output spindle	Technical data									Order No.
	Size Spindle	i	EC	IC*	$n_{1\max} / n_{2\max}$ [rpm]	$M_{1\max} / M_{2\max}$ [Nm]	$A_{\max}$ [mm]	L1 [mm]	alpha [°]	
BENZ Solidfix®	S3	1:0,816	✓	-	6.000 / 4.900	25 / 32	59	72	± 100	114FDX10449S3
	S3	1:0,816	✓	✓	6.000 / 4.900	25 / 32	59	72	± 100	114GDX10449S3
Collet chuck	ER25	1:0,816	✓	-	6.000 / 4.900	25 / 32	57,9	72	± 100	114FDX10449E5A
	ER25	1:0,816	✓	✓	6.000 / 4.900	25 / 32	62,9	72	± 100	114GDX10449E5A

*Internal cooling $p_{\max} = 50$ bar

LIVE TOOL – VDI 40

AXIAL, BROACHING UNIT – BENZ LINA

TECHNICAL DATA



LENGTH (DSS/DS)

194

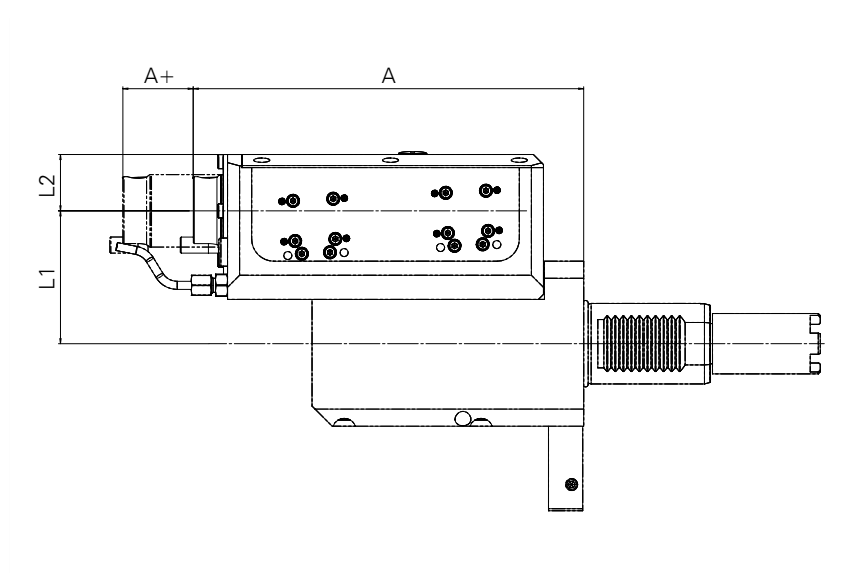
OUTPUT SPINDLES



similar to
Whistle Notch
Ø 16 mm



Accessories from p. 38



Performance data

Typee	$n_{1 \max} / *n_{2 \max}$ [rpm]	$M_{1 \max} / F_{C \max}$ [Nm]	f [mm]	Groove width _{max} [mm]
DSS	1.200 / 1.200	20 / 2100	0,02 - 0,14	8/10
DS	1.000 / 1.000	20 / 1700	0,02 - 0,10	8/10

Technical data

Typee	Size Tappet	i	EC	IC	**Stroke [mm]	A+ [mm]	A [mm]	L1 [mm]	L2 [mm]	Order No.
DSS	16	1:1	✓	-	17	19	194	66	28	114DSS10449F8L-66
DS	16	1:1	✓	-	32	35	194	66	28	114DS10449F8L-66

*number of double stroke per minute

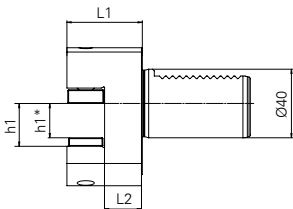
**usable working stroke



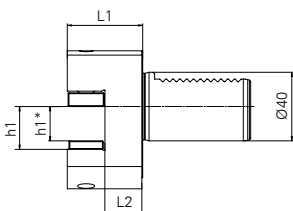
Not available for machine models ST10 and ST15

STATIC HOLDERS – VDI 40

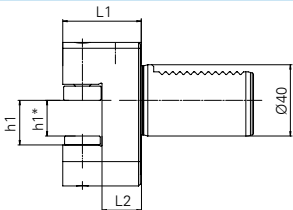
O.D. TURNING TOOL | LEFT HAND, SHORT, FORM B2

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	L2 [mm]	Order No.
		25	50	44	22	114.5522522

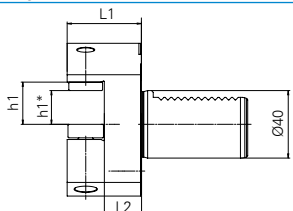
O.D. TURNING TOOL | OVERHEAD, LEFT HAND, SHORT, FORM B4

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	L2 [mm]	Order No.
		25	50	44	22	114.5542522

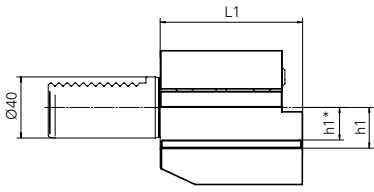
O.D. TURNING TOOL | LEFT HAND, LONG, FORM B6

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	L2 [mm]	Order No.
		25	50	44	22	114.5562522

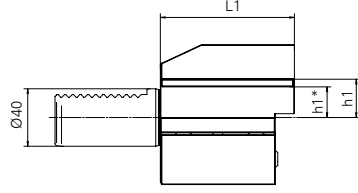
O.D. TURNING TOOL | OVERHEAD, LEFT HAND, LONG, FORM B8

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	L2 [mm]	Order No.
		25	50	44	22	114.5582522

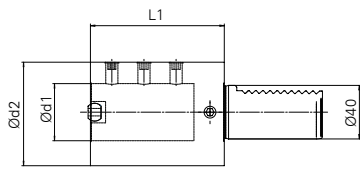
FACE AND I.D. TURNING TOOL | LEFT HAND, SHORT, FORM C2

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	Order No.
		25	50	85	114.5622585

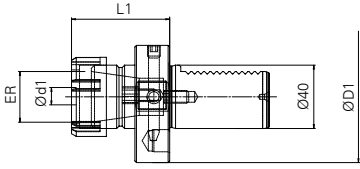
FACE AND I.D. TURNING TOOL | OVERHEAD, LEFT HAND, SHORT, FORM C4

Model	Drawing	h1 [mm]	h1* [mm]	L1 [mm]	Order No.
		25	50	85	114.5642585

BORING BAR HOLDER | WITH IC+EC, FORM E2

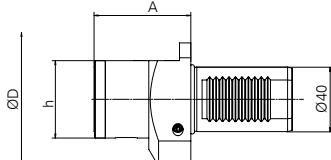
Model	Drawing	Ød1 [mm]	EC	IC	Ød2 [mm]	L1 [mm]	Order No.
		8	✓	✓	55	75	114.5710875
		10	✓	✓	55	75	114.5711075
		12	✓	✓	55	75	114.5711275
		16	✓	✓	55	75	114.5711675
		20	✓	✓	55	75	114.5712075
		25	✓	✓	55	75	114.5712575

COLLET CHUCK HOLDER | WITH IC+EC, EXTERNAL DIN6499, FORM E4

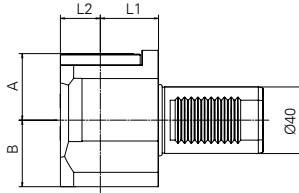
Model	Drawing	Size ER	EC	IC	Ød1 [mm]	ØD [mm]	L1 [mm]	Order No.
		25	✓	✓	1-16	83	62	114.130E562
		32	✓	✓	2-20	83	62	114.130E662
		40	✓	✓	3-26	83	75	114.130E775

STATIC HOLDERS – VDI 40

AXIAL HOLDER | SINGLE - BENZ CAPTO™

		Technical data					
Model	Drawing	Size Adapter	IC	A [mm]	ØD [mm]	h [mm]	Order No.
		C4	✓	60	83	48	114AA100L4BLU-60

RADIAL HOLDER | SINGLE - BENZ CAPTO™

		Technical data						
Model	Drawing	Size Adapter	IC	L1 [mm]	L2 [mm]	A [mm]	B [mm]	Order No.
		C4	✓	35	24	40	40	114AR104L4BLU-35

Radial holder is equipped with an alignment system



CUSTOMIZED SOLUTIONS MADE TO ORDER

Need a live tool that doesn't correspond to any standard parameters? No problem! We develop and produce your live tool exactly according to your specifications, made to order. Small adaptations of standard products and highly complex new developments are our forte and thanks to our modular toolkit our work is prompt, affordable and with the quality you have come to expect from BENZ. Extreme conditions, all over the world our tried-and-tested components and systems give you limitless possibilities.

From the customer requirement to the customized solution

Based on your requirements, we define the best possible solution and work out a corresponding concept together with you.



Completed Special Units
(machine connections shown as examples)



Internal Drill Head

- ER 11
- EK
- $i = 1:1,806$
- for machining narrow
- internal contours



Angled Milling Head

- ER 32
- IK
- $i = 1:1$
- adapted angle for drilling at a slant



Angled Milling Head

- ER 20
- IK
- $i = 1:2,704$
- adapted angle for drilling at a slant



Angled Multi-Spindle Head (2 spindles)

- BENZ Solidfix® S3
- Axle spacing 75 mm
- 40°
- EC
- $i = 1:1$
- 1st spindle - drilling pilot hole
- 2nd spindle - deep-hole drilling



Axial Multi-Spindle Head (6 spindles)

- Whistle Notch 6
- 95 mm pitch circle
- IC
- $i = 1:2$
- for drilling throughholes (5.5 mm)



Radial Multi-Spindle Head (4 spindles)

- ER11M
- 67.5 mm pitch circle
- EC
- $i = 1:1$
- for follow up machining: 4 x M5 thread



Radial Double Multi-Spindle Head (4 spindles)

- BENZ Solidfix® S4
- Axle spacing 75 mm
- EC
- $i = 1:1$
- for using 4 different



Side Milling Head

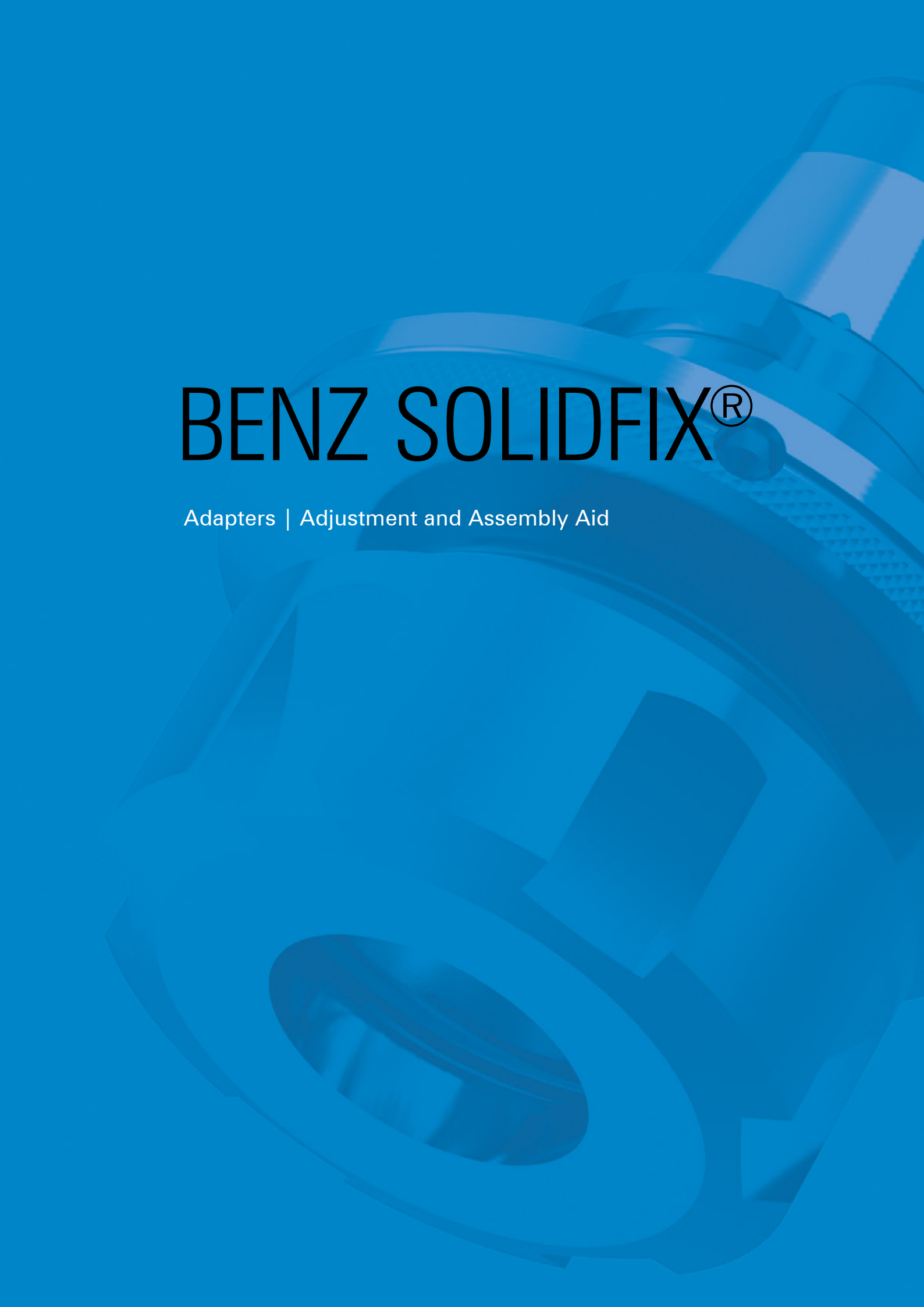
- Side milling cutter
- EC
- $i = 3:1$
- For milling grooves and cam shapes (with 2 milling cutters simultaneously).



ADAPTERS, TOOL HOLDERS & ACCESSORIES

OVERVIEW

	ADAPTER BENZ SOLIFDFIX®	40		ADAPTER BENZ CAPTO™	50
	CLAMPING HOLDER BENZ LINA BOACHING UNITS	54		ACCESSORIES Collet Chucks Wrenches	56



BENZ SOLIDFIX[®]

Adapters | Adjustment and Assembly Aid

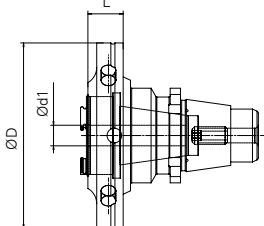
BENZ SOLIDFIX®

	COLLET CHUCK 8° type ER	42		WELDON for parallel shanks DIN 1835B	42
	WHISTLE-NOTCH for parallel shanks DIN 1835E	43		MILLING ARBOR	44
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Further Adapters (such e.g Softsynchro, BENZ Solidfix® static, MQL- capable adapter) upon request.
Please contact our BENZ sales team

ADAPTER BENZ SOLIDFIX®

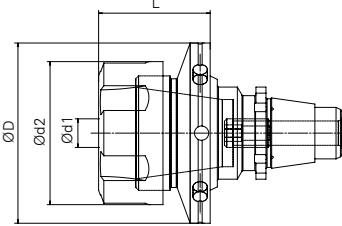
COLLET CHUCK 8° TYPE ER | INTERNAL CLAMPING NUT

Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	ER16	40	1-10	13	692.130E3A13
		S3	ER16	50	1-10	10	693.130E3A10
		S3	ER20	50	2-13	14	693.130E4A14
		S4	ER16	63	1-10	11	694.130E3A11
		S4	ER20	63	2-13	12	694.130E4A12
		S4	ER25	63	2-16	20	694.130E5A20
		S5	ER32	75	2-20	22	695.130E6A22

Collet chuck not included

 Accessories page 58

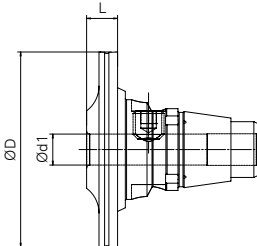
COLLET CHUCK 8° TYPE ER | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data						Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S2	ER16M	40	1-10	22	30	692.130M230
		S2	ER20	40	2-13	34	31	692.130E431
		S3	ER16M	50	1-10	22	32	693.130M232
		S3	ER20	50	2-13	34	30	693.130E430
		S3	ER25	50	2-16	42	34	693.130E534
		S4	ER16M	63	1-10	22	30	694.130M232
		S4	ER32	63	2-20	50	39	694.130E639
		S5	ER32	75	2-20	50	40	695.130E640
		S5	ER40	75	3-26	63	46	695.130E746

Collet chuck not included

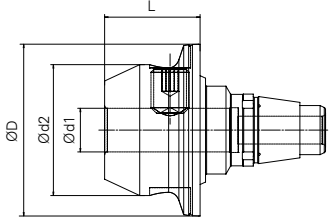
 Accessories page 58

WELDON FOR PARALLEL SHANKS DIN 1835 B | SHORT DESIGN

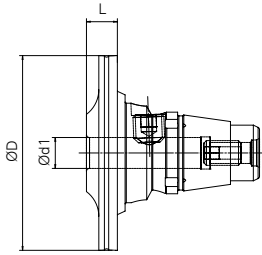
Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	40	4	5	692.1400405
		S2	40	6	7	692.1400607
		S3	50	6	6	693.1400606
		S3	50	8	8	694.1400808
		S4	63	6	7	694.1400607
		S4	63	8	8	694.1400808
		S4	63	10	10	694.1401010
		S4	63	12	12	694.1401212
		S5	75	6	10	695.1400610
		S5	75	8	10	695.1400810
		S5	75	10	10	695.1401010
		S5	75	12	10	695.1401210
		S5	75	14	12	695.1401412
		S5	75	16	12	695.1401612

minimum construction length

WELDON FOR PARALLEL SHANKS DIN 1835 B | STANDARD DESIGN

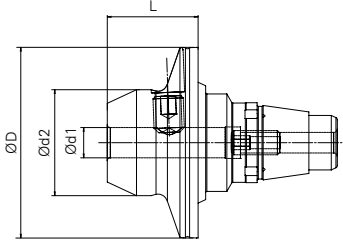
Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S2	40	8	28	25	692.1400825
		S3	50	10	35	28	693.1401028
		S3	50	12	42	32	693.1401232
		S3	50	16	48	35	693.1401635
		S4	63	14	48	32	694.1401432
		S4	63	16	48	35	694.1401635
		S4	63	18	50	35	694.1401835
		S4	63	20	52	38	694.1402038
		S5	75	18	50	36	695.1401836
		S5	75	20	52	38	695.1402038
		S5	75	25	65	40	695.1402540

WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | SHORT DESIGN

Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	40	6	9	692.1410609
		S3	50	6	6	693.1410606
		S3	50	8	8	693.1410808
		S4	63	6	7	694.1410607
		S4	63	8	8	694.1410808
		S4	63	10	10	694.1411010
		S4	63	12	12	694.1411212
		S5	75	6	10	695.1410610
		S5	75	8	10	695.1410810
		S5	75	10	10	695.1411010
		S5	75	12	10	695.1411210
		S5	75	14	12	695.1411412
		S5	75	16	12	695.1411612

minimum construction length

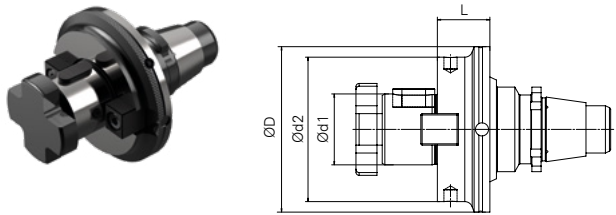
WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | STANDARD DESIGN

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S2	40	8	28	25	692.1410825
		S3	50	10	35	28	693.1411028
		S3	50	12	42	32	693.1411232
		S3	50	16	48	35	693.1411635
		S4	63	14	48	32	694.1411432
		S4	63	16	48	35	694.1411635
		S4	63	18	50	35	694.1411835
		S4	63	20	52	38	694.1412038
		S5	75	18	50	36	695.1411836
		S5	75	20	52	38	695.1412038
		S5	75	25	65	40	695.1412540

ADAPTER

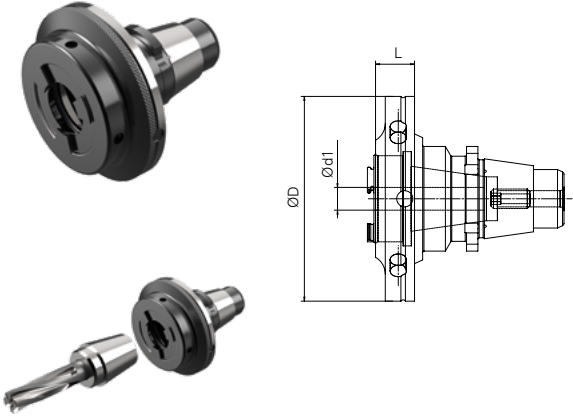
BENZ SOLIDFIX®

MILLING ARBOR

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S2	40	16	34	11	692.2311611
		S3	50	16	34	12	693.2311612
		S3	50	22	48	14	693.2312214
		S4	63	16	34	14	694.2311614
		S4	63	22	48	14	694.2312214
		S4	63	27	55	14	694.2312714
		S5	75	22	48	12	695.2312212
		S5	75	27	55	14	695.2312714
		S5	75	32	62	15	695.2313215

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COLLET CHUCK | WITH TER - SHRINKING COLLET

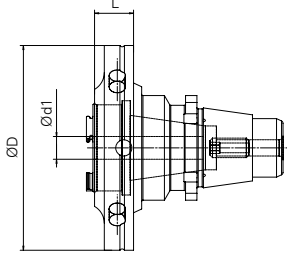
Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	TER 16	40	3	13	692.1560313
		S2	TER 16	40	4	13	692.1560413
		S2	TER 16	40	6	13	692.1560613
		S2	TER 16	40	8	13	692.1560813
		S3	TER 20	50	6	14	693.1560614
		S3	TER 20	50	8	14	693.1560814
		S3	TER 20	50	10	14	693.1561014
		S4	TER 25	63	6	20	694.1560620
		S4	TER 25	63	8	20	694.1560820
		S4	TER 25	63	10	20	694.1561020
		S4	TER 25	63	12	20	694.1561220
		S5	TER 32	75	6	22	695.1560622
		S5	TER 32	75	8	22	695.1560822
		S5	TER 32	75	10	22	695.1561022
		S5	TER 32	75	12	22	695.1561222
		S5	TER 32	75	16	22	695.1561622

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Partner **diebold**
Goldring-Werkzeuge
Spindeltechnologie

MQL-fähige capable adapter on request

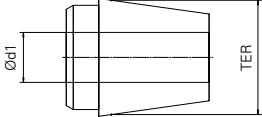
ULTRA-PRECISION COLLET CHUCK | FOR TER - SHRINKING COLLET

Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	ER 16	40	1-10	13	692.130E3A13UP
		S3	ER 20	50	2-13	14	693.130E4A14UP
		S4	ER 25	63	2-16	20	694.130E5A20UP
		S5	ER 32	75	2-20	22	695.130E6A22UP

UP-collet chucks: differ versus standard collet chucks by being extremely precise for high speed machining

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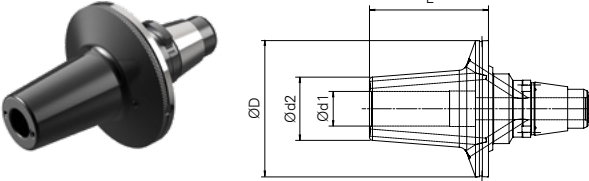
TER -SHRINKING COLLET

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	Ød1 [mm]	
		S2	TER 16	3	B134-426E-0300DS
		S2	TER 16	4	B134-426E-0400DS
		S2	TER 16	6	B134-426E-0600DS
		S2	TER 16	8	B134-426E-0800DS
		S3	TER 20	6	B134-428E-0600DS
		S3	TER 20	8	B134-428E-0800DS
		S3	TER 20	10	B134-428E-1000DS
		S4	TER 25	6	B134-430E-0600DS
		S4	TER 25	8	B134-430E-0800DS
		S4	TER 25	10	B134-430E-1000DS
		S4	TER 25	12	B134-430E-1200DS
		S5	TER 32	6	B134-470E-0600DS
		S5	TER 32	8	B134-470E-0800DS
		S5	TER 32	10	B134-470E-1000DS
		S5	TER 32	12	B134-470E-1200DS
		S5	TER 32	16	B134-470E-1600DS

alternative shrink collet sizes

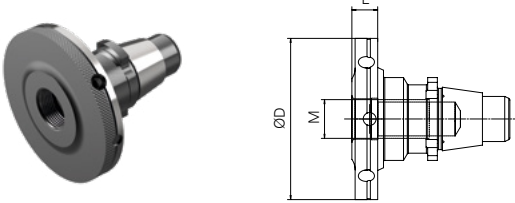
ADAPTER BENZ SOLIDFIX®

SHRINK FIT CHUCK | ONE-PIECE

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S3	50	6	21	45	693.1520645KB
		S3	50	8	21	45	693.1520845KB
		S3	50	10	24	50	693.1521050KB
		S3	50	12	24	55	693.1521255KB
		S4	63	6	21	50	694.1520650KB
		S4	63	8	21	50	694.1520850KB
		S4	63	10	24	50	694.1521050KB
		S4	63	12	24	55	694.1521255KB
		S4	63	14	29	55	694.1521455KB
		S4	63	16	29	55	694.1521655KB
		S4	63	20	33	60	694.1522060KB
		S5	75	20	33	65	695.1522065KB
		S5	75	25	44	70	695.1522570KB

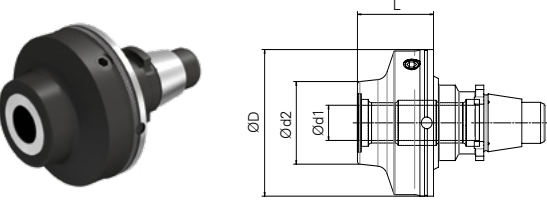
Coolant central or via holes on the collar (without coolant hole on request)
MQL-capable adapter on request

BASE HOLDER FOR THREADED ARBOR | SHORT DESIGN

Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	M [mm]	L [mm]	
		S3	50	M10	8	693.2861008
		S3	50	M12	8	693.2861208
		S4	63	M12	9	694.2861209
		S4	63	M16	9	694.2861609
		S5	75	M12	10	695.2861210
		S5	75	M16	10	695.2861610

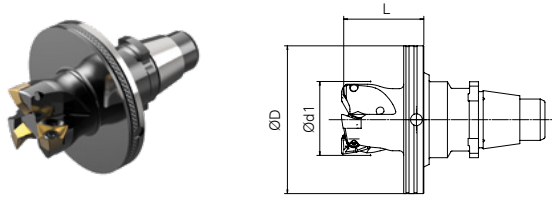
Base holder fits all standard threaded arbors (e.g. Seco, Kennametal...)

HYDRO CLAMPING CHUCK | ONE-PIECE

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S3	50	12	28	28	693.1581228
		S4	63	12	28	28	694.1581228
		S5	75	20	38	30	695.1582030

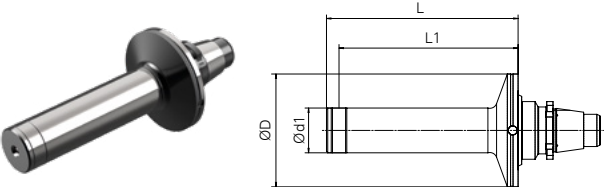
Version two-part with Hydrostar-insert on request

SQUARE SHOULDER | PLUNGE MILL

Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S3	50	25	28	693.6502528S001
		S4	63	32	33	694.6503233S001

Cooperation with 
indexable inserts not included in scope of supply / Can be supplied by Paul Horn GmbH (Type DA32)

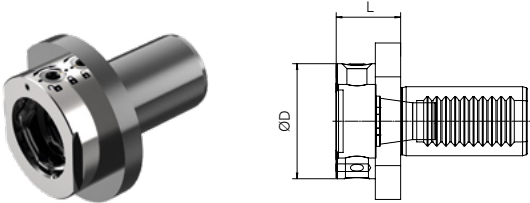
TEST MANDREL

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	*L1 [mm]	
		S1	32	12	55	50	691.2471255
		S2	40	16	68	63	692.2471668
		S3	50	20	87	80	693.2472087
		S4	63	25	107	100	694.24725107
		S5	75	32	134	125	695.24732134

Scope of supply: case with test certificate

*Measuring point

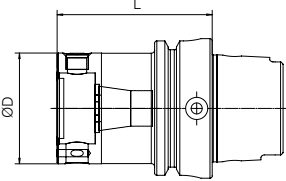
MASTER SHANK | VDI

Model	Drawing	Technical data				Order No.
		Size	Type	ØD [mm]	L [mm]	
		S2	VDI 25	40	25	325.251S2025VE
		S2	VDI 30	40	25	113.251S2025VE
		S3	VDI 40	50	28	114.251S3028VE
		S3	VDI 40	50	28	114.251S3028VE
		S4	VDI 40	63	30	114.251S4030VE
		S5	VDI 50	75	32	115.251S5032VE

ADAPTER

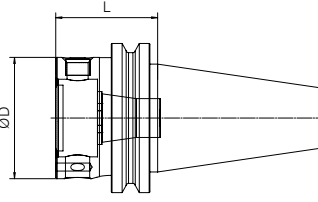
BENZ SOLIDFIX®

MASTER SHANK | HSK

Model	Drawing	Technical data				
		Size	Type	ØD [mm]	L [mm]	Order No.
 		S2	HSK 63	40	62	711.251S2062VE
		S3	HSK 63	50	70	711.251S3070VE
		S4	HSK 63	63	75	711.251S4075VE
		S4	HSK 63	63	80	713.251S4080VE
		S5	HSK 100	75	80	711.251S5080VE
		S5	HSK 100	75	90	713.251S5090VE

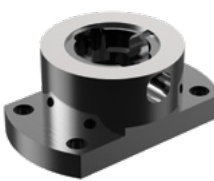
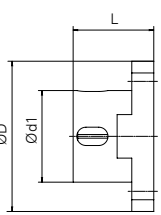
Internal coolant ready (coolant supply transfer needed)

MASTER SHANK | SK

Model	Drawing	Technical data				
		Size	Type	ØD [mm]	L [mm]	Order No.
 		S2	SK 30	40	40	090.251S2040VE
		S3	SK 40	50	42	040.251S3042VE
		S3	SK 50	50	37	042.251S3037VE
		S4	SK 40	63	55	040.251S4055VE
		S4	SK 50	63	40	042.251S4040VE
		S5	SK 40	75	60	040.251S5060VE
		S5	SK 50	75	52	042.251S5052VE

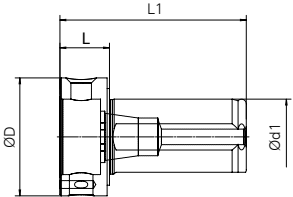
internal coolant ready (precision pull stud)

MOUNTING BLOCK

Model	Drawing	Technical data			
		Size	ØD [mm]	Ød1 [mm]	L [mm]
 		S2	67	40	38
		S3	82	50	44
		S4	96	65	50
		S5	116	75	60

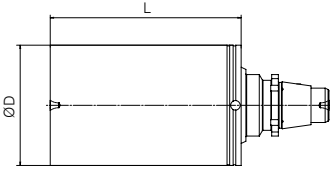
no integrated clamping mechanism

REDUCING SLEEVE

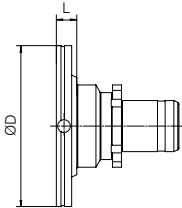
Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	L1 [mm]	
		S2	40	25	17	65	B570-25S2
		S3	50	32	21	79	B570-32S3
		S4	63	40	22	94	B570-40S4

used for boring bars or combination holders

BLANK

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		S2	40	80	692.1024080
		S3	50	100	693.10250100
		S4	63	125	694.10263125
		S5	75	160	695.10275160

CLOSING PLUG

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		S2	40	4	692.581S
		S3	50	5	693.581S
		S4	63	6	694.581S
		S5	75	8	695.581S

made of steel



BENZ CAPTO™

Adapters

BENZ CAPTO™



COLLET CHUCK
8° type ER

52



WELDON
for parallel shanks DIN 1835B

52



MILLING ARBOR

53



BLANK

53



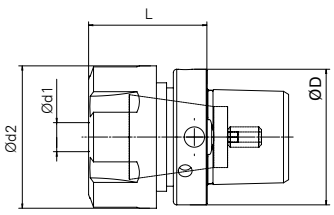
CLOSING PLUG

53

ADAPTER

BENZ CAPTO™

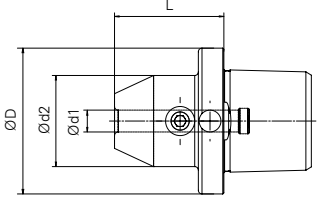
COLLET CHUCK 8° TYPE ER | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data						Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		C3	ER11	32	1-7	19	22	550.130E122
		C3	ER16	32	1-10	28	30	550.130E330
		C3	ER20	32	2-13	34	35	550.130E435
		C3	ER25	32	2-16	42	44	550.130E544
		C4	ER16	40	1-10	28	27	551.130E327
		C4	ER20	40	2-13	34	32	551.130E432
		C4	ER25	40	2-16	42	35	551.130E535
		C4	ER32	40	2-20	50	52	551.130E652
		C5	ER16	50	1-10	28	29	552.130E329
		C5	ER25	50	2-16	42	34	552.130E534
		C5	ER32	50	2-20	50	41	552.130E641
		C5	ER40	50	3-26	63	58	552.130E758

without gripper groove

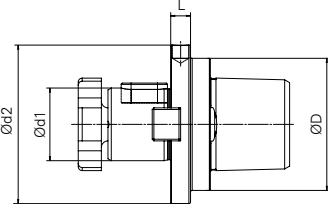
 Accessories page 58

WELDON FOR PARALLEL SHANKS DIN 1835 B | STANDARD DESIGN

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		C3	32	6	25	33	550.1400633
		C3	32	8	28	33	550.1400833
		C3	32	10	35	37	550.1401037
		C3	32	12	42	42	550.1401242
		C3	32	14	44	43	550.1401443
		C3	32	16	48	51	550.1401651
		C4	40	6	25	30	551.1400630
		C4	40	8	28	30	551.1400830
		C4	40	10	35	34	551.1401034
		C4	40	12	42	39	551.1401239
		C4	40	14	44	39	551.1401439
		C4	40	16	48	43	551.1401643
		C4	40	18	50	43	551.1401843
		C4	40	20	52	45	551.1402045
		C5	50	6	25	29	552.1400629
		C5	50	8	28	29	552.1400829
		C5	50	10	35	33	552.1401033
		C5	50	12	42	38	552.1401238
		C5	50	14	44	38	552.1401438
		C5	50	16	48	41	552.1401641
		C5	50	18	50	42	552.1401842
		C5	50	20	52	44	552.1402044
		C5	50	25	65	52	552.1402552

without gripper groove

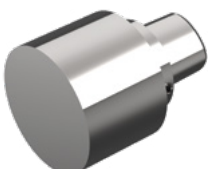
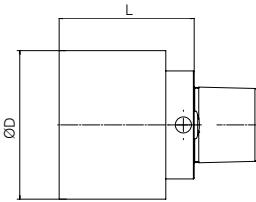
MILLING ARBOR

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		C3	32	16	34	13	550.2311613
		C3	32	22	48	17	550.2312217
		C4	40	22	48	16	551.2312216
		C4	40	27	51	19	551.2312719
		C5	50	27	55	11	552.2312711
		C5	50	32	62	22	552.2313222

without gripper groove

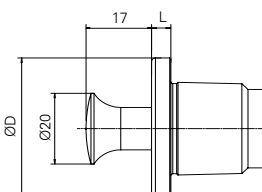
 Accessories page 62

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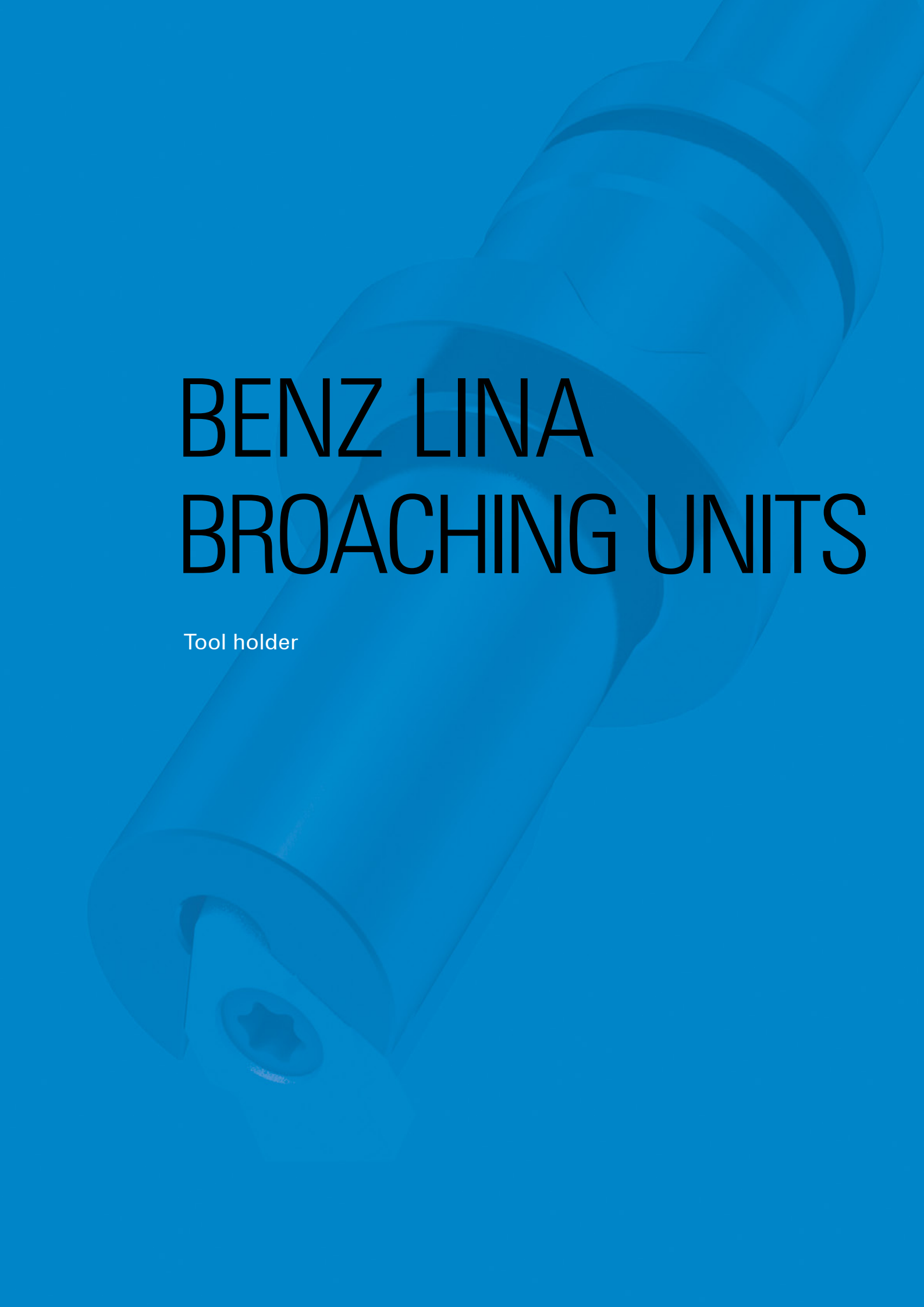
Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		C3	47	50	550.1024750
		C4	57	63	551.1025763
		C5	72	67	552.1027267

without gripper groove

CLOSING PLUG

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		C3	32	5	550.581S
		C4	40	5	551.581S
		C5	50	6	552.581S

made of steel



BENZ LINA BROACHING UNITS

Tool holder

ACCESSORIES

BROACHING UNITS

CLAMPING HOLDER BENZ LINA 4.0



Tool holder
with prism interface

For internal and external machining

- One tool holder for both internal and external machining; also capable of being rotated by 180° using the prism interface

CLAMPING HOLDER BENZ LINA



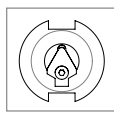
Variant 1



Tool holder with
single groove



Variant 2



Tool holder with
double groove

For internal and external machining

- Variant 1: One tool holder for internal machining and one for external machining
- Variant 2: One tool holder for both internal and external machining; also capable of being rotated by 180° using the second groove

Tool holder to match the broaching unit

You can find the right solution at your preferred cuttinginsert manufacturer. We would be happy to pass on corresponding contact information.

ACCESSORIES

Collet Chuck | Wrenches | Miscellaneous | Broaching units



COLLET CHUCK



CLAMPING NUT

58



SEAL RING

59



COLLET CHUCK

59

WRENCHES



CLAMPING WRENCH

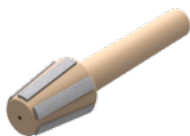
60



INBUS T-WRENCH

61

ACCESSORIES



TAPER CLEANER
BENZ Solidfix® / Collet Chuck
BENZ CAPTO™

61



INSERT
KEY BLOCK DIN2097

62

7



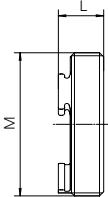
REDUCING SLEEVE
COOLANT NOZZLE

62

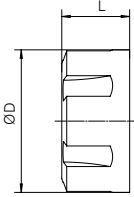
ACCESSORIES

COLLET CHUCK

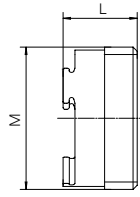
CLAMPING NUT | INTERNAL

Model	Drawing	Technical data			Order No.
		Size Collet chuck	M	L [mm]	
		ER 11	M18x1	7,5	B135-E1AX
		ER 16	M24x1	7,6	B135-E3AX
		ER 20	M28x1,5	8,5	B135-E4AX
		ER 25	M32x1,5	8,8	B135-E5AX
		ER 32	M40x1,5	9,8	B135-E6AX
		ER 40	M50x1,5	11,7	B135-E7AX

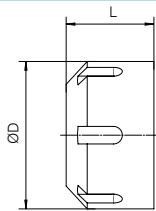
CLAMPING NUT | FORM D+E - EXTERNAL

Model	Drawing	Technical data			Order No.
		Size Collet chuck	ØD [mm]	L [mm]	
		ER 11M	19	11	B135-M1
		ER 16M	28	17	B135-M3
		ER 20M	34	19	B135-M4
		ER 20	34	19	B135-E4
		ER 25	42	20	B135-E5
		ER 32	50	22	B135-E6
		ER 40	63	25	B135-E7

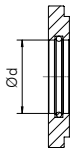
CLAMPING NUT | SYSTEM REGOFIX - INTERNAL

Model	Drawing	Technical data			Order No.
		Size Collet chuck	M	L [mm]	
		ER 16	18x1	12,5	B135-E3AXC
		ER 20	24x1	13,5	B135-E4AXC
		ER 25	28x1,5	13,8	B135-E5AXC
		ER 32	32x1,5	14,9	B135-E6AXC
		ER 40	40x1,5	16,6	B135-E7AXC

CLAMPING NUT | SYSTEM REGOFIX - EXTERNAL FOR TOOLS WITH INTERNAL COOLANT

Model	Drawing	Technical data			Order No.
		Size Collet chuck	ØD [mm]	L [mm]	
		ER 11			auf Anfrage
		ER 16	28	22,5	B135-H3A
		ER 20	34	24	B135-H4A
		ER 25	42	25	B135-H5A
		ER 32	50	27,5	B135-H6A
		ER 40	63	30,5	B135-H7A

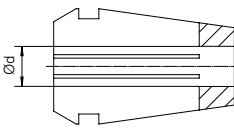
SEAL RING

Model	Drawing	Technical data			Order No.
		Size Cc.	Ød [mm]	Steigung [mm]	
		ER 16	1-10	0,5	B137-E3-...
		ER 20	1-13	0,5	B137-E4-...
		ER 25	2-16	0,5	B137-E5-...
		ER 32	2-20	0,5	B137-E6-...
		ER 40	4-26	0,5	B137-E7-...

Seal area can be inserted up to 0,5 mm smaller as nominal range d

Example: B137-E3-0600

COLLET CHUCK | REGOFIX FORM B

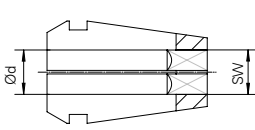
Model	Drawing	Technical data			Order No.
		Size Cc.	Ød [mm]	Steigung [mm]	
		ER 11	1-7	0,5	B134-424E-...
		ER 16	1-10	0,5	B134-426E-...
		ER 20	1-13	1	B134-428E-...
		ER 25	1-16	1	B134-430E-...
		ER 32	3-20	1	B134-470E-...
		ER 40	4-26	1	B134-472E-...

¹ Collet chuck can clamping up to 0,5 mm smaller as nominal range d

² Collet chuck can clamping up to 1 mm smaller as nominal range d

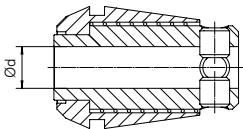
Example: B134-424E-0600

COLLET CHUCK FOR TAP | REGOFIX WITH INTERNAL SQUARE SECTION

Model	Drawing	Technical data			Order No.
		Size Cc.	Ød [mm]	SW [mm]	
		ER 16	4-10	3,15-7	B134-E3...
		ER 20	4-13	3,15-9	B134-E4...
		ER 25	4-16	3,15-16	B134-E5...
		ER 32	4-20	3,15-20	B134-E6...
		ER 40	6-22	6-22	B134-E7...

Example: B134-E3-0600-49

COLLET CHUCK FOR TAP | REGOFIX EXTERNAL SQUARE SECTION WITH LENGTH COMPENSATION

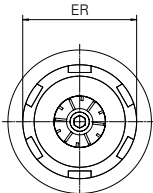
Model	Drawing	Technical data		Order No.
		Size Cc.	Ød [mm]	
		ER 11	1-7	B134-A2...
		ER 16	1-10	B134-A3...
		ER 20	1-13	B134-A4...
		ER 25	1-16	B134-A5...
		ER 32	3-20	B134-A6...
		ER 40	4-26	B134-A7...

Example: B134-A2-0600

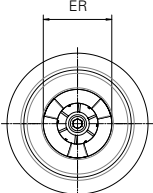
ACCESSORIES

WRENCHES

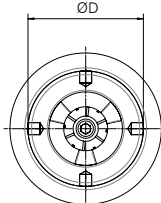
CLAMPING WRENCH | FOR CLAMPING NUT - EXTERNAL

Model	Drawing	Technical data	Order No.
		Size Collet chuck	
		ER 11M	B136-M1
		ER 16M	B136-M3
		ER 20M	B136-M3
		ER 20	B136-E4
		ER 25	B136-E5
		ER 32	B136-E6
		ER 40	B136-E7

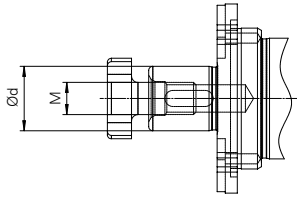
CLAMPING WRENCH | FOR CLAMPING NUT - INTERNAL

Model	Drawing	Technical data	Order No.
		Size Collet chuck	
		ER 11	B136-E1AX
		ER 16	B136-E3AX
		ER 20	B136-E4AX
		ER 25	B136-E5AX
		ER 32	B136-E6AX
		ER 40	B136-E7AX

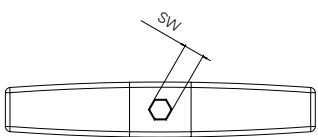
HOOK WRENCH

Model	Drawing	Technical data	Order No.
		ØD Spindle	
		12-14	D01810B012014
		16-18	D01810B016018
		20-22	D01810B020022
		25-28	D01810B025028
		30-32	D01810B030032
		34-36	D01810B034036
		40-42	D01810B040042
		45-50	D01810B045050
		52-55	D01810B052055
		58-62	D01810B058062
		68-75	D01810B068075
		80-90	D01810B080090
		95-100	D01810B095100

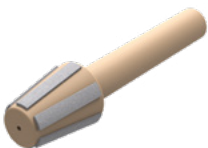
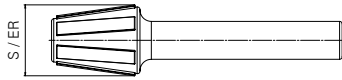
WRENCH DIN 6368 | FOR CROSS RETAINING SCREWS

Model	Drawing	Technical data		Order No.
		ØD Milling arbor	M	
		16	8	D06368-080
		22	10	D06368-100
		27	12	D06368-120
		32	16	D06368-160

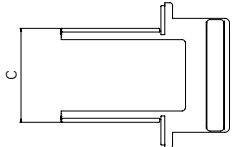
INBUS T-WRENCH | FOR BENZ SOLIDFIX® UND BENZ CAPTO™ ACTUATION

Model	Drawing	Technical data			Order No.
		Size BENZ Solidfix®	Size BENZ CAPTO™	SW	
		S2		4	KL8317-44982-SW4
		S3		5	KL8317-45013-SW5
		S4 / S5	C3	6	KL8317-45039-SW6
			C4	8	KL8317-45039-SW8
			C5	10	KL8317-45039-SW10

TAPER CLEANER | BENZ SOLIDFIX® / COLLET CHUCK

Model	Drawing	Technical data		Order No.
		Size BENZ Solidfix®	Size Collet chuck	
		S1	ER 11	B069-ER16
		S2	ER 16	B069-ER16
		S3	ER 20	B069-ER20
		S4	ER 25	B069-ER25
		S5	ER 32	B069-ER32

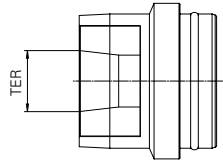
TAPER CLEANER | BENZ CAPTO™

Model	Drawing	Technical data		Order No.
		Size BENZ CAPTO™		
		C3		B069-C3
		C4		B069-C4
		C5		B069-C5

ACCESORIES

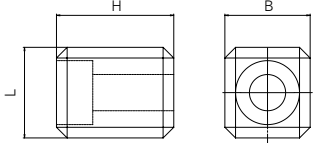
MISCELLANEOUS

INSERT | FOR SHRINKING ADAPTERS

Model	Drawing	Technical Data		Order No.
		Ød1 [mm]	L [mm]	
		S2	Insert TER 16	B136-426E-DSE
		S3	Insert TER 20	B136-428E-DSE
		S4	Insert TER 25	B136-430E-DSE
		S5	Insert TER 32	B136-470E-DSE
		S2 - S5	Base holder with length adjustment	B136-4XXE-DSG

Base holder and respective insert are needed

KEY BLOCK DIN 2097 | FOR MILLING ARBORS

Modell	Drawing	Technical Data				Order No.
		Ød1 [mm]	L [mm]	B [mm]	H [mm]	
		16	8,5	8	11	B245-66
		22	11	10	8,6	B245-81
		27	10	12	9,3	B245-126
		32	12	14	14	B245-117

FURTHER ACCESSORIES ON REQUEST

COOLANT NOZZLE



Different variants

REDUCING SLEEVE

VDI



Different sizes & variants

Please contact our [BENZ-Sales-Team](#)



Services: customized, value-retaining, cost-effective

SERVICE LIVE TOOLS

Service repair

- Fast and professional analysis of damage
- Evaluation and repair recommendations within 5 working days
- On request: general maintenance or refurbishing

ExpressService

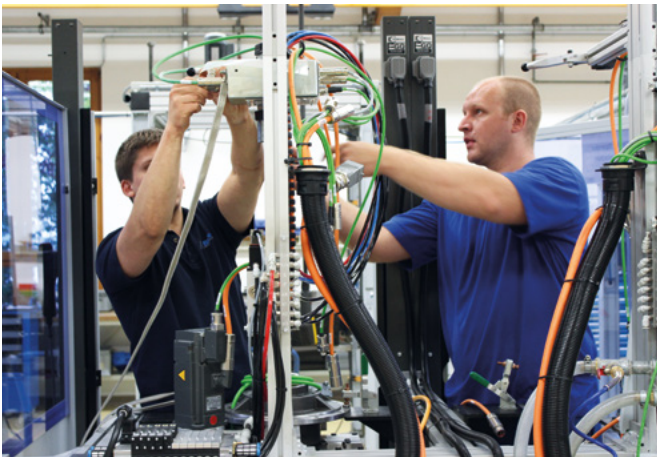
- Exceptionally fast and efficient turnaround
- Repair at a fixed price
- 48-hour Express Service available for selected units

Individual crash package

- Keep machine downtime and lost profits to a minimum
- Highly recommended for customer-specific solutions
- Includes regular wear and tear as well as special parts

Preventive maintenance

- Prevention: Reduce unplanned downtime, increase unit operating times and unit life cycle
- Maintain proper product performance / general maintenance or refurbishing
- Replacement of wear parts during your planned downtime



Service installers available to come to your site



Knowledgeable service employees answer your questions and help with problems

Spare part management

- Delivery of original precision spare parts
- High availability
- Spare parts express shipment as needed

Service Hotline

- Skilled service representatives answer your questions and provide additional support in the event of a problem
- Contact information: www.benztooling.com

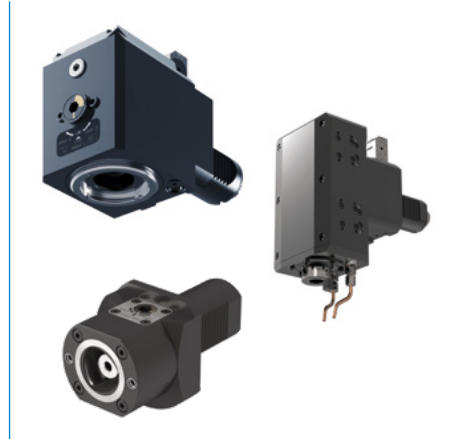
Global service

- Service technicians available upon request to visit your site

PRODUCT GROUPS

TOOLING & MACHINE TOOLING TECHNOLOGY

TOOLING TECHNOLOGY



METAL

LIVE TOOLS/TOOL HOLDERS

- Radial heads 90°
- Radial heads $\neq$ 90°
- Axial heads
- Swivel heads
- Multi-spindle heads
- Broaching units
- Rotating tool holders
- Static tool holders

COMPONENTS. Our comprehensive tool concepts for turning centers and milling centers are ideal for nearly every application. Providing a technological advantage is our goal.

SPECIFIC TO THE CUSTOMER. Our modular approach enables customized configurations.

SYSTEMS. We develop special customer-specific tools for OEM and end customers on request.



METAL

EXCHANGEABLE UNITS

- Angle heads 90°
- Angle heads $\neq$ 90°
- Swivel heads
- Multi-spindle heads
- Broaching units
- High-speed spindles

KNOWLEDGE AND EXPERIENCE. Our knowledge of the metalworking industry and decades of development partnership make us ideal for new tasks anywhere in the world.

COMPONENTS. We deliver a vast array of standard components from stock and develop innovative, customized systems for OEM and end customers.

VARIETY. Whether in machining centers in the automotive, aerospace or wind energy industries, units from Benz can be used anywhere. Numerous customers choose us as their systems and innovation partner.



WOOD / COMPOSITE AND ALUMINIUM

EXCHANGEABLE UNITS

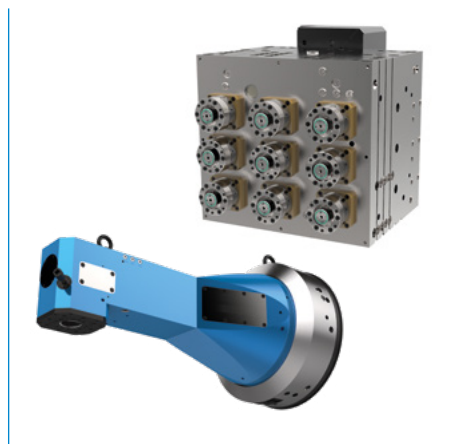
- Angle heads 90°
- Swivel heads
- Multi-spindle heads
- Multi-axis heads
- Sanding units
- Floating head units

FOR ANY APPLICATION. Cost-effectively process and machine wood, composites and aluminium: We provide series production angle heads for drilling, milling, sawing and grinding in addition to other units for special applications.

FROM BASIC TO HIGH-END. Benz units are available in a variety of performance classes, making them ideal for everything from light machining to high-performance continuous operation.

SYSTEMS. We have the solution for your special applications: Customized Benz units for machining centers. Put us to the test!

MACHINE TOOLING TECHNOLOGY



METAL

MULTI-SPINDLE HEADS AND LARGE DRILL HEADS

- Large angle heads
- Large drill heads
- XXL multi-spindle heads

DEVELOPMENT PARTNER. We accompany you from brainstorming to inspection of the final machine, always to your expectations. Our assortment ranges from compact heads to XXL units.

SYSTEMS. Benz stands for high-end solutions in the fields of machine tooling technology, specialty solutions, custom assemblies and mechanical modules. We manufacture and configure multiple-spindle and large-angle heads as well as large drill heads.

COMPONENTS. Attachment units complete our range.



METAL / WOOD / COMPOSITE AND ALUMINIUM

SYSTEM TECHNOLOGY

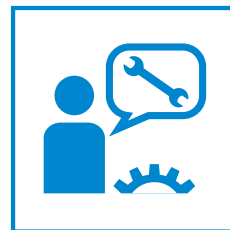
- Multiple-spindle drill heads
- Motor spindles
- Motors
- 5-axis technology
- C-axes
- Swivel axes
- Rotary distributors
- Z-axes

COMPONENTS. Our range includes standard products in an assortment of shapes and sizes.

THE PERFECT ADDITION. Our system additions provide you with even more efficiency. Perfect your existing solutions with Benz products!

SYSTEMS. We develop the technology of tomorrow. Your individual requirements for the efficiency of your machine tools and the suitability of the tools in use provide our benchmark for new, innovative solutions.

SERVICE



METAL / WOOD / COMPOSITE AND ALUMINIUM

SERVICE

- Repair service
- ExpressService
- Customized crash package
- Preventive maintenance
- Spare part management
- Global service
- Service hotline

DO NOT LOSE A SECOND. Speed is the order of the day when unexpected breakdowns occur. Our service center ensures Immediate assistance around the world. We ensure your machine has as little downtime as possible.

SERVICE QUALITY. We guarantee top service quality reflecting our expertise as a manufacturer.

FORESIGHT. We go one step further: Preventive maintenance, customized crash packages and our spare part management service ensure you have the best setup to face any emergency. We look to the future to keep you at your peak.

OVERVIEW

PICTOGRAMS & ABBREVIATIONS

UNIT SPECIFICATIONS

Type of machining



Drilling

The unit is suitable for boring machining



Milling

The unit is suitable for milling machining



Threading

The unit is suitable for thread machining



Broaching and slotting

The unit is suitable for machining by broaching and slotting

Number of output spindles (tool holding fixtures)



1

The unit has one output spindle



2

The unit has two output spindles

Axis angle



0°

Unit for machining tasks at a 0° angle



90°

Unit for machining tasks at a 90° angle



± 0

Unit for machining tasks at an adjustable angle
0° ± max. α° adjustable angle.

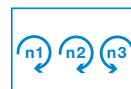
Drive for spindle Direction of rotation



clockwise / clockwise
synchronized rotation



clockwise /
counterclockwise
counter-rotation



clockwise / clockwise /
counterclockwise
synchronized and
counterrotation

Coolant feed for cutting blade



Extern (EC)

The tool is cooled using an external feed line (spray nozzle)



Combination (EC+IC)

The tool is cooled by a combination of both internal and external systems

Special tool form



Shaped profile tools
(VB 24)

System advantages

Common information

OTHER SPECIFICATIONS

		
Set-up time	Investment	Easy to handle
		
Safe to handle		
		
Info	Video	Service
		
Accessories		

ABBREVIATIONS

M_{max}	Maximum torque
i	Gear ratio
n_{max}	Maximum speed
p_{max}	Maximum pressure (bar)
EC	External cooling
IC	Internal cooling
p.	Page
✓	Possible
-	Not possible
SW	Width across flats
mm	Millimeter



Special custom solutions

Products shown in dashed lines represent solutions adapted for a specific customer

ARE YOU ALREADY FAMILIAR WITH OUR EXPERTISE?

- TEAMS OF EXPERTS WITH INDUSTRY EXPERIENCE
- INTERNATIONALLY NETWORKED THROUGH WORLD-WIDE LOCATIONS AND PARTNERS
- THE HIGHEST QUALITY FOR ALL PRODUCTS AND SERVICES
- PRECISE, CUSTOMER-SPECIFIC SOLUTIONS
- CONSTANT DEVELOPMENT OF OUR INDUSTRY EXPERTISE

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We hereby declare that our products meet the basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine to the extent that this is possible as part of delivery.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine also satisfies the stipulations of EC Directive 2004/108/EC on electromagnetic compatibility. The protective goals of EC Directive 2006/95/EC regarding electronic equipment have been met.

The incomplete machine may only be commissioned if it has been ascertained, if applicable, that the machine or system in which the incomplete machine is to be installed satisfies the requirements of Directive 2006/42/EC on Machinery and an EC declaration of conformity has been drawn up in accordance with Annex II.

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