

TOOLING FOR SWISS-TYPE CNC MACHINES



GenSwiss

Advancing Small Parts Manufacturing

www.genswiss.com



Ver.
12.11

Introduction...

Genevieve Swiss Industries provides tools & accessories unique to Swiss-Type Machining and Small Parts Manufacturing. Our product line of machine tool holders and live spindles are supplied primarily by PCM Willen SA of Switzerland. PCM is well known in the industry as an innovative company delivering products held to the highest quality standards.

With over 20 years experience in small parts manufacturing Genevieve Swiss can provide you with a solid source of accessories and information to improve your productivity.

Our product line includes a full complement of tool holders for various machines, rotary broaching, cutting tools for Swiss-Type machines, precision collet extensions, and small deburring and finishing equipment.

Please feel free to call us with product questions or technical assistance.

Products & Services:

- Rotary broaching tools from PCM®
- Thread Whirling Cutter Rings & Thread Form Inserts
- Swiss Made Slitting Saws and Arbors
- Specialized Swiss-Type Turning Tools from UTILIS®
- Swiss Silver Premium Cutting Oils
- Magnetic Finishing, Small Part Finishing & Micro-deburring systems
- Tool Holders for Citizen, Star, Tsugami, Tornos, Maier, Nexturn, Okuma, & other VDI Turret Style Machines
- Application and process assistance

Mission Statement:

Advancing Small Parts Manufacturing

Business Philosophy:

Sincerity in serving the needs of others and the rewards will come.



Proudly Representing our Partners:



@SwissType1

See Product Video Demonstrations on:



www.youtube.com/genwiss1



Scan QR Codes with your phone for product demo videos



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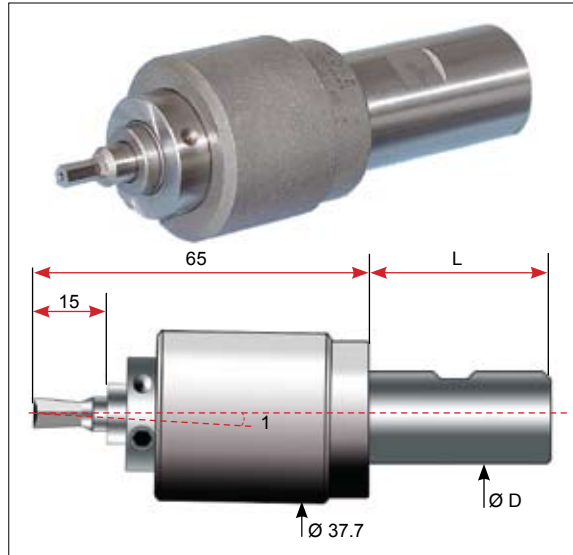
Rotary Broaching is a fast and easy method of producing polygonal drive features in turned parts. Genevieve Swiss offers Premium Rotary Broaching products from PCM, the European industry leader in rotary broaching tools.

2100 Series

Max Thrust Force: 900lbs - Uses 8mm Shank Broaches - NO CENTER INDICATING REQUIRED

Swiss-Type Broach holder designed for easy setup and centering of the tool to the work piece on CNC Swiss Machines and Gang Lathes. Eliminates the need to indicate the holder to center when used with qualified OAL 8mm shank broach tools. Recommended profile size range for this holder is .050" to .375"

Part No. Inch	D	L
RBH-2100-158	.625"	1.5"
RBH-2102	.750"	1.5"
RBH-2104	1.00"	1.5"
Part No. Metric	D	L
RBH-2100-16	16	38
RBH-2101	20	38
RBH-2103	25	38

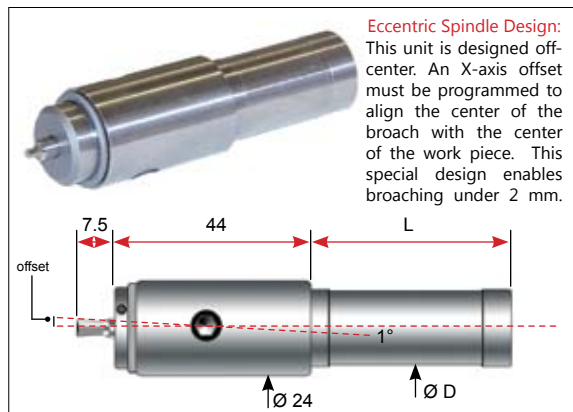


2150 Series

Max Thrust Force: 112lbs - Uses 5mm Shank Broaches - FOR MICRO-BROACHING .078" (2mm) & UNDER. This Rotary Broach Holder is ideal for micro-broaching applications and is for use on the smallest of CNC Swiss Machines or older cam style screw machines. Recommended for broaching profiles smaller than 2mm in diameter.

SMALLEST ROTARY BROACH HOLDER AVAILABLE TO THE INDUSTRY

Part No. Inch	D	L
RBH-2150-190	.750"	1.5"
Part No. Metric	D	L
RBH-2150-070	7	30
RBH-2150-080	8	30
RBH-2150-100	10	30
RBH-2150-120	12	38
RBH-2150-150	15	38
RBH-2150-160	16	38
RBH-2150-220	22	75

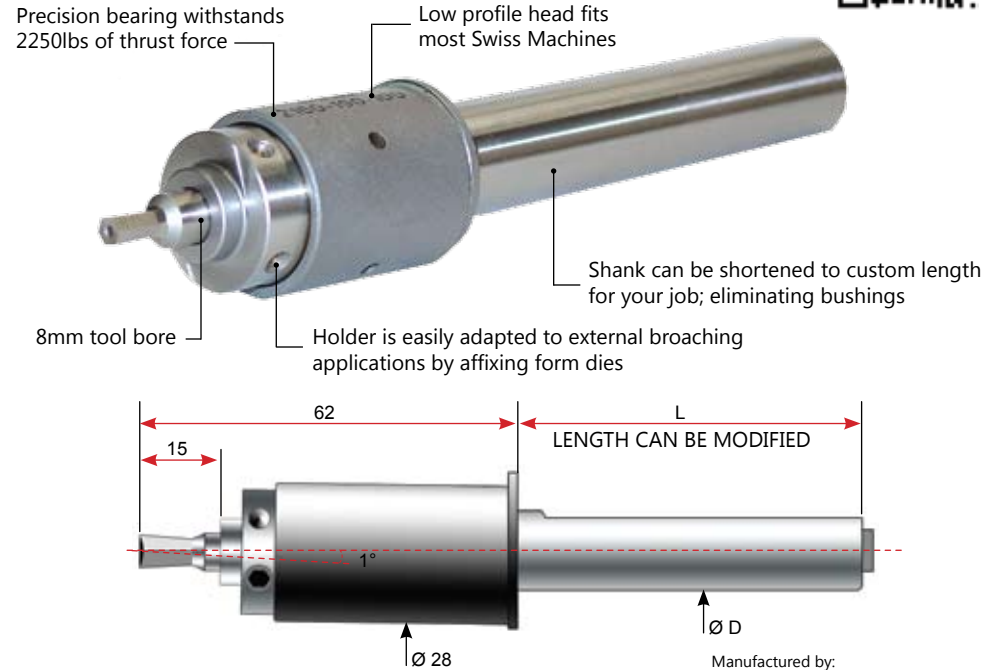


The Original Swiss-Type Rotary Broach Holder

2160 Series

Max Thrust Force: 2250lbs - Uses 8mm Shank Broaches - THE ORIGINAL & Best Choice

Developed by Genevieve Swiss and PCM, the 2160 Series Swiss-Type Rotary Broach holder is the premier choice for performing broaching applications in your Swiss-Type CNC Machine or Gang Style lathe. Eliminates the need to indicate for center location. Recommended profile size range for this holder is .050" to .375"



Part No. Inch	D	L
RBH-2160-158-038	.625"	1.50"
RBH-2160-190-100	.750"	4.00"
RBH-2160-254-120	1.00"	4.75"
Part No. Metric	D	L
RBH-2160-120-038	12	38
RBH-2160-140-038	14	38
RBH-2160-160-038	16	38
RBH-2160-200-100	20	100
RBH-2160-220-100	22	100
RBH-2160-250-100	25	100

2160 Series - Key features



- NO CENTER INDICATING REQUIRED
- Ideal for Medical & Aerospace fastener applications
- Low Profile Holder fits machines with minimal interference
- Shank length is customizable. No need for bushings
- Short head length is ideal for sub-spindle applications
- Longer OAL broach tools can be used by adjusting x-axis

Premium Rotary Broach Holders

For CNC Lathes and Machining Centers



Engineered To Out-Perform All Others

Rotary Broaching can be done in lathes, vertical machining centers & rotary transfer machines. When performing heavier applications in machines other than Swiss-type machines, we recommend the use of a holder that has built-in center-adjustment capability. These holders can also accommodate longer broach tools for extended depth of cut or deep profiles.

6180 / 6181 / 26000 Series

Max Thrust Force: 2700lbs - Uses 8mm Shank Broach Tools. Adjustable Broaching holder designed for CNC Lathes & Turning centers. Can be adapted with a special die to produce external broach forms such as splines.

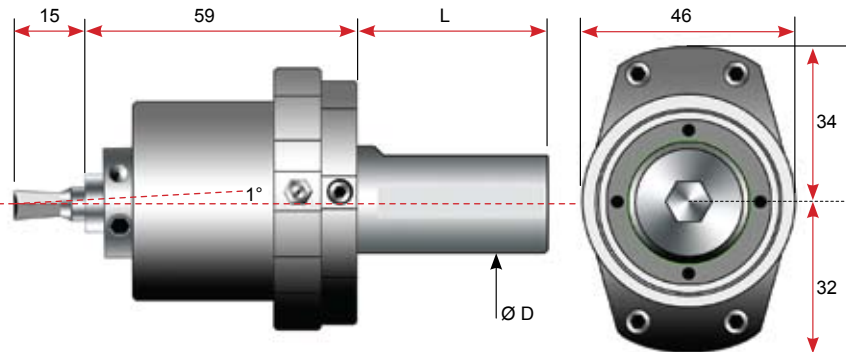
Recommended profile size range for this holder is from .070" to .394" in diameter.

Broaching Tips, Setup instructions and Speeds & Feeds Available Online at www.rotarybroaching.net

Hex cap screws enable easier locking of adjustment settings



Four Quadrant micro-adjustability enables easiest center locating for better broach results



Round Shank	Shank with Flats	D	L
RBH-6180-158	RBH-6181-158	.625	1.575
RBH-6180-160	RBH-6181-160	16mm	40mm
RBH-6180-190	RBH-6181-190	3/4"	1.575
RBH-6180-200	RBH-6181-200	20mm	40mm
RBH-6180-250	RBH-6181-250	25mm	50mm
RBH-6180-254	RBH-6181-254	1"	1.970"
RBH-6180-300	RBH-6181-300	30mm	60mm
RBH-6180-317	RBH-6181-317	1.250"	2.365"
RBH-6180-320	RBH-6181-320	32mm	60mm

Available with VDI style shank for VDI turret equipped machines.



VDI 3425-2 / DIN 69880

VDI Part No.	VDI Shank size
RBH-26200-16	16
RBH-26201	20

6190 / 6191 / 26300 Series

Max Thrust Force: 9000lbs - Uses 12mm Shank Broach Tools. Adjustable broaching holder designed for the largest of turning centers and CNC lathes. This broaching holder features a robust bearing configuration to withstand the high forces required to attain some of the largest of broach profiles.

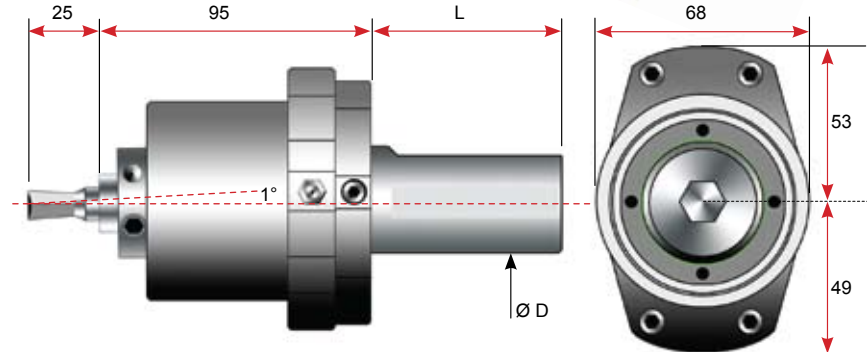
Recommended profile size range for this holder is .125" to 1.250" in diameter.

Hex cap screws enable easier locking of adjustment settings



Heavy duty bearing design for superior performance

Set screws enable easy X & Y axis adjustment making center locating easier



Round Shank	Shank with Flats	D	L
RBH-6190-200		20mm	55mm
RBH-6190-250	RBH-6191-250	25mm	55mm
RBH-6190-254	RBH-6191-254	1"	2.165"
RBH-6190-300	RBH-6191-300	30mm	55mm
RBH-6190-317	RBH-6191-317	1.250"	2.165"
RBH-6190-320	RBH-6191-320	32mm	55mm
	RBH-6191-350	35mm	55mm
	RBH-6191-381	1.5"	2.165"
	RBH-6191-508	2.00"	2.165"



VDI 3425-2 / DIN 69880

VDI Part No.	VDI Shank size
RBH-26303	30
RBH-26304	40
RBH-26305	50

HiCo8 Performance Rotary Broaches

Our Rotary Broach Tools are held to high standards of quality to ensure increased positioning accuracy and straighter broach results in order to meet the rigorous requirements of the medical, aerospace & automotive fastener industries.

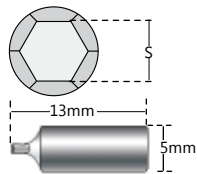
Our High Quality Swiss Made Broaches Feature:

- HiCo8 Swiss Tool Steel provides extended tool life in many materials
- Optional Pressure Relief Vent allows trapped air/coolant to escape pilot hole during broaching
- Special geometries available to reduce cutting force required to broach different materials
- Qualified shank diameters and overall lengths ensure accurate location

Hexagonal Broach Tools - 2151 Series - 5mm Shank - 13mm Overall Length
For use with: 2150 Series Micro-Broach Holder

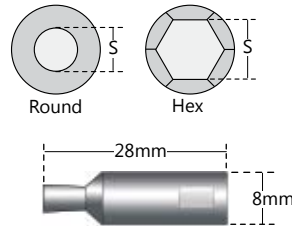
Part No.	Hex Size	S
RBT-2151-100H	1mm	.040"
RBT-2151-150H	1.5mm	.060"
RBT-2151-200H	2mm	.078"
RBT-2151-250H	2.5mm	.098"
RBT-2151-300H	3mm	.121"

Custom Sizes and Tolerances Available



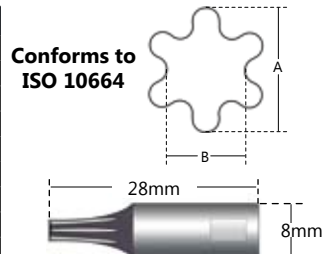
High Quality HiCo8 Blanks for Rotary Broaches - 2110 Series
For use with: 2100, 2160 & 6180 Series Rotary Broach Holders

Part No.	Description	S
RBT-2112-Blk-T	Round Profile - Vented	.135"
RBT-2113-Blk	Round Profile - Solid	.145"
RBT-2113-Blk-T	Round Profile - Vented	.145"
RBT-2114-Blk	Hex Profile - Solid	.175"
RBT-2114-Blk-T	Hex Profile - Vented	.175"
RBT-2115-Blk	Hex Profile - Solid	.210"
RBT-2115-Blk-T	Hex Profile - Vented	.210"
RBT-2116-Blk	Hex Profile - Solid	.260"
RBT-2117-Blk	Hex profile - Solid	.295"
RBT-2118-Blk	Hex Profile - Solid	.335"



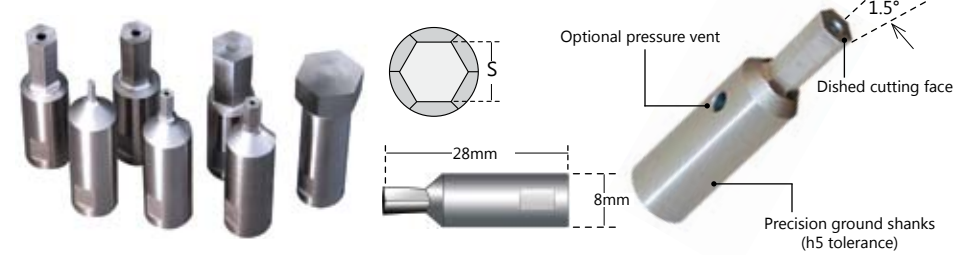
Hexalobular Broach Tools - 2122 Series - 8mm Shank - 28mm Overall Length
For use with: 2100, 2160 & 6180 Series Rotary Broaching Holders

Part No.	Socket No.	A	B
RBT-2122-T6	T6	.0688"	.0500"
RBT-2122-T8	T8	.0944"	.0688"
RBT-2122-T10	T10	.1102"	.0807"
RBT-2122-T15	T15	.1318"	.0944"
RBT-2122-T20	T20	.1555"	.1122"
RBT-2122-T25	T25	.1771"	.1279"
RBT-2122-T30	T30	.2204"	.1594"
RBT-2122-T40	T40	.2657"	.1909"
RBT-2122-T45	T45	.3122"	.2220"



Premium Grade for Medical and Aerospace

Hexagonal Broach Tools - 2110 Series - 8mm Shank - 28mm Overall Length
For use with: 2100, 2160 & 6180 Series Holders



2110 Series - .0474" to .1000"

Part No.	S Min	S Max
RBT-2110-121H	.0474	.0480
RBT-2110-127H-1	.0498	.0502
RBT-2110-128H	.0503	.0507
RBT-2110-1506H	.0590	.0594
RBT-2110-1524H-1	.0598	.0602
RBT-2110-1539H-1	.0604	.0608
RBT-2110-160H-1	.0629	.0635
RBT-2110-180H-1	.0688"	.0728"
RBT-2110-198H	.0793	.0797
RBT-2110-203HT	.0795	.0799
RBT-2110-240HT	.0938	.0952
RBT-2110-242H	.0949	.0953
RBT-2110-243H-1	.0952	.0962
RBT-2110-2505HT-1	.0983	.0990
RBT-2110-253HT	.0992	.0996
RBT-2110-254H-1	.0996	.1000
RBT-2110-254HT-1	.0996	.1000
RBT-2110-2555HT	.1004	.1008
RBT-2110-257HT	.1004	.1012

2110 Series - .1004" to .1898"

Part No.	S Min	S Max
RBT-2110-267HT	.1053	.1063
RBT-2110-293H	.1130	.1177
RBT-2110-3012HT-1	.1184	.1188
RBT-2110-302H-1	.1189	.1209
RBT-2110-3037HT-1	.1194	.1198
RBT-2110-3043HT	.1196	.1200
RBT-2110-308HT	.1211	.1216
RBT-2110-317H	.1280	.1285
RBT-2110-321HT	.1260	.1264
RBT-2110-353HT-1	.1385	.1394
RBT-2110-355HT-1	.1394	.1398
RBT-2110-358H	.1402	.1409
RBT-2110-363H	.1425	.1429
RBT-2110-380HT	.1528	.1534
RBT-2110-397HT	.1594	.1600
RBT-2110-408HT-1	.1604	.1608
RBT-2110-476HT	.1906	.1911
RBT-2110-479HT	.1880	.1892
RBT-2110-4820HT-1	.1892	.1898

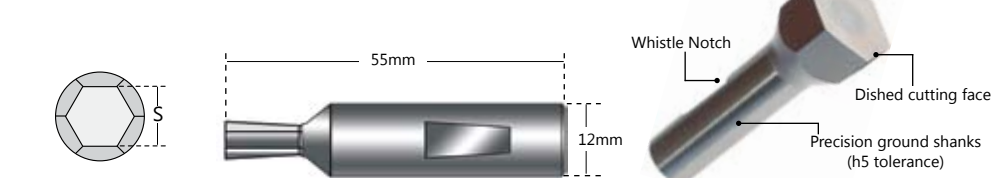
2110 Series - .1895" - .3844"

Part No.	S Min	S Max
RBT-2110-4826HT	.1895	.1900
RBT-2110-5048HT	.1985	.1990
RBT-2110-507H	.1996	.2000
RBT-2110-557H	.2191	.2195
RBT-2110-556H	.2220	.2226
RBT-2110-5635H	.2217	.2221
RBT-2110-605H	.2374	.2382
RBT-2110-609H	.2396	.2400
RBT-2110-626H-1	.2461	.2468
RBT-2110-635H	.2539	.2545
RBT-2110-639H	.2514	.2519
RBT-2110-642H-1	.2525	.2530
RBT-2110-717H	.2820	.2825
RBT-2110-794H-1	.3123	.3126
RBT-2110-802H	.3155	.3160
RBT-2110-952H	.3788	.3794
RBT-2110-976H	.3840	.3844

Custom Sizes and Tolerances Available
Call to discuss your Application

Recommended Depth of Cut = 1.5xS

Hexagonal Broach Tools - 6150 Series - 12mm Shank - 55mm Overall Length
For use with: 6190 Series Heavy-Duty Holders



6150 Series - .1205" to .3982"
Nominal Metric

Part No.	S Min	S Max
RBT-6150-03H	.1205	.1212
RBT-6150-04H	.1605	.1612
RBT-6150-05H	.1998	.2005
RBT-6150-06H	.2390	.2398
RBT-6150-07H	.2792	.2801
RBT-6150-08H	.3186	.3194
RBT-6150-09H	.3579	.3588
RBT-6150-10H	.3972	.3982

6150 Series - .4376" to .7588"
Nominal Metric

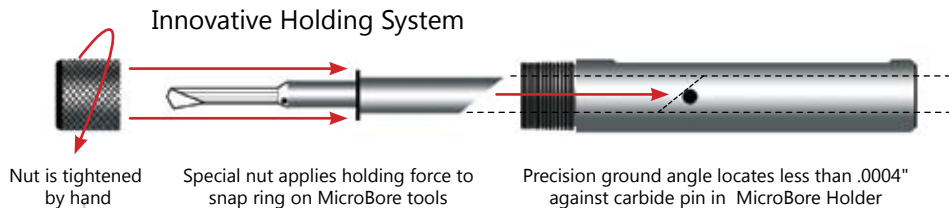
Part No.	S Min	S Max
RBT-6150-11H	.4376	.4386
RBT-6150-12H	.4770	.4780
RBT-6150-13H	.5163	.5174
RBT-6150-14H	.5557	.5567
RBT-6150-16H	.6379	.6389
RBT-6150-17H	.6773	.6783
RBT-6150-18H	.7164	.7177
RBT-6150-19H	.7575	.7588

6150 Series - .1280" to .6340" Inch

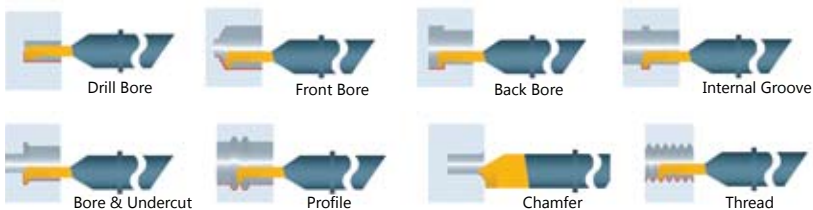
Part No.	S Min	S Max	Nom
RBT-6150-317H	.1280	.1287	1/8"
RBT-6150-397H	.1592	.1599	5/32"
RBT-6150-476H	.1905	.1912	3/16"
RBT-6150-556H	.2217	.2224	7/32"
RBT-6150-635H	.2536	.2545	1/4"
RBT-6150-794H	.3161	.3170	5/16"
RBT-6150-952H	.3786	.3795	3/8"
RBT-6150-127H	.5045	.5055	1/2"
RBT-6150-142H	.5705	.5715	9/16"
RBT-6150-158H	.6330	.6340	5/8"

UTILIS
multidec[®]
swiss type tools

Micro-Bore



Complete MicroBoring System



The Multidec Micro-Bore System is a complete I.D. working system that can perform boring, grooving, profiling, chamfering, threading & more.

Change Micro Boring Tools in *SECONDS*

Micro Drill-Bore Bars combine drilling and boring into one operation. This unique tool features thru-coolant and is available for minimum bore sizes from .0165" to .315"

MicroBore - SDG Drill-Bore

		Application Guide								
		Steels		UHM 20	UHM 20 HX					
		Stainless Steels								
		Titanium								
		Non-Ferrous								
		Insert Grade								
Cat No.	Bore D	Shank d ₀	Holder		min. hole dia. d ₁	max. depth - l ₁	a	l ₀	r	
SDG 435 042 R	0.5	4	SDA 4...	• •	.42mm / .0165"	1.5mm / .059"	0.38	35	.01	
SDG 435 092 R	1.0	4	SDA 4...	• •	.92mm / .0362"	3.0mm / .118"	0.83	35	.02	
SDG 440 092 R	1.0	4	SDA 4...	• •	.92mm / .0362"	3.0mm / .118"	0.83	40	.03	
SDG 448 092 R	1.0	4	SDA 4...	• •	.92mm / .0362"	5.0mm / .196"	0.83	48	.03	
SDG 435 142 R	1.5	4	SDA 4...	• •	1.42mm / .0559"	4.5mm / .177"	1.28	35	.02	
SDG 440 142 R	1.5	4	SDA 4...	• •	1.42mm / .0559"	4.5mm / .177"	1.28	40	.04	
SDG 448 142 R	1.5	4	SDA 4...	• •	1.42mm / .0559"	7.5mm / .295"	1.28	48	.04	
SDG 435 192 R	2.0	4	SDA 4...	• •	1.92mm / .0755"	6.0mm / .236"	1.73	35	.03	
SDG 440 192 R	2.0	4	SDA 4...	• •	1.92mm / .0755"	6.0mm / .236"	1.73	40	.04	
SDG 448 192 R	2.0	4	SDA 4...	• •	1.92mm / .0755"	10.0mm / .393"	1.73	48	.04	
SDG 435 242 R	2.5	4	SDA 4...	• •	2.42mm / .0952"	7.5mm / .295"	2.18	35	.03	
SDG 440 242 R	2.5	4	SDA 4...	• •	2.42mm / .0952"	7.5mm / .295"	2.18	40	.05	
SDG 448 242 R	2.5	4	SDA 4...	• •	2.42mm / .0952"	12.5mm / .492"	2.18	48	.05	
SDG 440 292 R	3.0	4	SDA 4...	• •	2.92mm / .1149"	9.0mm / .354"	2.63	40	.05	
SDG 448 292 R	3.0	4	SDA 4...	• •	2.92mm / .1149"	15.0mm / .590"	2.63	48	.05	
SDG 440 342 R	3.5	4	SDA 4...	• •	3.42mm / .1346"	10.5mm / .413"	3.08	40	.06	
SDG 448 342 R	3.5	4	SDA 4...	• •	3.42mm / .1346"	17.5mm / .688"	3.08	48	.06	
SDG 440 392 R	4.0	4	SDA 4...	• •	3.92mm / .1543"	12.0mm / .472"	3.53	40	.06	
SDG 448 392 R	4.0	4	SDA 4...	• •	3.92mm / .1543"	20.0mm / .787"	3.53	48	.06	
SDG 644 442 R	4.5	6	SDA 6...	• •	4.42mm / .1740"	9.0mm / .354"	3.98	44	.07	
SDG 656 442 R	4.5	6	SDA 6...	• •	4.42mm / .1740"	18.0mm / .708"	3.98	56	.07	
SDG 668 442 R	4.5	6	SDA 6...	• •	4.42mm / .1740"	27.0mm / 1.062"	3.98	68	.07	
SDG 644 492 R	5.0	6	SDA 6...	• •	4.92mm / .1937"	10.0mm / .393"	4.43	44	.07	
SDG 668 492 R	5.0	6	SDA 6...	• •	4.92mm / .1937"	20.0mm / .787"	4.43	56	.07	
SDG 644 542 R	5.5	6	SDA 6...	• •	5.42mm / .2133"	11.0mm / .433"	4.88	44	.08	
SDG 656 542 R	5.5	6	SDA 6...	• •	5.42mm / .2133"	22.0mm / .866"	4.88	56	.08	
SDG 668 542 R	5.5	6	SDA 6...	• •	5.42mm / .2133"	33.0mm / 1.299"	4.88	68	.08	
SDG 644 592 R	6.0	6	SDA 6...	• •	5.92mm / .2330"	12.0mm / .472"	5.33	44	.08	
SDG 656 592 R	6.0	6	SDA 6...	• •	5.92mm / .2330"	24.0mm / .944"	5.33	56	.08	
SDG 668 592 R	6.0	6	SDA 6...	• •	5.92mm / .2330"	36.0mm / 1.417"	5.33	68	.08	
SDG 850 692 R	7.0	8	SDA 8...	• •	6.92mm / .2724"	14.0mm / .551"	6.23	50	.09	
SDG 866 692 R	7.0	8	SDA 8...	• •	6.92mm / .2724"	28.0mm / 1.102"	6.23	66	.09	
SDG 882 692 R	7.0	8	SDA 8...	• •	6.92mm / .2724"	42.0mm / 1.653"	6.23	82	.09	
SDG 850 792 R	8.0	8	SDA 8...	• •	7.92mm / .3118"	16.0mm / .629"	7.13	50	.10	
SDG 866 792 R	8.0	8	SDA 8...	• •	7.92mm / .3118"	32.0mm / 1.259"	7.13	66	.10	
SDG 882 792 R	8.0	8	SDA 8...	• •	7.92mm / .3118"	48.0mm / 1.889"	7.13	82	.10	

High Precision Micro Boring System



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended

MicroBore - SDH Front-Turn

Application Guide											
Steels											
Stainless Steels											
Titanium											
Non-Ferrous											
Insert Grade											
UHM 20											
UHM 20 HX											
 $\alpha = 7.5^\circ$ $\beta = 22.5^\circ$											
Cat No.	Bore D	Shank d	Holder		min. hole dia. d_1	max. depth - l_1	a	h	t	l_0	r
SDH 435 042 R	0.5	4	SDA 4...	● ●	.42mm / .0165"	1.5mm / .059"	0.38	0.09	0.07	35	.05
SDH 435 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	3.0mm / .118"	0.83	0.19	0.15	35	.05
SDH 440 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	3.0mm / .118"	0.83	0.21	0.16	40	.05
SDH 448 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	5.0mm / .196"	0.83	0.21	0.16	48	.05
SDH 435 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	4.5mm / .177"	1.28	0.30	0.23	35	.05
SDH 440 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	4.5mm / .177"	1.28	0.31	0.23	40	.05
SDH 448 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	7.5mm / .295"	1.28	0.31	0.23	48	.05
SDH 435 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	6.0mm / .236"	1.73	0.40	0.31	35	.05
SDH 440 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	6.0mm / .236"	1.73	0.41	0.31	40	.05
SDH 448 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	10.0mm / .393"	1.73	0.41	0.31	48	.05
SDH 435 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	7.5mm / .295"	2.18	0.51	0.39	35	.05
SDH 440 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	7.5mm / .295"	2.18	0.52	0.39	40	.05
SDH 448 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	12.5mm / .492"	2.18	0.52	0.39	48	.05
SDH 440 292 R	3.0	4	SDA 4...	● ●	2.92mm / .1149"	9.0mm / .354"	2.63	0.62	0.47	40	.15
SDH 448 292 R	3.0	4	SDA 4...	● ●	2.92mm / .1149"	15.0mm / .590"	2.63	0.62	0.47	48	.15
SDH 440 342 R	3.5	4	SDA 4...	● ●	3.42mm / .1346"	10.5mm / .413"	3.08	0.72	0.54	40	.15
SDH 448 342 R	3.5	4	SDA 4...	● ●	3.42mm / .1346"	17.5mm / .688"	3.08	0.72	0.54	48	.15
SDH 440 392 R	4.0	4	SDA 4...	● ●	3.92mm / .1543"	12.0mm / .472"	3.53	0.83	0.62	40	.05
SDH 448 392 R	4.0	4	SDA 4...	● ●	3.92mm / .1543"	20.0mm / .787"	3.53	0.83	0.62	48	.05
SDH 644 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	9.0mm / .354"	3.98	0.93	0.7	44	.05
SDH 656 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	18.0mm / .708"	3.98	0.93	0.7	56	.05
SDH 668 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	27.0mm / 1.062"	3.98	0.93	0.7	68	.05
SDH 644 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	10.0mm / .393"	4.43	1.04	0.78	44	.05
SDH 656 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	20.0mm / .787"	4.43	1.04	0.78	56	.05
SDH 668 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	30.0mm / 1.181"	4.43	1.04	0.78	68	.05
SDH 644 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	11.0mm / .433"	4.88	1.14	0.85	44	.05
SDH 656 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	22.0mm / .866"	4.88	1.14	0.85	56	.05
SDH 668 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	33.0mm / 1.299"	4.88	1.14	0.85	68	.05
SDH 644 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	12.0mm / .472"	5.33	1.24	0.93	44	.05
SDH 656 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	24.0mm / .944"	5.33	1.24	0.93	56	.05
SDH 668 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	36.0mm / 1.417"	5.33	1.24	0.93	68	.05
SDH 850 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	14.0mm / .551"	6.23	1.45	1.09	50	.35
SDH 866 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	28.0mm / 1.102"	6.23	1.45	1.09	66	.05
SDH 882 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	42.0mm / 1.653"	6.23	1.45	1.09	82	.05
SDH 850 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	16.0mm / .629"	7.13	1.66	1.24	50	.05
SDH 866 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	32.0mm / 1.259"	7.13	1.66	1.24	66	.05
SDH 882 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	48.0mm / 1.889"	7.13	1.66	1.24	82	.05

Multidec® MicroBore



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended

MicroBore - SDQ Internal Profiling

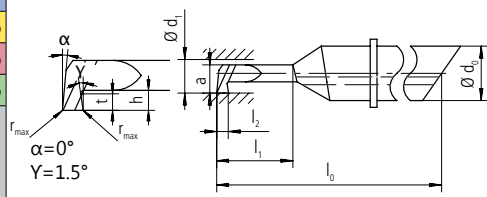
Application Guide											
Steels											
Stainless Steels											
Titanium											
Non-Ferrous											
Insert Grade											
UHM 20											
UHM 20 HX											
 $\alpha = 5^\circ$ $\beta = 30.5^\circ$											
Cat No.	Bore D	Shank d	Holder		min. hole dia. d_1	max. depth - l_1	a	h	t	l_0	r
SDQ 435 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	1.5mm / .059"	0.83	.31	.23	35	.02
SDQ 440 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	3.0mm / .118"	0.83	.31	.20	40	.05
SDQ 448 092 R	1.0	4	SDA 4...	● ●	.92mm / .0362"	5.0mm / .196"	0.83	.31	.20	48	.05
SDQ 435 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	4.5mm / .177"	1.28	.47	.36	35	.02
SDQ 440 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	4.5mm / .177"	1.28	.47	.40	40	.08
SDQ 448 142 R	1.5	4	SDA 4...	● ●	1.42mm / .0559"	7.5mm / .295"	1.28	.47	.40	48	.08
SDQ 435 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	6.0mm / .236"	1.73	.64	.48	35	.03
SDQ 440 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	6.0mm / .236"	1.73	.64	.50	40	.10
SDQ 448 192 R	2.0	4	SDA 4...	● ●	1.92mm / .0755"	10.0mm / .393"	1.73	.64	.50	48	.10
SDQ 435 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	7.5mm / .295"	2.18	.81	.61	35	.03
SDQ 440 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	7.5mm / .295"	2.18	.81	.60	40	.13
SDQ 448 242 R	2.5	4	SDA 4...	● ●	2.42mm / .0952"	12.5mm / .492"	2.18	.81	.60	48	.13
SDQ 440 292 R	3.0	4	SDA 4...	● ●	2.92mm / .1149"	9.0mm / .354"	2.63	.97	.70	40	.15
SDQ 448 292 R	3.0	4	SDA 4...	● ●	2.92mm / .1149"	15.0mm / .590"	2.63	.97	.70	48	.15
SDQ 440 342 R	3.5	4	SDA 4...	● ●	3.42mm / .1346"	10.5mm / .413"	3.08	1.14	.90	40	.18
SDQ 448 342 R	3.5	4	SDA 4...	● ●	3.42mm / .1346"	17.5mm / .688"	3.08	1.14	.90	48	.18
SDQ 440 392 R	4.0	4	SDA 4...	● ●	3.92mm / .1543"	12.0mm / .472"	3.53	1.31	1.0	40	.20
SDQ 448 392 R	4.0	4	SDA 4...	● ●	3.92mm / .1543"	20.0mm / .787"	3.53	1.31	1.0	48	.20
SDQ 644 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	9.0mm / .354"	3.98	1.47	1.1	44	.23
SDQ 656 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	18.0mm / .708"	3.98	1.47	1.1	56	.23
SDQ 668 442 R	4.5	6	SDA 6...	● ●	4.42mm / .1740"	27.0mm / 1.062"	3.98	1.47	1.1	68	.23
SDQ 644 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	10.0mm / .393"	4.43	1.64	1.2	44	.25
SDQ 656 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	20.0mm / .787"	4.43	1.64	1.2	56	.25
SDQ 668 492 R	5.0	6	SDA 6...	● ●	4.92mm / .1937"	30.0mm / 1.181"	4.43	1.64	1.2	68	.25
SDQ 644 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	11.0mm / .433"	4.88	1.80	1.4	44	.28
SDQ 656 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	22.0mm / .866"	4.88	1.80	1.4	56	.28
SDQ 668 542 R	5.5	6	SDA 6...	● ●	5.42mm / .2133"	33.0mm / 1.299"	4.88	1.80	1.4	68	.28
SDQ 644 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	12.0mm / .472"	5.33	1.97	1.5	44	.30
SDQ 656 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	24.0mm / .944"	5.33	1.97	1.5	56	.30
SDQ 668 592 R	6.0	6	SDA 6...	● ●	5.92mm / .2330"	36.0mm / 1.417"	5.33	1.97	1.5	68	.30
SDQ 850 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	14.0mm / .551"	6.23	2.30	1.7	50	.35
SDQ 866 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	28.0mm / 1.102"	6.23	2.30	1.7	66	.35
SDQ 882 692 R	7.0	8	SDA 8...	● ●	6.92mm / .2724"	42.0mm / 1.653"	6.23	2.30	1.7	82	.35
SDQ 850 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	16.0mm / .629"	7.13	2.64	2.0	50	.40
SDQ 866 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	32.0mm / 1.259"	7.13	2.64	2.0	66	.40
SDQ 882 792 R	8.0	8	SDA 8...	● ●	7.92mm / .3118"	48.0mm / 1.889"	7.13	2.64	2.0	82	.40



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended

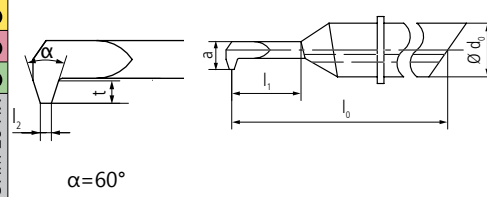
MicroBore - SDT Groove & Turn

				Application Guide											
				Steels											
				Stainless Steels											
				Titanium											
				Non-Ferrous											
				Insert Grade											
				UHM 20											
				UHM 20 HX											
Cat No.	Bore D	Shank d	Holder			min. hole dia. d _i	max. depth - l ₁	a	h	t	l ₂	l ₀	r		
SDT 440 392 R	4.0	4	SDA 4...	● ●		3.92mm / .1543"	12.0mm / .472"	3.53	1.31	1.0	1.0	40	.02		
SDT 448 392 R	4.0	4	SDA 4...	● ●		3.92mm / .1543"	20.0mm / .787"	3.53	1.31	1.0	1.0	48	.02		
SDT 644 592 R	6.0	6	SDA 6...	● ●		5.92mm / .2330"	12.0mm / .472"	5.33	1.97	1.5	1.25	44	.02		
SDT 656 592 R	6.0	6	SDA 6...	● ●		5.92mm / .2330"	24.0mm / .944"	5.33	1.97	1.5	1.25	56	.02		
SDT 668 592 R	6.0	6	SDA 6...	● ●		5.92mm / .2330"	36.0mm / 1.417"	5.33	1.97	1.5	1.25	68	.02		
SDT 850 792 R	8.0	8	SDA 8...	● ●		7.92mm / .3118"	16.0mm / .629"	7.13	2.64	2.0	1.5	50	.02		
SDT 866 792 R	8.0	8	SDA 8...	● ●		7.92mm / .3118"	32.0mm / 1.259"	7.13	2.64	2.0	1.5	66	.02		
SDT 882 792 R	8.0	8	SDA 8...	● ●		7.92mm / .3118"	48.0mm / 1.889"	7.13	2.64	2.0	1.5	82	.02		



MicroBore - SDU Internal Thread (Partial Profile)

				Application Guide											
				Steels											
				Stainless Steels											
				Titanium											
				Non-Ferrous											
				Insert Grade											
				UHM 20											
				UHM 20 HX											
Cat No.	Bore D	Shank d	Holder			max. depth - l ₁	a	t	l ₂	l ₀	r	Thread	Pitch		
SDU 435 160 R	1.6	4	SDA 4...	● ●		3.0mm / .118"	1.1	0.35	.02	35	.02	M1.6-M2	.35-.40		
SDU 440 160 R	1.6	4	SDA 4...	● ●		4.8mm / .189"	1.1	0.35	.02	40	.05	M1.6-M2	.35-.40		
SDU 435 200 R	2.0	4	SDA 4...	● ●		4.5mm / .177"	1.3	0.45	.03	35	.05	M2-M3	.40-.50		
SDU 440 200 R	2.0	4	SDA 4...	● ●		6.0mm / .236"	1.3	0.45	.03	40	.02	M2-M3	.40-.50		
SDU 435 300 R	3.0	4	SDA 4...	● ●		6.0mm / .236"	2.0	0.60	.04	35	.08	M3-M4	.50-.70		
SDU 440 300 R	3.0	4	SDA 4...	● ●		9.0mm / .354"	2.0	0.60	.04	40	.08	M3-M4	.50-.70		
SDU 435 400 R	4.0	4	SDA 4...	● ●		7.5mm / .295"	2.7	0.80	.05	35	.03	M4-M5	.70-.80		
SDU 440 400 R	4.0	4	SDA 4...	● ●		12mm / .472"	2.7	0.80	.05	40	.10	M4-M5	.70-.80		
SDU 656 500 R	4.1	6	SDA 6...	● ●		15mm / .590"	3.8	0.90	.06	56	.10	M5-M6	.80-1.0		
SDU 656 600 R	4.9	6	SDA 6...	● ●		18mm / .708"	4.6	0.90	.07	56	.03	M6-M7	1.00		
SDU 656 700 R	5.9	6	SDA 6...	● ●		21mm / .826"	5.6	1.10	.08	56	.13	M7-M8	1.0-1.25		



Additional Geometries Available

visit www.genswiss.com or call for details.

METRIC SHANK MicroBore Holders for 4mm Shank Bars (SD...4)

Cat No.	D1	g	lg	l1	l2	l3	l4
SDA 4 060 07	7	M5	60	-	-	-	-
SDA 4 060 08	8	M5	60	27	5	-	-
SDA 4 060 10	10	M5	60	27	5	-	-
SDA 4 060 12	12	R 1/8"	60	27	5	-	-
SDA 4 060 14	14	R 1/8"	60	27	5	-	-
SDA 4 060 16	16	R 1/8"	60	27	5	-	-
SDA 4 060 18	18	R 1/8"	60	27	5	-	-
SDA 4 060 20	20	R 1/8"	60	27	5	-	-
SDA 4 060 22	22	R 1/8"	60	27	5	-	-
SDA 4 060 25	25	R 1/8"	60	27	5	-	-
SDA 4 060 28	28	R 1/8"	60	27	5	-	-
SDA 4 100 08	8	R 1/8"	100	27	5	-	-
SDA 4 100 10	10	R 1/8"	120	27	5	-	-
SDA 4 120 12	12	R 1/8"	120	27	5	27	5
SDA 4 120 14	14	R 1/8"	120	27	5	27	5
SDA 4 120 16	16	R 1/8"	120	27	5	27	5
SDA 4 120 18	18	R 1/8"	120	27	5	27	5
SDA 4 120 20	20	R 1/8"	120	27	5	27	5
SDA 4 175 20	20	R 1/8"	175	27	5	27	5
SDA 4 120 22	22	R 1/8"	120	27	5	27	5
SDA 4 120 25	25	R 1/8"	120	27	5	27	5
SDA 4 120 28	28	R 1/8"	120	27	5	27	5

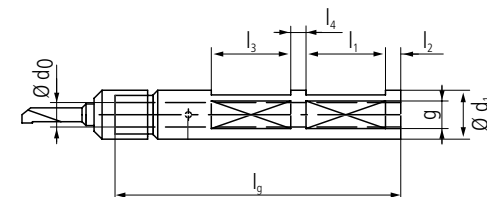
METRIC SHANK MicroBore Holders for 6mm Shank Bars (SD...6)

Cat No.	D1	g	lg	l1	l2	l3	l4
SDA 6 065 12	12	R 1/8"	65	27	5	-	-
SDA 6 065 14	14	R 1/8"	65	27	5	-	-
SDA 6 065 16	16	R 1/8"	65	27	5	-	-
SDA 6 065 18	18	R 1/8"	65	27	5	-	-
SDA 6 065 20	20	R 1/8"	65	27	5	-	-
SDA 6 065 22	22	R 1/8"	65	27	5	-	-
SDA 6 065 25	25	R 1/8"	65	27	5	-	-
SDA 6 065 28	28	R 1/8"	65	27	5	-	-
SDA 6 100 12	12	R 1/8"	100	27	5	-	-
SDA 6 120 14	14	R 1/8"	120	27	5	27	5
SDA 6 120 16	16	R 1/8"	120	27	5	27	5
SDA 6 120 18	18	R 1/8"	120	27	5	27	5
SDA 6 120 20	20	R 1/8"	120	27	5	27	5
SDA 6 120 22	22	R 1/8"	120	27	5	27	5
SDA 6 120 25	25	R 1/8"	120	27	5	27	5
SDA 6 120 28	28	R 1/8"	120	27	5	27	5

METRIC SHANK MicroBore Holders for 8mm Shank Bars (SD...8)

Cat No.	D1	g	lg	l1	l2	l3	l4
SDA 8 070 14	14	R 1/8"	70	27	5	-	-
SDA 8 070 16	16	R 1/8"	70	27	5	-	-
SDA 8 070 20	20	R 1/8"	70	27	5	-	-
SDA 8 070 22	22	R 1/8"	70	27	5	-	-
SDA 8 070 25	25	R 1/8"	70	27	5	-	-
SDA 8 070 28	28	R 1/8"	70	27	5	-	-
SDA 8 100 14	14	R 1/8"	100	27	5	-	-
SDA 8 120 16	16	R 1/8"	120	27	5	27	5
SDA 8 120 18	18	R 1/8"	120	27	5	27	5
SDA 8 120 20	20	R 1/8"	120	27	5	27	5
SDA 8 120 22	22	R 1/8"	120	27	5	27	5
SDA 8 120 25	25	R 1/8"	120	27	5	27	5
SDA 8 120 28	28	R 1/8"	120	27	5	27	5

Multidec MicroBore Coolant-Thru Holders



INCH SHANK MicroBore Holders for 4mm Shank Bars (SD...4)

Cat. No.	D1	g	lg	l1	l2	l3	l4
SDA 4 060 12.7	1/2"	R 1/8"	60	27	5	-	-
SDA 4 060 19.05	3/4"	R 1/8"	60	27	5	-	-
SDA 4 060 25.4	1.0"	R 1/8"	60	27	5	-	-
SDA 4 120 12.7	1/2"	R 1/8"	120	27	5	27	5
SDA 4 120 19.05	3/4"	R 1/8"	120	27	5	27	5
SDA 4 120 25.4	1.00"	R 1/8"	120	27	5	27	5

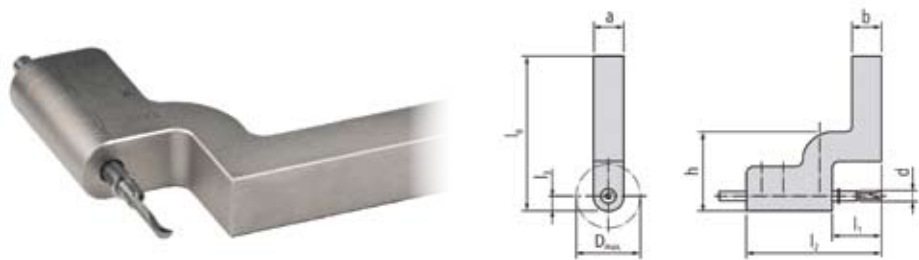
INCH SHANK MicroBore Holders for 6mm Shank Bars (SD...6)

Cat. No.	D1	g	lg	l1	l2	l3	l4
SDA 6 065 12.7	1/2"	R 1/8"	65	27	5	-	-
SDA 6 065 19.05	3/4"	R 1/8"	65	27	5	-	-
SDA 6 065 25.4	1.0"	R 1/8"	65	27	5	-	-
SDA 6 120 12.7	1/2"	R 1/8"	120	27	5	27	5
SDA 6 120 19.05	3/4"	R 1/8"	120	27	5	27	5
SDA 6 120 25.4	1.00"	R 1/8"	120	27	5	27	5

INCH SHANK MicroBore Holders for 8mm Shank Bars (SD...8)

Cat. No.	D1	g	lg	l1	l2	l3	l4
SDA 8 070 19.05	3/4"	R 1/8"	70	27	5	-	-
SDA 8 070 25.4	1.00"	R 1/8"	70	27	5	-	-
SDA 8 120 19.05	3/4"	R 1/8"	120	27	5	27	5
SDA 8 120 25.4	1.00"	R 1/8"	120	27	5	27	5

MicroBore - Gang Mounted Holders

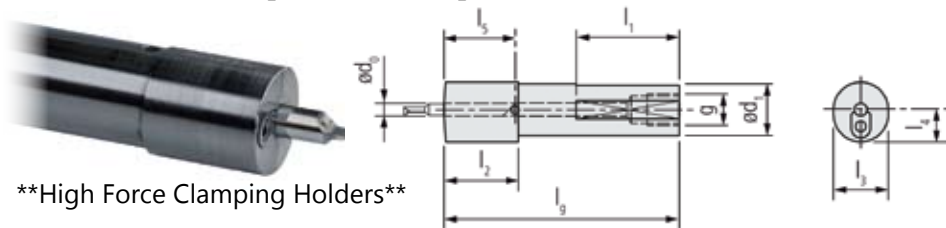


MICRO BORE Dog Leg Boring Bar Holders -4mm (SD...4)

Cat No.	a	b	Dmax	h	d	lg	l1	l2	l3
AKR M 0808x100 D4-3540	8	8	26	30	4	104	20	55	4
AKR M 0808x100 D4-48	8	8	26	30	4	104	30	65	4
AKR M 1010x100 D4-3540	10	10	26	31	4	105	20	55	5
AKR M 1010x100 D4-48	10	10	26	31	4	105	30	65	5
AKR M 1212x100 D4-3540	12	12	26	32	4	106	20	55	6
AKR M 1212x100 D4-48	12	12	26	32	4	106	30	65	6
AKR M 1/2"x100 D4-3540	.500"	.500"	26	32.5	4	106.5	20	55	6.5
AKR M 1/2"x100 D4-48	.500"	.500"	26	32.5	4	106.5	30	65	6.5
AKR M 1616x100 D4-3540	16	16	26	34	4	133	20	55	8
AKR M 1616x100 D4-48	16	16	26	34	4	133	30	65	8

All above holders are also available with a 6mm bore (d)

MicroBore SuperClamp Holders



High Force Clamping Holders

MICRO BORE SuperClamp Holders: d₀-4mm (SD...4)

Cat No.	d1	lg	l1	l2	l3	l4	l5	g
SDA 4 073 050 12.7 SC	.500"	73	32	23	13	10	22.5	G 1/8"
SDA 4 073 050 16 SC	16mm	73	32	23	17	10	22.5	G 1/8"
SDA 4 073 050 19.05 SC	.750"	73	32	23	20	10	22.5	G 1/8"
SDA 4 073 000 20 SC	20mm	73	32	---	20	10	22.5	G 1/8"
SDA 4 133 000 25.4 SC	1"	133	64	---	25.4	12.7	22.5	G 1/8"

Cat No.	d1	lg	l1	l2	l3	l4	l5	g
SDA 6 078 055 12.7 SC	.500"	78	32	23	13	11.2	26.2	G 1/8"
SDA 6 078 055 16 SC	16mm	78	32	23	17	11.2	26.2	G 1/8"
SDA 6 078 055 19.05 SC	.750"	78	32	23	20	11.2	26.2	G 1/8"
SDA 6 133 000 22 SC	22mm	133	64	---	22	11.5	26.2	G 1/8"

Cat No.	d1	lg	l1	l2	l3	l4	l5	g
SDA 8 083 060 16 SC	16mm	83	32	23	17	12.3	27.9	G 1/8"
SDA 8 083 060 19.05 SC	.750"	83	32	23	20	12.3	27.9	G 1/8"

Additional Holder Options Available.
Visit www.genswiss.com

MicroBore - Spare Parts

Spare Clamping Nuts

Part No.	Fits Holders...	Desc.	Dimension
MSP SDA 4M	SDA 4...	4mm Holder Nut	M8x.5
MSP SDA 6M	SDA 6...	6mm Holder Nut	M12x.6
MSP SDA 8M	SDA 8...	8mm Holder Nut	M14x.75

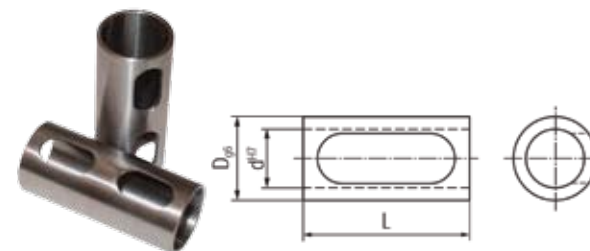
Retaining Snap Rings

Part No.	Fits Holders...	Desc.	Dimension
MSP SDA 4S	SDA 4...	Tool Retaining Ring	4mm
MSP SDA 6S	SDA 6...		6mm
MSP SDA 8S	SDA 8...		8mm

Setup and Location Tool

Part No.	Fits Holders...	Desc.	Dimension
SDA 4X	SDA 4...	Alignment Device	4mm
SDA 6X	SDA 6...	Alignment Device	6mm
SDA 8X	SDA 8...	Alignment Device	8mm

MicroBore - Headless Bushings



Reduction Sleeves

Cat No.	D _{g6}	d _{h7}	L
MRH 1600 1230	16.00	12	30
MRH 1905 1240	.750"	12	40
MRH 2200 1240	22.00	12	40
MRH 2540 1240	1.00"	12	40
MRH 1905 1640	.750"	16	40
MRH 2200 1640	22.00	16	40
MRH 2540 1640	1.00"	16	40

The GenBore®

Three Position Expansion ID Tool Holder for CNC Swiss Machines



Now Includes the:



See page 112.

Removable location screw can be used to re-position the GenBore® holder on the gang plate

1/2" Shank includes shim-plate for machines using 5/8" shank tooling

Ideal for Spot Drills, Coolant-Thru Drills as well as Boring Bars

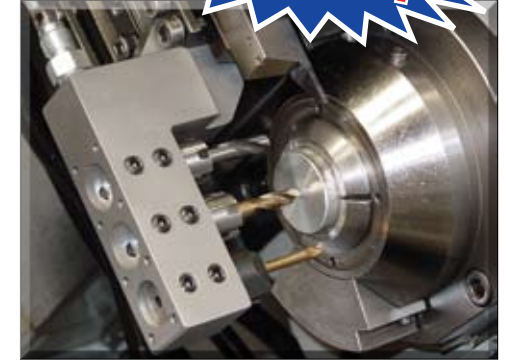


Easily integrates into high pressure coolant delivery systems

Set screws on both sides enable access in both RH & LH machine layouts

Includes (3) ER11 5/8" shank collet sleeves

Converts a Standard Turning Position to a Triple ID Station



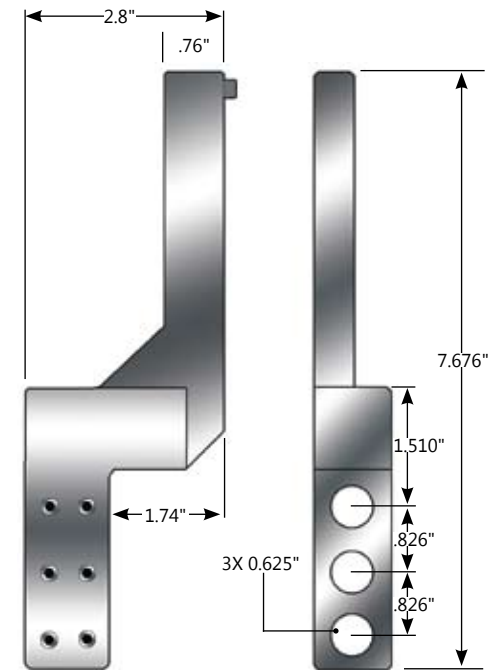
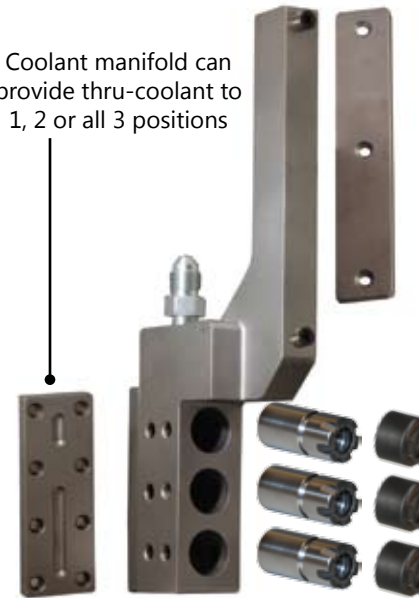
GenBore Tool Holder Kits Include:

GenBore Main Holder Body
Reversible Coolant Manifold
Shank Conversion Shim Plate
Set Screws, Coolant Fitting & Location Screws

Optional:

(3) .625" Shank ER11 Collet Sleeves
(3) **EzR Swiss Clamp** ER Nuts & Spanner for easy tool changes. (See Page 112)

Coolant manifold can provide thru-coolant to 1, 2 or all 3 positions



Part No.	Description
GBH-000-500.625.1-CS	3 Position GenBore Holder with Collet Sleeves and EzR Swiss Clamp ER Collet Nuts & Spanner
GBH-000-500.625.1	3 Position GenBore Holder Only

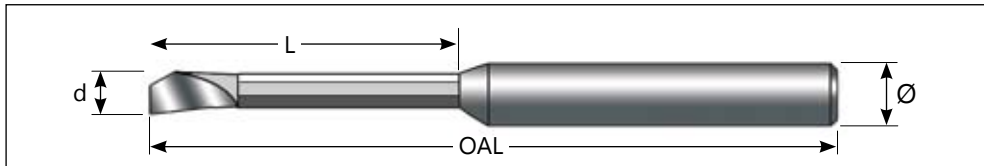
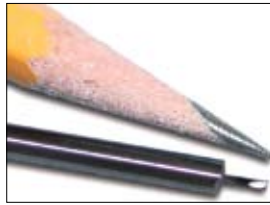
Solid Carbide Boring Bars



DIAMOND BACK BORING BARS

Genevieve Swiss "Diamond Back" Boring bars feature a precision ground helical cutting geometry that provides better chip evacuation than conventional boring products. Better chip evacuation results in better surface finishes and longer tool life.

- Bore diameters from .027" to .480"
- Multi-Facet Neck Reduces Vibration
- Large Diameter to Depth Ratios
- Helical Cutting Geometry



Part No.	d	L	Ø	OAL
TBB-0250-125125	.027"	.125"	.125"	1.5"
TBB-0300-156125	.031"	.156"	.125"	1.5"
TBB-0300-187125	.031"	.1875"	.125"	1.5"
TBB-0350-156125	.036"	.156"	.125"	1.5"
TBB-0400-250125	.042"	.250"	.125"	1.5"
TBB-0500-312125	.052"	.3125"	.125"	1.5"
TBB-0550-312125	.057"	.3125"	.125"	1.5"
TBB-0600-375125	.062"	.375"	.125"	1.5"
TBB-0600-500125	.062"	.500"	.125"	1.5"
TBB-0700-437125	.072"	.4375"	.125"	1.5"
TBB-0800-500125	.082"	.500"	.125"	1.5"
TBB-0850-500125	.087"	.500"	.125"	1.5"
TBB-0850-625125	.087"	.625"	.125"	2.0"
TBB-0900-500125	.092"	.500"	.125"	1.5"
TBB-1000-562125	.102"	.5625"	.125"	1.5"
TBB-1000-625125	.102"	.625"	.125"	2.0"
TBB-1100-562125	.112"	.5625"	.125"	1.5"
TBB-1100-625125	.112"	.625"	.125"	2.0"
TBB-1200-625125	.120"	.625"	.125"	1.5"
TBB-1200-750125	.120"	.750"	.125"	2.0"

Part No.	d	L	Ø	OAL
TBB-1500-750187	.150"	.750"	.187"	2.0"
TBB-1500-1000187	.150"	1.00"	.187"	2.0"
TBB-1500-1500187	.150"	1.50"	.187"	2.5"
TBB-1800-1000187	.180"	1.00"	.187"	2.0"
TBB-1800-1500187	.180"	1.50"	.187"	2.5"
TBB-1800-2000187	.180"	2.00"	.187"	3.0"
TBB-2100-1000250	.210"	1.00"	.250"	2.0"
TBB-2100-1500250	.210"	1.50"	.250"	2.5"
TBB-2100-2000250	.210"	2.00"	.250"	3.0"
TBB-2400-1000250	.240"	1.00"	.250"	2.0"
TBB-2400-1500250	.240"	1.50"	.250"	2.5"
TBB-2400-2000250	.240"	2.00"	.250"	3.0"
TBB-3000-1000312	.300"	1.00"	.312"	2.5"
TBB-3000-1500312	.300"	1.50"	.312"	2.5"
TBB-3000-2000312	.300"	2.00"	.312"	3.0"
TBB-3600-1500375	.360"	1.50"	.375"	3.0"
TBB-3600-2000375	.360"	2.00"	.375"	3.0"
TBB-3600-2500375	.360"	2.50"	.375"	4.0"
TBB-4800-2000500	.480"	2.00"	.500"	3.0"
TBB-4800-3000500	.480"	3.00"	.500"	4.0"
TBB-4800-4500500	.480"	4.50"	.500"	6.0"

Boring Bar Holders

Increase Your ID Tool Capacity Enhance Your Machine's Capability

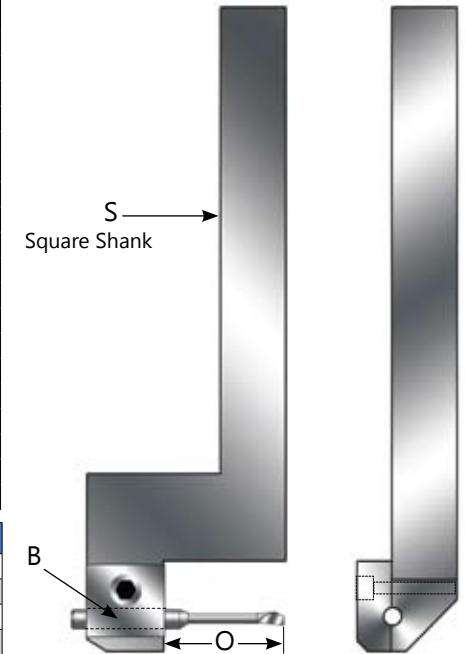


- Use for spotting, drilling or boring
- Interference-Free Design
- Accurately Locates Tools
- Custom Made to Your Specs

Part No.	S	B	O
TBH-375-125-500	.375"	.125"	.500"
TBH-375-125-625	.375"	.125"	.625"
TBH-375-187-500	.375"	.187"	.500"
TBH-375-250-500	.375"	.250"	.500"
TBH-375-250-625	.375"	.250"	.625"
TBH-375-250-750	.375"	.250"	.750"
TBH-500-125-500	.500"	.125"	.500"
TBH-500-156-1000	.500"	.156"	1.000"
TBH-500-187-500	.500"	.187"	.500"
TBH-500-187-750	.500"	.187"	.750"
TBH-500-250-500	.500"	.250"	.500"
TBH-500-250-625	.500"	.250"	.625"
TBH-500-250-750	.500"	.250"	.750"
TBH-500-250-1000	.500"	.250"	1.000"
TBH-500-250-1250	.500"	.250"	1.250"
TBH-500-312-1000	.500"	.312"	1.000"
TBH-500-375-500	.500"	.375"	.500"
TBH-500-375-750	.500"	.375"	.750"
TBH-500-375-1000	.500"	.375"	1.000"

Part No. (Metric)	S	B	O
TBH-10M-125-500	10mm	.125"	.500"
TBH-10M-125-750	10mm	.125"	.750"
TBH-10M-187-500	10mm	.187"	.500"
TBH-10M-250-500	10mm	.250"	.500"
TBH-10M-250-750	10mm	.250"	.750"
TBH-12M-187-500	12mm	.187"	.500"
TBH-12M-250-500	12mm	.250"	.500"
TBH-16M-125-500	16mm	.125"	.500"
TBH-16M-250-1000	16mm	.250"	1.000"
TBH-16M-312-750	16mm	.312"	.750"
TBH-16M-375-1000	16mm	.375"	1.000"

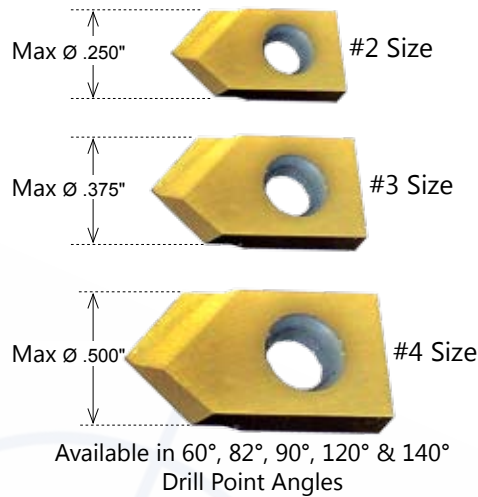
Need a specific dimension not listed here?
We supply custom made holders to your specs



Dog Leg boring bar holders convert an unused O.D. turning position on the gang slide into an added ID position. The holder bore is made to the desired shank size of the intended boring bar, spot drill or ID grooving tool. Dog leg holders hold tooling squarely & accurately.

Carbide Insert Style Spot Drills

Highly repeatable, carbide ground inserts make old fashioned center drills obsolete for performing spotting operations. Precision ground carbide inserts repeat within +/- .0004", thus eliminating the need to adjust the axial location of the tool, unlike conventional spot tooling held by collets. The system also simplifies tool changing in that it only requires a screwdriver for insert removal. This eliminates the need for collet wrenches, reducing the chance of accidental tool breakage or personal injury.



Available Web Thickness
.005" / .015" / .036"

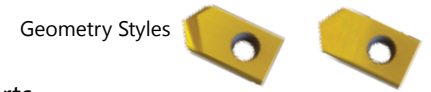
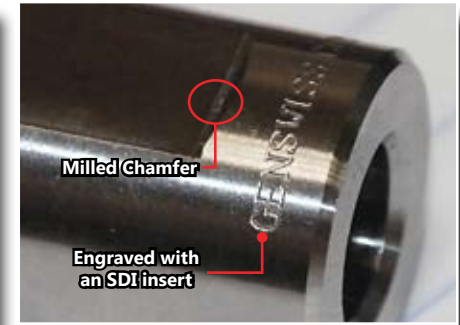
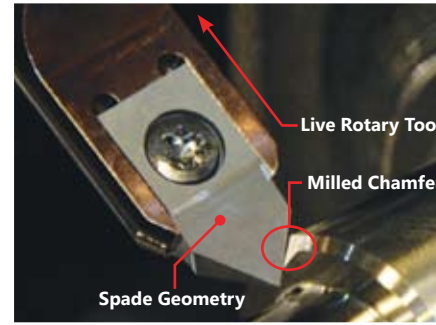
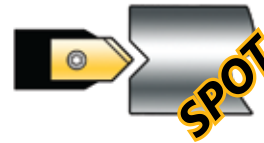
All 60° inserts feature a radial relief grind for spotting of small holes starting with an ID of .010"
Note: 60° inserts do not conform to the standard insert Max Ø. and are intended for micro spotting only



Reduces the Need for Collet Wrenches During Routine Tool Changes

A Streamlined System with Multiple Functions...

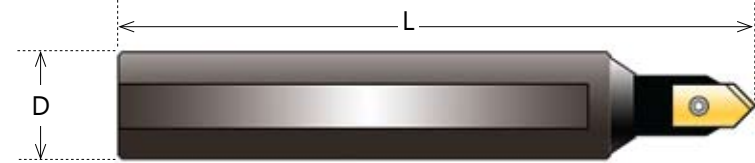
Versatile Tools that can:



Micro-Grain Carbide Spot Drill Inserts

Point Angle	#2 Size	#3 Size	#4 Size	Geometry Positive / Negative	Hand Right / Left	Web Thickness F-.005" / M-.015" / H-.036"	Grades
60°	SDI-2060-	SDI-3060-	----	P	R / L	F	MG-Uncoated TiN TiAlN AlTiN
82°	SDI-2082-	SDI-3082-	SDI-4082-	P / N	R / L	F / M / H	
90°	SDI-2090-	SDI-3090-	SDI-4090-	P / N	R / L	F / M / H	
120°	SDI-2120-	SDI-3120-	SDI-4120-	P / N	R / L	F / M / H	
140°	SDI-2140-	SDI-3140-	SDI-4140-	P / N	R / L	M / H	

Example Ordering Nomenclature: SDI-3090-PRF-TiN
Spot Drill Insert, #3 Size, 90 Degree Point Angle, Positive Geometry, Right Hand, (Fine).005" Web Thickness, TiN coated



Available Spot Drill Holder Shanks

#2 Size Holders	L	D
SDH-2-250-2.0	2.0"	1/4"
SDH-2-375-2.5	2.5"	3/8"
SDH-2-500-2.5	2.5"	1/2"
SDH-2-625-3.0	3.0"	5/8"
SDH-2-750-5.0	5.0"	3/4"
SDH-2-866-5.0	5.0"	22mm
SDH-2-1000-5.0	5.0"	1"

#3 Size Holders	L	D
SDH-3-375-3.0	3.0"	3/8"
SDH-3-500-3.0	3.0"	1/2"
SDH-3-625-5.0	5.0"	5/8"
SDH-3-750-5.0	5.0"	3/4"
SDH-3-866-5.0	5.0"	22mm
SDH-3-1000-5.0	5.0"	1"

#4 Size Holders	L	D
SDH-4-375-3.5	3.5"	3/8"
SDH-4-500-3.5	3.5"	1/2"
SDH-4-625-5.0	5.0"	5/8"
SDH-4-750-5.0	5.0"	3/4"
SDH-4-866-5.0	5.0"	22mm
SDH-4-1000-5.0	5.0"	1"

#3 Size Double Ended	L	D
SDH-3D-625-3.0	3.0"	5/8"
SDH-3D-750-4.0	4.0"	3/4"



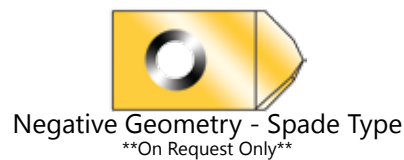
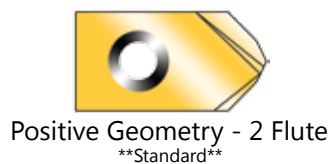
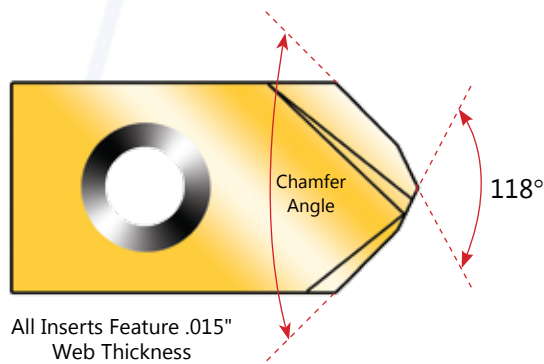
*Negative Geometry Shown

Eliminates Center Drills

Our combined spot drill and countersink inserts combine a spotting tool with a chamfering/countersink tool thereby freeing up other tool positions for other uses.

All tools feature a 118° spot angle along with 60°, 82° or 90° chamfer angle.

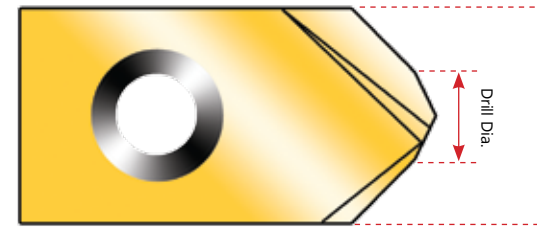
Spot and Countersink in One Operation



All Inserts Feature .015" Web Thickness

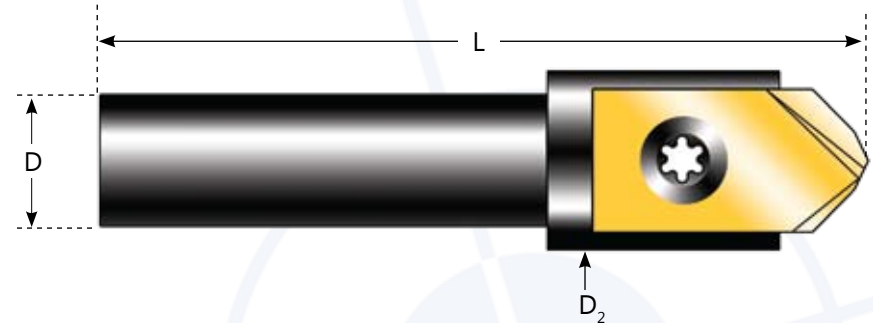
Combination Countersink Inserts

Chamfer Angle	#3 Size	#4 Size	#5 Size	#6 Size	Geometry Positive / Negative	Hand Right / Left	Grades
60°	CDI-3060-	CDI-4060-	CDI-5060-	CDI-6060-	P / N	R / L	MG-Uncoated TIN TLN ATN
82°	CDI-3082-	CDI-4082-	CDI-5082-	CDI-6082-	P / N	R / L	
90°	CDI-3090-	CDI-4090-	CDI-5090-	CDI-6090-	P / N	R / L	
Example Ordering Nomenclature: CDI-3090-PR-TiN Combination Drill Insert, #3 Size, 90 Degree Point Angle, Positive Geometry, Right Hand, TiN coated							



Insert Size	Drill Dia	Insert Dia
#3	.109"	.250"
#4	.125"	.312"
#5	.187"	.437"
#6	.218"	.500"

- Increased Accuracy Over Conventional Spot Drill Tooling
- Precision Ground Repeatability: +/- .0004"
- Versatile Tooling That Can Be Used For Multiple Purposes



Available Holder Shanks

#3 Size Holders	L	D	D ₂
CDH-3-0375-1.5	1.5"	3/8"	3/8"
CDH-3-0375-2.5	2.5"	3/8"	3/8"
CDH-3-0500-1.5	1.5"	1/2"	1/2"
CDH-3-0500-3.0	3.0"	1/2"	1/2"
CDH-3-10MM-1.5	1.5"	10mm	10mm
CDH-3-10MM-2.5	2.5"	10mm	10mm

#4 Size Holders	L	D	D ₂
CDH-4-0375-2.0	2.0"	3/8"	1/2"
CDH-4-0375-3.0	3.0"	3/8"	1/2"
CDH-4-0500-2.0	2.0"	1/2"	1/2"
CDH-4-0500-3.0	3.0"	1/2"	1/2"
CDH-4-10MM-2.0	2.0"	10mm	1/2"
CDH-4-10MM-3.0	3.0"	10mm	1/2"

#5 Size Holders	L	D	D ₂
CDH-5-0375-2.0	2.0"	3/8"	3/4"
CDH-5-0375-3.0	3.0"	3/8"	3/4"
CDH-5-0500-2.0	2.0"	1/2"	3/4"
CDH-5-0500-3.0	3.0"	1/2"	3/4"
CDH-5-10MM-2.0	2.0"	10mm	3/4"
CDH-5-10MM-3.0	3.0"	10mm	3/4"

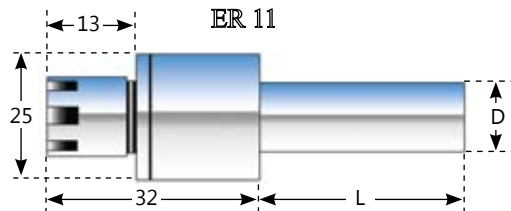
#6 Size Holders	L	D	D ₂
CDH-6-0500-2.5	2.5"	1/2"	3/4"
CDH-6-0500-3.5	3.5"	1/2"	3/4"
CDH-6-0625-2.5	2.5"	5/8"	3/4"
CDH-6-0625-3.5	3.5"	5/8"	3/4"
CDH-6-0750-2.5	2.5"	3/4"	3/4"
CDH-6-0750-3.5	3.5"	3/4"	3/4"

Ultra Precision Floating Reamer Holder

Complete Orbital Float for True Alignment



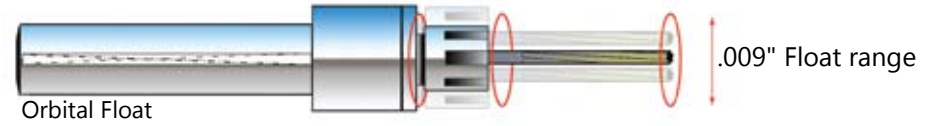
- Simplifies Small Hole Reaming
- Prevents Breakage of Expensive Micro-Reamers
- Compact Design Fits Into the Smallest Swiss Machines
- Compensates for Parallel and Angular Misalignment






Holds .5mm to 7mm diameter reamers

Part No.	Shank (D)	Length (L)
RFH-11-010-042	10mm	42mm
RFH-11-200-042	20mm	42mm
RFH-11-220-042	22mm	42mm
RFH-11-190-042	3/4"	42mm

Designed with "True Orbital Float" capability, the micro reamer holder aligns the reamer perfectly to the drilled hole enabling better size control, reduces "bell-mouthing", and increases tool life.



Optional Reamer Holder Accessories			
	Mini-Wrench	ER Collet Set	Spare Mini-Nut
ER11	 CW-04621	 CC-11R-S13-MSP (Range of .5 - 7mm)	 CN-ER11-MNS



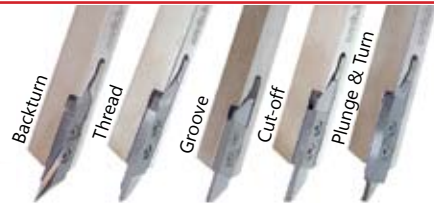
Multidec®-Cut 3000 Series

Swiss Made UTILIS World Class tools deliver proven production performance and extended tool life. All 3000 series inserts feature a wide variety of chip breaker geometries and will fit the same holder, reducing tooling costs. The unique insert holding design absorbs machining forces providing one of the most rigid Swiss-turning systems available to the industry today.

- Repeatability within .0004"
- All insert styles fit the same holder
- Holder design absorbs cutting forces
- Ideal for tough applications

Wide Range of Insert Styles

Multidec 3000 Series Swiss turning tools are available for all turning application processes. Front turn, Back turn, Threading, Grooving and Cut-Off styles are available with a variety of chipbreaker geometries and sharp tool nose radii for working with small diameter stock & tough materials such as stainless steels and titanium.



Rigid Tool Holding Design

Holder features force absorbing insert pocket design.

Use of both cutting edges is guaranteed as cutting edges are not used for location of insert.

All 3000 series inserts feature a positive locating boss

Not all Catalog Items are Stocked. Please call for Availability

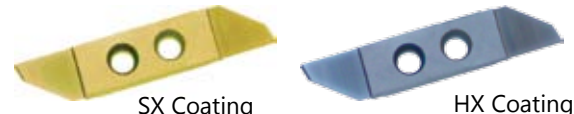
Series 3002 Standard Cut Off

Standard Cut Off	Applications			Materials	
	UHM 30	UHM 30 SX	UHM 30 HX	Stainless Steels	Titanium
<p>*TOP Insert features .3mm wide land enabling insert to be used for minor turning and chamfering</p>	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●

Inverted Cut	Applications			Materials	
	UHM 30	UHM 30 SX	UHM 30 HX	Stainless Steels	Titanium
<p>*TOP Insert features .3mm wide land enabling insert to be used for minor turning and chamfering</p>	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●
	●	●	●	●	●

●=Standard Item ○=Semi-Standard

Carbide Grade Recommendations
 ● - Preferred Application
 ● - Possible Application
 ● - Application Not Recommended



Series 3002 Type SC Cut Off

Cutoff With ChipBreaker			Applications			Materials			
			● ● ●	Steels					
			● ● ●	Stainless Steels					
			● ● ●	Titanium					
			● ● ●	Non-Ferrous					
			UHM 30 UHM 30 SX UHM 30 HX	Insert Grade					
Left Hand		Right Hand	a	c	α	γ	r	Availability	Holder
3002-1.5-8 L SC		3002-1.5-8 R SC	1.5	8	15°	0.5°	0	● ○ ●	3000...
3002-2.0-10 L SC		3002-2.0-10 R SC	2.0	10	15°	0.5°	0	● ○ ●	3000...
3002-2.5-13 L SC		3002-2.5-13 R SC	2.5	13	15°	0.5°	0	● ○ ●	3000...
3002-3.0-16 L SC		3002-3.0-16 R SC	3.0	16	15°	0.5°	0	● ○ ●	3000...

Inverted Cut w/ ChipBreaker			Applications			Materials			
			● ● ●	Steels					
			● ● ●	Stainless Steels					
			● ● ●	Titanium					
			● ● ●	Non-Ferrous					
			UHM 30 UHM 30 SX UHM 30 HX	Insert Grade					
LH Insert / RH Cut		RH Insert / LH Cut	a	c	α	γ	r	Availability	Holder
3002-1.5-8 LV SC		3002-1.5-8 RV SC	1.5	8	15°	0.5°	0	● ○ ●	3000...
3002-2.0-10 LV SC		3002-2.0-10 RV SC	2.0	10	15°	0.5°	0	● ○ ●	3000...
3002-2.5-13 LV SC		3002-2.5-13 RV SC	2.5	13	15°	0.5°	0	● ○ ●	3000...
3002-3.0-16 LV SC		3002-3.0-16 RV SC	3.0	16	15°	0.5°	0	● ○ ●	3000...

Neutral Cut w/ ChipBreaker			Applications			Materials		
			● ● ●	Steels				
			● ● ●	Stainless Steels				
			● ● ●	Titanium				
			● ● ●	Non-Ferrous				
			UHM 30 UHM 30 SX UHM 30 HX	Insert Grade				
Left Hand		Right Hand	a	c	γ	r	Availability	Holder
3002-1.5-10 LN SC		3002-1.5-10 RN SC	1.5	10	3°	0.08mm / .0031"	● ○ ●	3000...
3002-2.0-10 LN SC		3002-2.0-10 RN SC	2.0	10	3°	0.08mm / .0031"	● ○ ●	3000...
3002-2.5-13 LN SC		3002-2.5-13 RN SC	2.5	13	3°	0.08mm / .0031"	● ○ ●	3000...
3002-3.0-16 LN SC		3002-3.0-16 RN SC	3.0	16	3°	0.08mm / .0031"	● ○ ●	3000...

Series 3002-Extended Clearance Cutoff

Standard Cutoff - Extended			Applications			Materials				
			● ● ●	Steels						
			● ● ●	Stainless Steels						
			● ● ●	Titanium						
			● ● ●	Non-Ferrous						
			UHM 30 UHM 30 SX UHM 30 HX	Insert Grade						
Left Hand		Right Hand	a	a ₁	c	c ₁	α	r	Availability	Holder
3002-0.5-2.5-16 L G20		3002-0.5-2.5-16 R G20	0.5	1.9	2.5	16	20°	0	● ○ ●	3000...
3002-0.8-6-16 L		3002-0.8-6-16 R	0.8	2	6	16	15°	0	● ○ ●	3000...
3002-1.0-6-16 L		3002-1.0-6-16 R	1	2.2	6	16	15°	0	● ○ ●	3000...
3002-1.2-6-16-L		3002-1.2-6-16 R	1.2	2.4	6	16	15°	0	● ○ ●	3000...

Series 3002-Extended Clearance Cutoff

Cutoff - Extended - Inverted			Applications			Materials				
			● ● ●	Steels						
			● ● ●	Stainless Steels						
			● ● ●	Titanium						
			● ● ●	Non-Ferrous						
			UHM 30 UHM 30 SX UHM 30 HX	Insert Grade						
Left Hand		Right Hand	a	a ₁	c	c ₁	α	r	Availability	Holder
3002-0.5-2.5-16 LV G20		3002-0.5-2.5-16 RV G20	0.5	1.9	2.5	16	20°	0	● ○ ●	3000...
3002-0.8-6-16 LV		3002-0.8-6-16 RV	0.8	2	6	16	15°	0	● ○ ●	3000...
3002-1.0-6-16 LV		3002-1.0-6-16 RV	1	2.2	6	16	15°	0	● ○ ●	3000...
3002-1.2-6-16-LV		3002-1.2-6-16 RV	1.2	2.4	6	16	15°	0	● ○ ●	3000...

● = Standard Item ○ = Semi-Standard

Coating Code	Standard Coatings	
	SX	HX
Coating Type	TiN	TiAlN
Thickness	2-5 micron	1-3 micron
Max Temp.	600° C	900° C
Steels	Non Alloyed ● Low Alloyed ● High Alloyed ●	Non Alloyed ● Low Alloyed ● High Alloyed ●
Stainless Steels	○	●
Titanium	●	●
Non-Ferrous	Aluminum	○
	Brass	○
	Plastics	○

Carbide Grade Recommendations

- - Preferred Application
- - Possible Application
- - Application Not Recommended



SX Coating

HX Coating

Additional Coating Options Available on Request

Series 3002-Type SPT Cut Off

Standard Cutoff - Type SPT	Applications		Materials					
				● ● ● Steels	○ ● ● Stainless Steels			
			○ ● ● Titanium	● ● ● Non-Ferrous				
			UHM 30	UHM 30 SX				
				UHM 30 HX				
				Insert Grade				
LH Insert Positive Rake	RH Insert Positive Rake	a	c	α	Y	r	Availability	Holder
3002-1.5-8 L SPT	3002-1.5-8 R SPT	1.5	8	15°	1°	0	● ○ ●	3000...
3002-2.0-10 L SPT	3002-2.0-10 R SPT	2.0	10	15°	1°	0	● ○ ●	3000...
3002-2.5-13 L SPT	3002-2.5-13 R SPT	2.5	13	15°	1°	0	○ ○ ○	3000...
3002-3.0-16 L SPT	3002-3.0-16 R SPT	3.0	16	15°	1°	0	○ ○ ○	3000...

Inverted Cutoff - Type SPT	Applications		Materials					
				● ● ● Steels	○ ● ● Stainless Steels			
			○ ● ● Titanium	● ● ● Non-Ferrous				
			UHM 30	UHM 30 SX				
				UHM 30 HX				
				Insert Grade				
LH Insert / RH Cut Positive Rake	RH Insert / LH Cut Positive Rake	a	c	α	Y	r	Availability	Holder
3002-1.5-8 LV SPT	3002-1.5-8 RV SPT	1.5	8	15°	1°	0	● ○ ●	3000...
3002-2.0-10 LV SPT	3002-2.0-10 RV SPT	2.0	10	15°	1°	0	● ○ ●	3000...

Neutral Cutoff - Type SPT	Applications		Materials					
				● ● ● Steels	○ ● ● Stainless Steels			
			○ ● ● Titanium	● ● ● Non-Ferrous				
			UHM 30	UHM 30 SX				
				UHM 30 HX				
				Insert Grade				
LH Insert Positive Rake	RH Insert Positive Rake	a	c	α	Y	r	Availability	Holder
3002-1.5-10 LN SPT	3002-1.5-8 RN SPT	1.5	10	15°	1°	0.05 / .0019"	○ ○ ○	3000...
3002-2.0-10 LN SPT	3002-2.0-10 RN SPT	2.0	10	15°	1°	0.05 / .0019"	○ ○ ○	3000...
3002-2.5-13 LN SPT	3002-2.5-13 RN SPT	2.5	13	15°	1°	0.05 / .0019"	○ ○ ○	3000...
3002-3.0-16 LN SPT	3002-3.0-16 RN SPT	3.0	16	15°	1°	0.05 / .0019"	○ ○ ○	3000...

●=Standard Item ○=Semi-Standard

Series 3003 - FrontTurn

Front Turn	Applications		Materials						
				● ● ● Steels	○ ● ● Stainless Steels				
			○ ● ● Titanium	● ● ● Non-Ferrous					
			UHM 30	UHM 30 SX					
				UHM 30 HX					
				Insert Grade					
Left Hand	Right Hand	a	b	c	α	β	r	Availability	Holder
3003-3-4-8 L	3003-3-4-8 R	3.4	1	8	3°	20°	0	● ○ ●	3000...

Series 3003 - Type SP FrontTurn

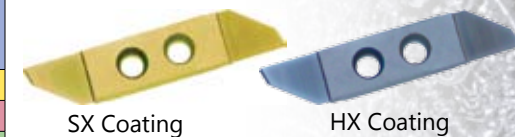
Front Turn - Type SP	Applications		Materials						
				● ● ● Steels	○ ● ● Stainless Steels				
			○ ● ● Titanium	● ● ● Non-Ferrous					
			UHM 30	UHM 30 SX					
				UHM 30 HX					
				Insert Grade					
Left Hand	Right Hand	a	b	c	α	β	r	Availability	Holder
3003-3-4-8 L SP U TOP ZZ	3003-3-4-8 R SP U TOP ZZ	3.4	.2	8	1°	8°	0	● ○ ●	3000...
3003-3-4-8 L SP U TOP 45008	3003-3-4-8 R SP U TOP 45008	3.4	1.2	8	1°	8°	.08 / .0011"	● ○ ●	3000...
3003-3-4-8 L SP U TOP 45015	3003-3-4-8 R SP U TOP 45015	3.4	1.2	8	1°	8°	.15 / .0059"	● ○ ●	3000...

●=Standard Item ○=Semi-Standard

Coating Code	Standard Coatings	
	SX	HX
Coating Type	TiN	TiAlN
Thickness	2-5 micron	1-3 micron
Max Temp.	600° C	900° C
Steels	Non Alloyed ● Low Alloyed ● High Alloyed ●	Non Alloyed ● Low Alloyed ● High Alloyed ●
Stainless Steels	○	●
Titanium	●	●
Non-Ferrous	Aluminum ● Brass ● Plastics ●	Aluminum ● Brass ● Plastics ●

Carbide Grade Recommendations

- - Preferred Application
- - Possible Application
- - Application Not Recommended



SX Coating

HX Coating

Additional Coating Options Available on Request

Series 3004 - BackTurn

BackTurn			Applications			Materials				
			● ● ●	Steels						
			● ● ●	Stainless Steels						
			● ● ●	Titanium						
	● ● ●	Non-Ferrous								
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade						
	Left Hand	Right Hand	a	b	c	α	Y	r	Availability	Holder
	3004-0.8-6 L TOP ZZ	3004-0.8-6 R TOP ZZ	0.8	2.0	6	20°	1°	0.00	● ○ ●	3000...
	3004-1.0-6 L TOP ZZ	3004-1.0-6 R TOP ZZ	1.0	2.2	6	20°	1°	0.00	● ○ ●	3000...
	3004-1.2-8 L TOP ZZ	3004-1.2-8 R TOP ZZ	1.2	2.4	8	20°	1°	0.00	● ○ ●	3000...
3004-1.5-8 L TOP ZZ	3004-1.5-8 R TOP ZZ	1.5	2.7	8	20°	1°	0.00	● ○ ●	3000...	
3004-1.8-8 L TOP ZZ	3004-1.8-8 R TOP ZZ	1.8	3.0	8	20°	1°	0.00	● ○ ●	3000...	

Series 3004 - BackTurn (Type SP)

BackTurn Profiling - Type SP			Applications			Materials				
			● ● ●	Steels						
			● ● ●	Stainless Steels						
			● ● ●	Titanium						
	● ● ●	Non-Ferrous								
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade						
	Left Hand	Right Hand	a	c	α	β	Y	(r) mm/inch	Availability	Holder
	3004-3.2-6 L SP29008	3004-3.2-6 R SP29008	3.2	6	29°	59.5°	1.5°	0.08 / .0031"	● ○ ●	3000...
	3004-3.2-6 L SP29015	3004-3.2-6 R SP29015	3.2	6	29°	59.5°	1.5°	0.15 / .0059"	● ○ ●	3000...
	3004-3.2-6 L SP29035	3004-3.2-6 R SP29035	3.2	6	29°	59.5°	1.5°	0.35 / .0137"	● ○ ●	3000...
3004-3.2-6 L SP29075	3004-3.2-6 R SP29075	3.2	6	29°	59.5°	1.5°	0.75 / .0295"	● ○ ●	3000...	
3004-3.2-5 L SP35015	3004-3.2-5 R SP35015	3.2	5	35°	53.5°	1.5°	0.15 / .0059"	● ○ ●	3000...	
3004-3.2-5 L SP35035	3004-3.2-5 R SP35035	3.2	5	35°	53.5°	1.5°	0.35 / .0137"	● ○ ●	3000...	

Series 3004 - BackTurn (Type CP)

BackTurn - Type CP			Applications			Materials					
			● ● ●	Steels							
			● ● ●	Stainless Steels							
			● ● ●	Titanium							
	● ● ●	Non-Ferrous									
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade							
	Left Hand	Right Hand	a	b	c	α	β	Y	r	Availability	Holder
	3004-0.8-4 L CP	3004-0.8-4 R CP	0.8	3.2	4.5	20°	2°	1°	0.00	● ○ ●	3000...

●=Standard Item ○=Semi-Standard

Series 3004 - Profiling (Type SP)

Profile Turn - Type SP			Applications			Materials			
			● ● ●	Steels					
			● ● ●	Stainless Steels					
			● ● ●	Titanium					
	● ● ●	Non-Ferrous							
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade					
	LH Insert / RH Cut	RH Insert / LH Cut	a	c	α	Y	(r) mm / inch	Availability	Holder
	3004-3.2-6 LV SP29008	3004-3.2-6 RV SP29008	3.2	6	29°	1°	0.08 / .0031"	● ○ ●	3000...
	3004-3.2-6 LV SP29015	3004-3.2-6 RV SP29015	3.2	6	29°	1°	0.15 / .0059"	● ○ ●	3000...
	3004-3.2-6 LV SP29035	3004-3.2-6 RV SP29035	3.2	6	29°	1°	0.35 / .0137"	● ○ ●	3000...
3004-3.2-6 LV SP29075	3004-3.2-6 RV SP29075	3.2	6	29°	1°	0.75 / .0295"	● ○ ●	3000...	

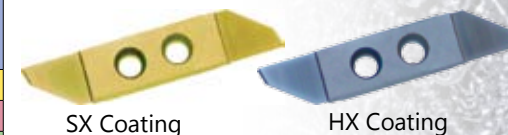
●=Standard Item ○=Semi-Standard



Coating Code	Standard Coatings	
	SX	HX
Coating Type	TiN	TiAlN
Thickness	2-5 micron	1-3 micron
Max Temp.	600° C	900° C
Steels	Non Alloyed ● Low Alloyed ● High Alloyed ●	Non Alloyed ● Low Alloyed ● High Alloyed ●
Stainless Steels	○	●
Titanium	●	●
Non-Ferrous	Aluminum	○
	Brass	○
	Plastics	●

Carbide Grade Recommendations

- - Preferred Application
- - Possible Application
- - Application Not Recommended



Additional Coating Options Available on Request

Series 3005 - GrooveTurn

Groove and Turn		Applications						Materials		
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade	Steel	Stainless Steels	Titanium	Non-Ferrous	
Left Hand	Right Hand	a	b	c	Y	r	Availability	Holder		
3005-1.0-8 L	3005-1.0-8 R	1	8	2.5	1°	0.05mm / .0019"	● ○ ●	3000...		
3005-1.5-8 L	3005-1.5-8 R	1.5	8	3	1°	0.05mm / .0019"	● ○ ●	3000...		
3005-2.0-8 L	3005-2.0-8 R	2.0	8	4	1°	0.05mm / .0019"	● ○ ●	3000...		
3005-2.5-8 L	3005-2.5-8 R	2.5	8	5	1°	0.05mm / .0019"	● ○ ●	3000...		

●=Standard Item ○=Semi-Standard

Series 3006 - Thread (Full Profile METRIC)

Thread - Full Profile		Applications						Materials		
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade	Steel	Stainless Steels	Titanium	Non-Ferrous	
Left Hand	Right Hand	a	c	p	r	M	Availability	Holder		
3006-0.15-10-60 VP L	3006-0.15-10-60 VP R	0.22	---	.015	0.00	0.6	○ ○ ○	3000...		
3006-0.175-10-60 VP L	3006-0.175-10-60 VP R	0.26	---	0.175	0.00	0.7	○ ○ ○	3000...		
3006-0.2-10-60 VP L	3006-0.2-10-60 VP R	0.30	---	0.20	0.015 / .0005"	0.8	○ ○ ○	3000...		
3006-0.225-10-60 VP L	3006-0.225-10-60 VP R	0.30	---	0.225	0.030 / .0011"	0.9	○ ○ ○	3000...		
3006-0.25-10-60 VP L	3006-0.25-10-60 VP R	0.36	---	0.25	0.031 / .0012"	1-1.2	● ○ ●	3000...		
3006-0.3-10-60 VP L	3006-0.3-10-60 VP R	0.32	---	0.3	0.025 / .0009"	1.4	● ○ ●	3000...		
3006-0.35-10-60 VP L	3006-0.35-10-60 VP R	0.50	---	0.35	0.040 / .0157"	1.6-1.8	● ○ ●	3000...		
3006-0.4-10-60 VP L	3006-0.4-10-60 VP R	0.60	---	0.4	0.040 / .0157"	2	● ○ ●	3000...		
3006-0.45-10-60 VP L	3006-0.45-10-60 VP R	0.64	---	0.45	0.050 / .0019"	2.2-2.6	● ○ ●	3000...		
3006-0.5-10-60 VP L	3006-0.5-10-60 VP R	0.70	1.4	0.5	0.053 / .0020"	3	● ○ ●	3000...		
3006-0.6-10-60 VP L	3006-0.6-10-60 VP R	0.80	1.4	0.6	0.040 / .0015"	3.5	● ○ ●	3000...		
3006-0.7-10-60 VP L	3006-0.7-10-60 VP R	0.90	1.8	0.7	0.076 / .0029"	4	● ○ ●	3000...		
3006-0.75-10-60 VP L	3006-0.75-10-60 VP R	0.95	1.9	0.75	0.083 / .0032"	4.5	● ○ ●	3000...		
3006-0.8-10-60 VP L	3006-0.8-10-60 VP R	1.00	2.0	0.8	0.090 / .0035"	5	● ○ ●	3000...		
3006-1.0-10-60 VP L	3006-1.0-10-60 VP R	1.20	2.4	1.0	0.115 / .0045"	6-7	● ○ ●	3000...		
3006-1.25-10-60 VP L	3006-1.25-10-60 VP R	1.45	2.9	1.25	0.146 / .0057"	8	● ○ ●	3000...		
3006-1.5-10-60 VP L	3006-1.5-10-60 VP R	1.74	3.5	1.5	0.178 / .0070"	10-11	● ○ ●	3000...		
3006-1.75-10-60 VP L	3006-1.75-10-60 VP R	1.95	3.9	1.75	0.219 / .0086"	12	● ○ ●	3000...		

●=Standard Item ○=Semi-Standard

Series 3005 - GrooveTurn (Type CP)

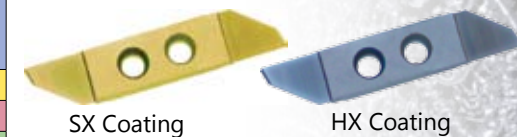
Groove and Turn w/ Chipbreaker		Applications						Materials		
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade	Steel	Stainless Steels	Titanium	Non-Ferrous	
Left Hand	Right Hand	a	b	c	Y	r	Availability	Holder		
3005-0.8-8 L CP	3005-0.8-8 R CP	0.8	8	2.5	1°	0.00	○ ○ ○	3000...		
3005-1.0-8 L CP	3005-1.0-8 RCP	1.0	8	3.5	1°	0.00	○ ○ ○	3000...		
3005-1.5-8 L CP	3005-1.5-8 R CP	1.5	8	4	1°	0.00	● ○ ●	3000...		
3005-1.5-8 L CP R08	3005-1.5-8 R CP R08	1.5	8	4	1°	.08mm / .0031"	● ○ ●	3000...		
3005-2.0-8 L CP	3005-2.0-8 R CP	2.0	8	5	1°	0.00	● ○ ●	3000...		
3005-2.0-8 L CP R08	3005-2.0-8 L CP R08	2.0	8	5	1°	.08mm / .0031"	● ○ ●	3000...		
3005-2.0-8 L CP R15	3005-2.0-8 R CP R15	2.0	8	5	1°	.15mm / .0059"	○ ○ ○	3000...		
3005-2.5-8 L CP	3005-2.5-8 R CP	2.5	8	6	1°	0.00	● ○ ●	3000...		
3005-2.5-8 L CP R08	3005-2.5-8 R CP R08	2.5	8	6	1°	.08mm / .0031"	● ○ ●	3000...		
3005-3.0-8 L CP	3005-3.0-8 R CP	3.0	8	6	1°	0.00	● ○ ●	3000...		
3005-3.0-8 L CP R08	3005-3.0-8 R CP R08	3.0	8	6	1°	.08mm / .0031"	○ ○ ○	3000...		
3005-3.0-8 L CP R15	3005-3.0-8 R CP R15	3.0	8	6	1°	.15mm / .0059"	○ ○ ○	3000...		

●=Standard Item ○=Semi-Standard

Coating Code	Standard Coatings	
	SX	HX
Coating Type	TiN	TiAlN
Thickness	2-5 micron	1-3 micron
Max Temp.	600° C	900° C
Steels	Non Alloyed ● Low Alloyed ● High Alloyed ●	Non Alloyed ● Low Alloyed ● High Alloyed ●
Stainless Steels	○	●
Titanium	●	●
Non-Ferrous	Aluminum ● Brass ● Plastics ●	Aluminum ● Brass ● Plastics ●

Carbide Grade Recommendations

- - Preferred Application
- - Possible Application
- - Application Not Recommended


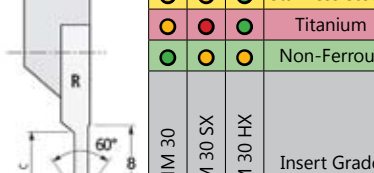


SX Coating


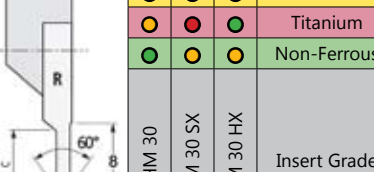
HX Coating

Additional Coating Options Available on Request


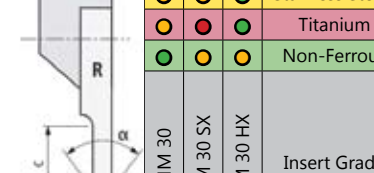
Series 3006 - Thread (Full Profile UNC)

Thread - Full Profile - UNC		Applications		Materials		Insert Grade			
		UHM 30	UHM 30 SX	UHM 30 HX	Steels				Stainless Steels
									
Left Hand	Right Hand	ANSI	TPI	p	a	c	Availability	Holder	
3006-03-48 UNC 10-60 VPL	3006-03-48 UNC 10-60 VPR	3-48	48	.0208"	0.7	1.4	○ ○ ○	3000...	
3006-04-40 UNC 10-60 VPL	3006-04-40 UNC 10-60 VPR	4-40	40	.025"	0.8	1.8	○ ○ ○	3000...	
3006-05-40 UNC 10-60 VPL	3006-05-40 UNC 10-60 VPR	5-40	40	.025"	0.9	1.8	○ ○ ○	3000...	
3006-06-30 UNC 10-60 VPL	3006-06-30 UNC 10-60 VPR	6-32	32	.0312"	1.0	2.0	○ ○ ○	3000...	
3006-08-32 UNC 10-60 VPL	3006-08-32 UNC 10-60 VPR	8-32	32	.0312"	1.0	2.0	○ ○ ○	3000...	
3006-10-24 UNC 10-60 VPL	3006-10-24 UNC 10-60 VPR	10-24	24	.0416"	1.2	2.4	○ ○ ○	3000...	
3006-12-24 UNC 10-60 VPL	3006-12-24 UNC 10-60 VPR	12-24	24	.0416"	1.2	2.4	○ ○ ○	3000...	
3006-1/4-20 UNC 10-60 VPL	3006-1/4-20 UNC 10-60 VPR	1/4-20	20	.050"	1.45	2.9	○ ○ ○	3000...	
3006-5/16-18 UNC 10-60 VPL	3006-5/16-18 UNC 10-60 VPR	5/16-18	18	.0555"	1.74	3.4	○ ○ ○	3000...	
3006-3/8-16 UNC 10-60 VPL	3006-3/8-16 UNC 10-60 VPR	3/8-16	16	.0625"	1.94	3.6	○ ○ ○	3000...	
3006-7/16-16 UNC 10-60 VPL	3006-7/16-16 UNC 10-60 VPR	7/16-14	14	.0714"	2.0	3.9	○ ○ ○	3000...	
3006-1/2-13 UNC 10-60 VPL	3006-1/2-13 UNC 10-60 VPR	1/2-13	13	.0769"	2.2	4.2	○ ○ ○	3000...	

Series 3006 - Thread (Full Profile UNF)


Thread - Full Profile - UNF		Applications		Materials		Insert Grade			
		UHM 30	UHM 30 SX	UHM 30 HX	Steels				Stainless Steels
									
Left Hand	Right Hand	ANSI	TPI	p	a	c	Availability	Holder	
3006-04-48 UNF 10-60 VPL	3006-04-48 UNF 10-60 VPR	4-48	48	.0208"	0.7	1.4	○ ○ ○	3000...	
3006-05-44 UNF 10-60 VPL	3006-05-44 UNF 10-60 VPR	5-44	44	.0227"	0.8	1.8	○ ○ ○	3000...	
3006-06-40 UNF 10-60 VPL	3006-06-40 UNF 10-60 VPR	6-40	40	.025"	0.9	1.8	○ ○ ○	3000...	
3006-08-36 UNF 10-60 VPL	3006-08-36 UNF 10-60 VPR	8-36	36	.0277"	0.9	2.0	○ ○ ○	3000...	
3006-10-32 UNF 10-60 VPL	3006-10-32 UNF 10-60 VPR	10-32	32	.0312"	1.0	2.0	○ ○ ○	3000...	
3006-12-28 UNF 10-60 VPL	3006-12-28 UNF 10-60 VPR	10-28	28	.0357"	1.1	2.4	○ ○ ○	3000...	
3006-1/4-28 UNF 10-60 VPL	3006-1/4-28 UNF 10-60 VPR	1/4-28	28	.0357"	1.1	2.4	○ ○ ○	3000...	
3006-5/16-24 UNF 10-60 VPL	3006-5/16-24 UNF 10-60 VPR	5/16-24	24	.0416"	1.2	2.9	○ ○ ○	3000...	
3006-3/8-24 UNF 10-60 VPL	3006-3/8-24 UNF 10-60 VPR	3/8-24	24	.0416"	1.2	3.4	○ ○ ○	3000...	
3006-7/16-20 UNF 10-60 VPL	3006-7/16-20 UNF 10-60 VPR	7/16-20	20	.05"	1.45	3.6	○ ○ ○	3000...	
3006-1/2-20 UNF 10-60 VPL	3006-1/2-20 UNF 10-60 VPR	1/2-20	20	.05"	1.45	3.9	○ ○ ○	3000...	

Series 3006 - Thread (Partial Profile)


Thread - Partial Profile		Applications		Materials		Insert Grade			
		UHM 30	UHM 30 SX	UHM 30 HX	Steels				Stainless Steels
									
Left Hand	Right Hand	a	c	α	p	r	Availability	Holder	
3006-2-6-60 L	3006-2-6-60 R	2	6	60	0.25-2.0	.036mm / .0014"	● ○ ●	3000...	
3006-2-6-55 L	3006-2-6-55 R	2	6	55	0.25-2.0	.036mm / .0014"	○ ○ ○	3000...	
3006-3-10-60 L	3006-3-10-60 R	3	10	60	0.25-2.0	.036mm / .0014"	● ○ ●	3000...	
3006-3-10-55 L	3006-3-10-55 R	3	10	55	0.25-2.0	.036mm / .0014"	● ○ ●	3000...	

●=Standard Item ○=Semi-Standard


Spare Screws

	Part No.	Fits Holders...	Desc.	Dimension
	MSP 30090 T08	3000...	Torx T8 Screw	M3x9 T08
	MSP 25090 T08	3000...Combi	Torx T8 Screw	M2x6 T08
	MSP 30073 T08	3000-08mm 3000...A Offset	Torx T8 Screw	M3x7.3 T08


TORX Screw Drivers

	Part No.	Fits Holders...	Desc.	Dimension
	WTF-T08-S	3000...	T8 Torx Driver	T8

Precision Calibrated Torque-Drivers

	Part No.	Fits Holders...	Desc.	Dimension
	MSP TX08 D	3000...	(1.3nm) .95 ft. lb. Torque Driver	T8

Tapped Bushing for Combi-Holders

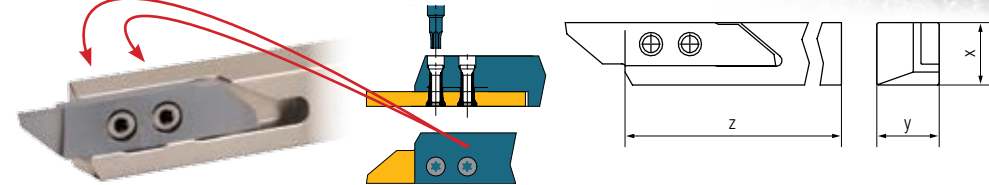
	Part No.	Fits Holders...	Desc.	Dimension
	MSP 25040 GB	3000...Combi	Tapped Bushing For Combi Holders	M2 Thread

Multidec®-CUT 3000 Holders



STANDARD 3000 SERIES HOLDERS	Left Hand	Right Hand	x	y	z
	3000-08x100 L	3000-08x100 R	8	8	100
	3000-08x150 L	3000-08x150 R	8	8	150
	3000-3/8"x100 L	3000-3/8"x100 R	.375"	.375"	100
	3000-10x100 L	3000-10x100 R	10	10	100
	3000-10x150 L	3000-10x150 R	10	10	150
	3000-12x100 L	3000-12x100 R	12	12	100
	3000-12x150 L	3000-12x150 R	12	12	150
	3000-1/2"x100 L	3000-1/2"x100 R	.500"	.500"	100
	3000-5/8"x125 L	3000-5/8"-125 R	.625"	.625"	125
	3000-16x100 L	3000-16x100 R	16	16	100
	3000-16x150 L	3000-16x150 R	16	16	150
	3000-20x125 L	3000-20x125 R	20	20	125
3000-20x150 L	3000-20x150 R	20	20	150	

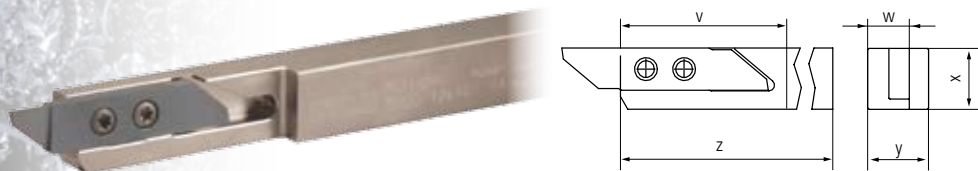
Multidec®-CUT 3000 Combi Holders



3000 SERIES COMBI HOLDERS	Left Hand	Right Hand	x	y	z
	3000-08x100 LC	3000-08x100 RC	8	8	100
	3000-08x150 LC	3000-08x150 RC	8	8	150
	3000-3/8"x100 LC	3000-3/8"x100 RC	.375"	.375"	100
	3000-10x100 LC	3000-10x100 RC	10	10	100
	3000-10x150 LC	3000-10x150 RC	10	10	150
	3000-12x100 LC	3000-12x100 RC	12	12	100
	3000-12x150 LC	3000-12x150 RC	12	12	150
	3000-1/2"x100 LC	3000-1/2"x100 RC	.500"	.500"	100
	3000-5/8"x125 LC	3000-5/8"x125 RC	.625"	.625"	125
	3000-16x100 LC	3000-16x100 RC	16	16	100
	3000-16x150 LC	3000-16x150 RC	16	16	150
	3000-20x125 LC	3000-20x125 RC	20	20	125
3000-20x150 LC	3000-20x150 RC	20	20	150	

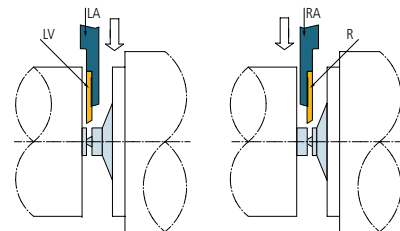
The Combi system enables removal and indexing of the cutting insert without removing the tool holder from the Swiss Machine's gang slide tool holder position by using a tapped bushing and long holding screw.

Multidec®-CUT 3000 Shifted Holders



3000 SERIES HOLDERS SHIFTED	Left Hand	Right Hand	x	y	v	w	z
	3000-3/8"x100 LA	3000-3/8"x100 RA	.375"	.375"	37	8	100
	3000-10x100 LA	3000-10x100 RA	10	10	37	8	100
	3000-10x150 LA	3000-10x150 RA	10	10	37	8	150
	3000-12x100 LA	3000-12x100 RA	12	12	37	8	100
	3000-12x150 LA	3000-12x150 RA	12	12	37	8	150
	3000-1/2"x100 LA	3000-1/2"x100 RA	.500"	.500"	37	8	100
	3000-5/8"x125 LA	3000-5/8"-125 RA	.625"	.625"	37	8	125
	3000-16x125 LA	3000-16x125 RA	16	16	37	8	125
	3000-16x150 LA	3000-16x150 RA	16	16	37	8	150

Shifted holders enable cutting off under difficult conditions by enabling the cutting edge to cut close to the sub/pickoff spindle thus reducing the chance for deflection

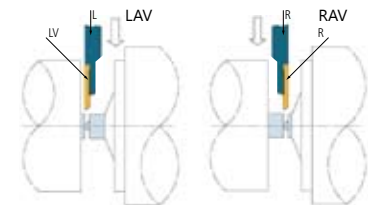


Multidec®-CUT 3000 Offset Holders



3000 SERIES HOLDERS OFFSET	Left Hand	Right Hand	x	y	v	w	z
	3000-3/8"x100 LAV	3000-3/8"x100 RAV	.375"	.375"	28	8	100
	3000-10x100 LAV	3000-10x100 RAV	10	10	28	8	100
	3000-10x150 LAV	3000-10x150 RAV	10	10	28	8	150
	3000-12x100 LAV	3000-12x100 RAV	12	12	28	8	100
	3000-12x150 LAV	3000-12x150 RAV	12	12	28	8	150
	3000-1/2"x100 LAV	3000-1/2"x100 RAV	.500"	.500"	28	8	100
	3000-5/8"-125 LAV	3000-5/8"x125 RAV	.625"	.625"	28	8	125
	3000-16x125 LAV	3000-16x100 RAV	16	16	28	8	125
	3000-16x150 LAV	3000-16x150 RAV	16	16	28	8	150

Offset holders include clearances for extended nose guide bushings or for subspindle/pickoff clearance thus providing an ideal cutoff situation in tough applications.

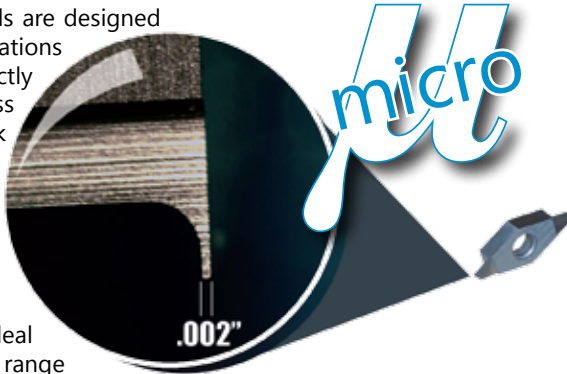




Multidec®-Cut 1600 Series

UTILIS Multidec 1600 Series Swiss Tools are designed for micro turning and grooving operations in Swiss-Type CNC machines. Perfectly designed for the smallest of swiss machines the 1600 series excels at work under .125" in diameter. Tough UHM30 grade carbide combined with a variety of coatings enhances tool life in tough materials typically machined in Swiss-type applications.

Thin Grooving applications are also ideal for the Multidec1600 line. Insert widths range from .05mm to 2.75mm (.0019" - .108") as standard products. Also capable of Front Turn, Back Turn, Micro-Threading, Cut Off & when paired with special ID working holders, the system can perform Axial grooving and ID work as well on larger parts



Series 1602 - Cut Off

Standard Cut Off Inserts	Applications		Materials									
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade	Left Hand	Right Hand	a	c	α	Y	r	Availability
1602-0.5-2.5-20 L G20	1602-0.5-2.5-20 R G20	.5	2.5	20°	0.5°	0	●	○	●	1600...		
1602-0.8-5 L	1602-0.8-5 R	.8	5	15°	0.5°	0	●	○	●	1600...		
1602-1.0-5 L	1602-1.0-5 R	1	5	15°	0.5°	0	●	○	●	1600...		
1602-1.2-5 L	1602-1.2-5 R	1.2	5	15°	0.5°	0	●	○	●	1600...		
1602-1.5-5 L	1602-1.5-5 R	1.5	5	15°	0.5°	0	●	○	●	1600...		

●=Standard Item ○=Semi-Standard

Inverted Cut	Applications		Materials									
	UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade	LH Insert / RH Cut	RH Insert / LH Cut	a	c	α	Y	r	Availability
1602-0.5-2.5-20 LV G20	1602-0.5-2.5-20 RV G20	.5	2.5	20°	0.5°	0	●	○	●	1600...		
1602-0.8-5 LV	1602-0.8-5 RV	.8	5	15°	0.5°	0	●	○	●	1600...		
1602-1.0-5 LV	1602-1.0-5 RV	1	5	15°	0.5°	0	●	○	●	1600...		
1602-1.2-5 LV	1602-1.2-5 RV	1.2	5	15°	0.5°	0	●	○	●	1600...		
1602-1.5-5 LV	1602-1.5-5 RV	1.5	5	15°	0.5°	0	●	○	●	1600...		

●=Standard Item ○=Semi-Standard



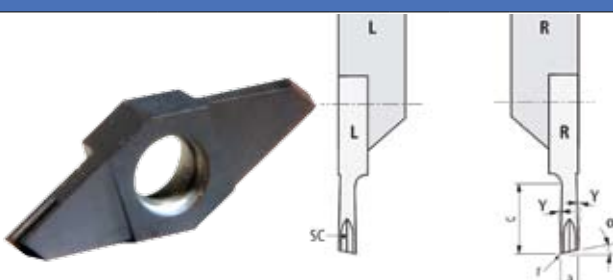
SX Coating



HX Coating


Carbide Grade Recommendations
 ● - Preferred Application
 ○ - Possible Application
 ● - Application Not Recommended

Standard - Type SC



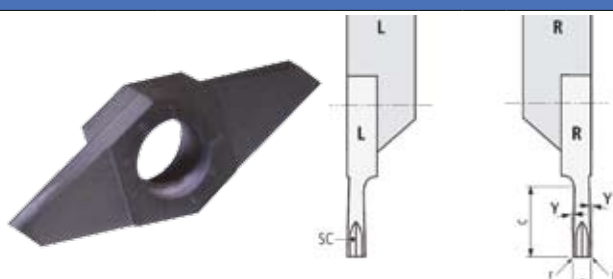
		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	RH Insert / RH Cut	a	c	α	γ	r	Availability	Holder	
1602-1.5-5 L SC	1602-1.5-5 R SC	1.5	5	15°	0.5°	0	● ○ ●	1600...	

Inverted Cut - Type SC



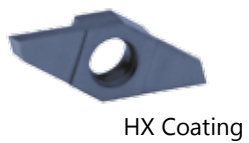
		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
LH Insert / RH Cut	RH Insert / LH Cut	a	c	α	γ	r	Availability	Holder	
1602-1.5-5 LV SC	1602-1.5-5 RV SC	1.5	5	15°	0.5°	0	● ○ ●	1600...	

Neutral Cut - Type SC



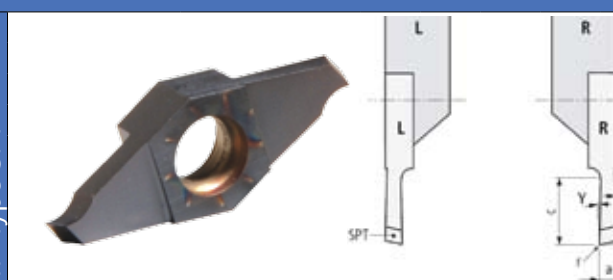
		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	Right Hand	a	c	α	γ	r	Availability	Holder	
1602-1.5-5-LN SC	1602-1.5-5-RN SC	1.5	5	15°	0.5°	0.05mm / .0019"	● ○ ●	1600...	

●=Standard Item ○=Semi-Standard



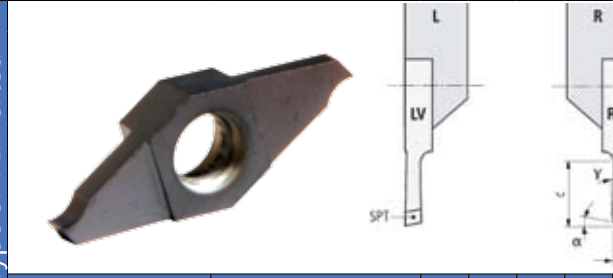
Carbide Grade Recommendations
 ● - Preferred Application
 ● - Possible Application
 ● - Application Not Recommended

Cutoff - Type SPT



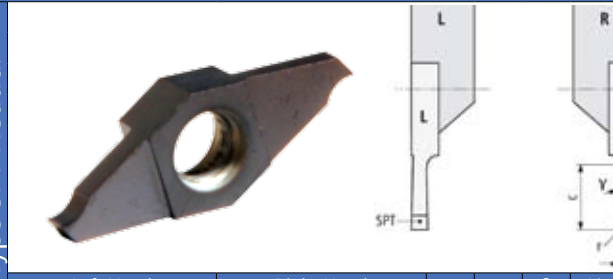
		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	Right Hand	a	c	α	γ	r	Availability	Holder	
1602-0.5-2.5-L SPT G20	1602-0.5-2.5-R SPT G20	.5	2.5	20°	0.5°	0	● ○ ●	1600...	
1602-0.8-5 L SPT	1602-0.8-5 R SPT	.8	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.0-5 L SPT	1602-1.0-5 R SPT	1	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.2-5 L SPT	1602-1.2-5 R SPT	1.2	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.5-5 L SPT	1602-1.5-5 R SPT	1.5	5	15°	.05°	0	● ○ ●	1600...	

Cutoff - Type SPT Inverted



		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	Right Hand	a	c	α	γ	r	Availability	Holder	
1602-0.5-2.5-LV SPT G20	1602-0.5-2.5-RV SPT G20	.5	2.5	20°	0.5°	0	● ○ ●	1600...	
1602-0.8-5 LV SPT	1602-0.8-5 RV SPT	.8	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.0-5 LV SPT	1602-1.0-5 RV SPT	1	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.2-5 LV SPT	1602-1.2-5 RV SPT	1.2	5	15°	0.5°	0	● ○ ●	1600...	
1602-1.5-5 LV SPT	1602-1.5-5 RV SPT	1.5	5	15°	.05°	0	● ○ ●	1600...	

Cutoff - Type SPT Neutral



		Applications			Materials				
		●	●	●	Steels				
		●	●	●	Stainless Steels				
		●	●	●	Titanium				
		●	●	●	Non-Ferrous				
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	Right Hand	a	c	β	γ	r	Availability	Holder	
1602-0.5-2.5-LN SPT G20	1602-0.5-2.5-RN SPT G20	.5	2.5	30°	.05°	0.05	● ○ ●	1600...	
1602-0.8-5 LN SPT	1602-0.8-5 RN SPT	.8	5	30°	.05°	0.05	● ○ ●	1600...	
1602-1.0-5 LN SPT	1602-1.0-5 RN SPT	1	5	30°	.05°	0.05	● ○ ●	1600...	
1602-1.2-5 LN SPT	1602-1.2-5 RN SPT	1.2	5	30°	.05°	0.05	● ○ ●	1600...	
1602-1.5-5 LN SPT	1602-1.5-5 RN SPT	1.5	5	30°	.05°	0.05	● ○ ●	1600...	

Series 1603 - Front Turn

Front Turn			Applications			Materials			
			●	●	●	Steels			
			●	●	●	Stainless Steels			
			●	●	●	Titanium			
			●	●	●	Non-Ferrous			
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade			
Left Hand	Right Hand	a	b	c	α	β	r	Availability	Holder
1603-3.0-4 L	1603-3.0-4 R	3	1	4	3°	20°	0.00 / 0.00"	● ○ ●	1600...

Series 1603 - Front Turn - Type SP

Front Turn - Chipbreaker			Applications			Materials			
			●	●	●	Steels			
			●	●	●	Stainless Steels			
			●	●	●	Titanium			
			●	●	●	Non-Ferrous			
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade			
Left Hand	Right Hand	a	b	c	α	β	r	Availability	Holder
1603-3.0-4 L SP U55003	1603-3.0-4 R SP U55003	3	0	4	0°	30°	0.03 / 0.001"	● ○ ●	1600...

Series 1603 - Front Turn - Type CP

Front Turn - Type CP			Applications			Materials			
			●	●	●	Steels			
			●	●	●	Stainless Steels			
			●	●	●	Titanium			
			●	●	●	Non-Ferrous			
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade			
Left Hand	Right Hand	a	b	c	α	β	r	Availability	Holder
1603-3.0-3.5 L CP TOP ZZ	1603-3.0-3.5 R CP TOP ZZ	0.8	0.2	4	1°	15°	0.00 / 0.00"	● ○ ●	1600...
1603-3.0-3.5 L CP TOP 003	1603-3.0-3.5 R CP TOP 003	0.8	0.2	4	1°	15°	0.03 / .0011"	● ○ ●	1600...

●=Standard Item ○=Semi-Standard

Series 1604 - BackTurn

Back Turn			Applications			Materials				
			●	●	●	Steels				
			●	●	●	Stainless Steels				
			●	●	●	Titanium				
			●	●	●	Non-Ferrous				
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade				
Left Hand	Right Hand	a	b	c	α	β	γ	r	Availability	Holder
1604-0.15-2 L TOP ZZ	1604-0.15-2 R TOP ZZ	.15	.05	2	20°	70°	1°	0.00mm / 0.00"	● ○ ●	1600...
1604-0.2-2 L TOP 008	1604-0.2-2 R TOP 008	.25	.15	2	20°	70°	1°	0.08mm / .0031"	● ○ ●	1600...
1604-0.4-4 L TOP 008	1604-0.4-4 R TOP 008	0.4	.15	4	20°	70°	1°	0.08mm / .0031"	● ○ ●	1600...
1604-0.8-4 L TOP 008	1604-0.8-4 R TOP 008	0.8	.15	4	20°	70°	1°	0.08mm / .0031"	● ○ ●	1600...
1604-1.2-4 L TOP ZZ	1604-1.2-4 R TOP ZZ	1.2	.5	4	20°	70°	1°	0.00mm / 0.00"	● ○ ●	1600...

Series 1604 - BackTurn / Profiling (Type SP)

Back Turn - Type SP			Applications			Materials			
			●	●	●	Steels			
			●	●	●	Stainless Steels			
			●	●	●	Titanium			
			●	●	●	Non-Ferrous			
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade			
Left Hand	Right Hand	a	c	α	β	t	r	Availability	Holder
1604-1.25-2-3 L SP29005	1604-1.25-2-3 R SP29005	1.25	2.5	29°	61°	2	0.05mm / .0019"	● ○ ●	1600...
1604-2.5-4-5 L SP29015	1604-2.5-4-5 R SP29015	2.5	5	29°	61°	4	0.15mm / .0059"	● ○ ●	1600...

Series 1604 - Profiling (Type SP)

Profile Turn - Type SP			Applications			Materials			
			●	●	●	Steels			
			●	●	●	Stainless Steels			
			●	●	●	Titanium			
			●	●	●	Non-Ferrous			
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade			
Left Hand	Right Hand	a	c	α	β	t	r	Availability	Holder
1604-2.5-4-5 LV SP29005	1604-2.5-4-5 RV SP29005	2.5	5	29°	61°	4	0.05mm / .0019"	● ○ ●	1600...
1604-2.5-4-5 LV SP29015	1604-2.5-4-5 RV SP29015	2.5	5	29°	61°	4	0.15mm / .0059"	● ○ ●	1600...

Series 1605 - Grooving

Groove and Turn			Applications			Materials					
			● ● ●	Steels							
			● ● ●	Stainless Steels							
			● ● ●	Titanium							
			● ● ●	Non-Ferrous							
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade					
			Left Hand	Right Hand	a	b	c	Y	r	Availability	Holder
			1605-0.5-1.5 L	1605-0.5-1.5 R	0.5	1.5	1.5	0.5°	0.05mm / .0019"	● ○ ●	1600...
			1605-1.0-2.5 L	1605-1.0-2.5 R	1	2.5	2.5	0.5°	0.05mm / .0019"	● ○ ●	1600...
			1605-1.5-3 L	1605-1.5-3 R	1.5	3	3	0.5°	0.05mm / .0019"	● ○ ●	1600...

●=Standard Item ○=Semi-Standard

Series 1606 - Threading

Micro Threading - Partial			Applications			Materials					
			● ● ●	Steels							
			● ● ●	Stainless Steels							
			● ● ●	Titanium							
			● ● ●	Non-Ferrous							
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade					
			Left Hand	Right Hand	a	c	α	p	r	Availability	Holder
			1606-2-4-60 L	1606-2-4-60 R	2	4	60	0.25-2.0	0.03mm / .001"	● ○ ●	1600...
			1606-2-4-55 L	1606-2-4-55 R	2	4	55	0.20-2.0	0.03mm / .001"	○ ○ ○	1600...

●=Standard Item ○=Semi-Standard

Series 1605 - Grooving w/ Chipbreaker

Groove and Turn - Type CP			Applications			Materials					
			● ● ●	Steels							
			● ● ●	Stainless Steels							
			● ● ●	Titanium							
			● ● ●	Non-Ferrous							
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade					
			Left Hand	Right Hand	a	b	c	Y	r	Availability	Holder
			1605-0.8-2.5 L CP	1605-0.8-2.5 R CP	0.8	2.5	2.5	0.5°	0	● ○ ●	1600...
			1605-1.0-3.5 L CP	1605-1.0-3.5 R CP	1	3.5	3.5	0.5°	0	● ○ ●	1600...
			1605-1.0-3.5 L CP R05	1605-1.0-3.5 R CP R05	1	3.5	3.5	0.5°	.05mm / .0019"	● ○ ●	1600...
			1605-1.5-3.5 L CP	1605-1.5-3.5 R CP	1.5	3.5	3.5	0.5°	0	● ○ ●	1600...
			1605-1.5-3.5 L CP R08	1605-1.5-3.5 R CP R08	1.5	3.5	3.5	0.5°	.08mm / .0031"	● ○ ●	1600...
			1605-2.0-3.5 L CP	1605-2.0-3.5 R CP	2	3.5	3.5	0.5°	0	● ○ ●	1600...
			1605-2.0-3.5 L CP R08	1605-2.0-3.5 R CP R08	2	3.5	3.5	0.5°	.08mm / .0031"	● ○ ●	1600...
			1605-2.5-3.5 L CP	1605-2.5-3.5 R CP	2.5	3.5	3.5	0.5°	0	● ○ ●	1600...
			1605-3.0-3.5 L CP	1605-3.0-3.5 R CP	3	3.5	3.5	0.5°	0	○ ○ ○	1600...

●=Standard Item ○=Semi-Standard

Series 1606 - Threading (Metric Full Profile)

Micro Threading - Full Profile			Applications			Materials					
			● ● ●	Steels							
			● ● ●	Stainless Steels							
			● ● ●	Titanium							
			● ● ●	Non-Ferrous							
			UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade					
			Left Hand	Right Hand	a	b	c	p	α	Availability	Holder
			1606-0.06-60 VP L	1606-0.06-60 VP R	0.082	4	0	0.06	60°	● ○ ●	1600...
			1606-0.08-60 VP L	1606-0.08-60 VP R	0.12	4	0	0.08	60°	● ○ ●	1600...
			1606-0.09-60 VP L	1606-0.09-60 VP R	0.14	4	0	0.09	60°	● ○ ●	1600...
			1606-0.1-60 VP L	1606-0.1-60 VP R	0.16	4	0	0.1	60°	● ○ ●	1600...
			1606-0.125-60 VP L	1606-0.125-60 VP R	0.18	4	0	0.125	60°	● ○ ●	1600...
			1606-.15-60 VP L	1606-.15-60 VP R	0.22	4	0	0.15	60°	● ○ ●	1600...
			1606-0.175-60 VP L	1606-0.175-60 VP R	0.26	4	0	0.175	60°	● ○ ●	1600...
			1606-0.225-60 VP L	1606-0.225-60 VP R	0.30	4	0	0.2	60°	● ○ ●	1600...
			1606-0.2-60 VP L	1606-0.2-60 VP R	0.30	4	0	0.225	60°	● ○ ●	1600...
			1606-0.25-60 VP L	1606-0.25-60 VP R	0.36	4	0	0.25	60°	● ○ ●	1600...
			1606-0.3-60 VP L	1606-0.3-60 VP R	0.45	4	0	0.3	60°	● ○ ●	1600...
			1606-0.35-60 VP L	1606-0.35-60 VP R	0.50	4	0	0.35	60°	● ○ ●	1600...
			1606-0.4-60 VP L	1606-0.4-60 VP R	0.60	4	0	0.4	60°	● ○ ●	1600...
			1606-0.45-60 VP L	1606-0.45-60 VP R	0.64	4	0	0.45	60°	● ○ ●	1600...
			1606-0.5-60 VP L	1606-0.5-60 VP R	0.70	4	1.4	0.5	60°	● ○ ●	1600...
			1606-0.6-60 VP L	1606-0.6-60 VP R	0.80	4	1.4	0.6	60°	● ○ ●	1600...
			1606-0.7-60 VP L	1606-0.7-60 VP R	0.90	4	1.8	0.7	60°	● ○ ●	1600...



Carbide Grade Recommendations
 ● - Preferred Application
 ● - Possible Application
 ● - Application Not Recommended

Series 1606 - Threading (Full Profile UNC)

Micro Threading - Full Profile								Applications	Materials	
								● ● ●	Steels	
								● ● ●	Stainless Steels	
								● ● ●	Titanium	
								● ● ●	Non-Ferrous	
								UHM 30	Insert Grade	
								UHM 30 SX		
								UHM 30 HX		
	Left Hand		Right Hand		ANSI	TPI	p	a	c	Availability
1606-01-64 UNC 60 VPL	1606-01-64 UNC 60 VPR	1-64	64	.015"	0.6	0	○ ○ ○	1600...		
1606-02-56 UNC 60 VPL	1606-02-56 UNC 60 VPR	2-56	56	.0178"	0.64	0	○ ○ ○	1600...		
1606-03-48 UNC 60 VPL	1606-03-48 UNC 60 VPR	3-48	48	.0208"	0.7	1.4	○ ○ ○	1600...		
1606-04-40 UNC 60 VPL	1606-04-40 UNC 60 VPR	4-40	40	.025"	0.9	1.8	○ ○ ○	1600...		
1606-05-40 UNC 60 VPL	1606-05-40 UNC 60 VPR	5-40	40	.025"	0.9	1.8	○ ○ ○	1600...		
1606-06-32 UNC 60 VPL	1606-06-32 UNC 60 VPR	6-32	32	.0312"	1	2	○ ○ ○	1600...		
1606-08-32 UNC 60 VPL	1606-08-32 UNC 60 VPR	8-32	32	.0312"	1	2	○ ○ ○	1600...		

●=Standard Item ○=Semi-Standard

Series 1607 - Full Radius Grooving

Full Radius Grooving												Applications	Materials
												● ● ●	Steels
												● ● ●	Stainless Steels
												● ● ●	Titanium
												● ● ●	Non-Ferrous
												UHM 30	Insert Grade
												UHM 30 SX	
												UHM 30 HX	
	Left Hand		Right Hand		a	c	d	β	Y	r	s	Availability	Holder
1607-R0.25-2 L	1607-R0.25-2 R	0.5	4	2	6°	0.5°	0.25	2	● ○ ●	1600...			
1607-R0.5-2.5 L	1607-R0.5-2.5 R	1	4	2.5	6°	0.5°	0.5	2	● ○ ●	1600...			
1607-R0.6-2.5 L	1607-R0.6-2.5 R	1.2	4	2.5	6°	0.5°	0.6	2	○ ○ ○	1600...			
1607-R0.75-3 L	1607-R0.75-3 R	1.5	4	3	6°	0.5°	0.75	2	● ○ ●	1600...			
1607-R0.8-3 L	1607-R0.8-3 R	1.6	4	3	6°	0.5°	0.8	2	○ ○ ○	1600...			
1607-R1.0-4 L	1607-R1.0-4 R	2	4	4	6°	0.5°	1	2	● ○ ●	1600...			
1607-R1.5-4 L	1607-R1.5-4 R	3	4	4	6°	0.5°	1.5	2	● ○ ●	1600...			

●=Standard Item ○=Semi-Standard

Series 1606 - Threading (Full Profile UNF)

Micro Threading - Full Profile								Applications	Materials	
								● ● ●	Steels	
								● ● ●	Stainless Steels	
								● ● ●	Titanium	
								● ● ●	Non-Ferrous	
								UHM 30	Insert Grade	
								UHM 30 SX		
								UHM 30 HX		
	Left Hand		Right Hand		ANSI	TPI	p	a	c	Availability
1606-00-80 UNF 60 VPL	1606-00-80 UNF 60 VPR	0-80	80	.0125"	0.45	0	○ ○ ○	1600...		
1606-01-72 UNF 60 VPL	1606-01-72 UNF 60 VPR	1-72	72	.0138"	0.52	0	○ ○ ○	1600...		
1606-02-64 UNF 60 VPL	1606-02-64 UNF 60 VPR	2-64	64	.0156"	0.6	0	○ ○ ○	1600...		
1606-03-56 UNF 60 VPL	1606-03-56 UNF 60 VPR	3-56	56	.0178"	0.64	0	○ ○ ○	1600...		
1606-04-48 UNF 60 VPL	1606-04-48 UNF 60 VPR	4-48	48	.0208"	0.7	1.4	○ ○ ○	1600...		
1606-05-44 UNF 60 VPL	1606-05-44 UNF 60 VPR	5-44	44	.0227"	0.8	1.4	○ ○ ○	1600...		
1606-06-40 UNF 60 VPL	1606-06-40 UNF 60 VPR	6-40	40	.0250"	0.9	1.8	○ ○ ○	1600...		
1606-08-36 UNF 60 VPL	1606-08-36 UNF 60 VPR	8-36	36	.0277"	0.9	1.8	○ ○ ○	1600...		
1606-10-32 UNF 60 VPL	1606-10-32 UNF 60 VPR	10-32	32	.0312"	1.0	2.0	○ ○ ○	1600...		

●=Standard Item ○=Semi-Standard

Series 1611 - Axial Grooving

Axial Grooving												Applications	Materials
												● ● ●	Steels
												● ● ●	Stainless Steels
												● ● ●	Titanium
												● ● ●	Non-Ferrous
												UHM 30	Insert Grade
												UHM 30 SX	
												UHM 30 HX	
	Left Hand		Right Hand		a	c	d	β	Y	r	s	D	Availability
1611-0.5-1 L	1611-0.5-1 R	0.5	1	1	8°	1°	0.05	1.2	8	● ○ ●	1600...		
1611-0.8-1.5 L	1611-0.8-1.5 R	0.8	1.5	1.5	8°	1°	0.05	1.2	9	● ○ ●	1600...		
1611-1.0-2 L	1611-1.0-2 R	1.0	2	2	8°	1°	0.05	1.2	10	● ○ ●	1600...		
1611-1.5-2.5 L	1611-1.5-2.5 R	1.5	2.5	2.5	8°	1°	0.05	1.2	20	● ○ ●	1600...		
1611-2.0-3 L	1611-2.0-3 R	2.0	3	3	8°	1°	0.05	1.2	30	● ○ ●	1600...		
1611-2.5-3.5 L	1611-2.5-3.5 R	2.5	3.5	3.5	8°	1°	0.05	1.2	30	● ○ ●	1600...		



SX Coating



HX Coating

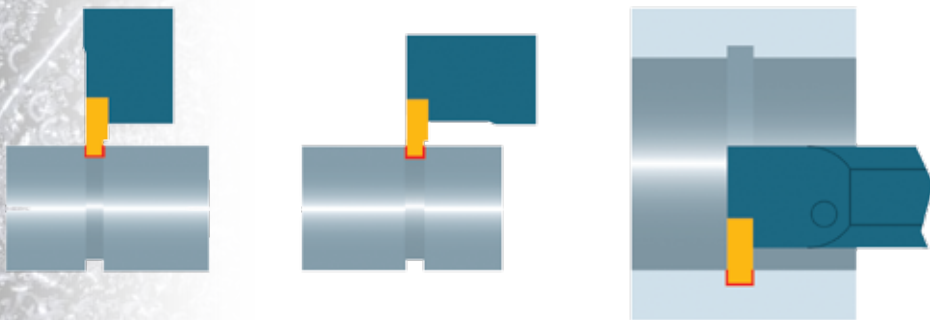
Carbide Grade Recommendations
 ● - Preferred Application
 ● - Possible Application
 ● - Application Not Recommended

Cut 1600 Micro Grooving Tools



UTILIS
multidec
swiss type tools

- Standard offering of Swiss grooving tools ranging .002" to .1082" in thickness.
- Designed for production of parts requiring micro-groove features.
- Highly repeatable cutting edge.
- Fits standard 1600 series tool holders.



Series 1610 - Production Micro Grooving

		Applications			Materials									
		●	●	●	Steels									
		●	●	●	Stainless Steels									
		●	●	●	Titanium									
		●	●	●	Non-Ferrous									
		UHM 30	UHM 30 SX	UHM 30 HX	Insert Grade									
		Left Hand		Right Hand		a	a tol.	c	d	β	Y	s	Availability	Holder
Micro-Grooving	1610-0.05-0.1 L	1610-0.05-0.1 R	0.05	+/-0.01	4	0.1	6°	0.5°	1	●	○	●	1600...	
	1610-0.10-0.2 L	1610-0.10-0.2 R	0.10	+/-0.01	4	0.2	6°	0.5°	1	●	○	●	1600...	
	1610-0.15-0.3 L	1610-0.15-0.3 R	0.15	+/-0.01	4	0.3	6°	0.5°	1	●	○	●	1600...	
	1610-0.24-0.5 L	1610-0.24-0.5 R	0.24	+0.04/-0	0.5	0.5	10°	2°	3	●	○	●	1600...	
	1610-0.30-0.6 L	1610-0.30-0.6 R	0.30	+/-0.02	4	0.6	6°	0.5°	1	●	○	●	1600...	
	1610-0.34-0.6 L	1610-0.34-0.6 R	0.34	+0.04/-0	0.6	0.6	10°	2°	3	●	○	●	1600...	
	1610-0.40-0.8 L	1610-0.40-0.8 R	0.40	+/-0.02	4	0.8	6°	0.5°	1	●	○	●	1600...	
	1610-0.44-0.8 L	1610-0.44-0.8 R	0.44	+0.04/-0	0.8	0.8	10°	2°	3	●	○	●	1600...	
	1610-0.45-1.5 L	1610-0.45-1.5 R	0.45	+/-0.02	4	1.5	6°	0.5°	1	○	○	○	1600...	
	1610-0.50-1.0 L	1610-0.50-1.0 R	0.50	+/-0.02	4	1.0	6°	0.5°	1	●	○	●	1600...	
	1610-0.54-0.8 L	1610-0.54-0.8 R	0.54	+0.05/-0	0.8	0.8	10°	2°	3	●	○	●	1600...	
	1610-0.60-1.2 L	1610-0.60-1.2 R	0.60	+/-0.02	4	1.2	6°	0.5°	1	●	○	●	1600...	
	1610-0.64-1.0 L	1610-0.64-1.0 R	0.64	+0.05/-0	1	1	10°	2°	3	●	○	●	1600...	
	1610-0.64-1.2 L	1610-0.64-1.2 R	0.64	+0.05/-0	1.2	1.2	10°	2°	3	●	○	●	1600...	
	1610-0.65-0.7 L	1610-0.65-0.7 R	0.65	+/-0.02	0.7	0.7	10°	2°	3	●	○	●	1600...	
	1610-0.70-1.4 L	1610-0.70-1.4 R	0.70	+/-0.02	4	1.4	6°	0.5°	1	●	○	●	1600...	
	1610-0.74-1.8 L	1610-0.74-1.8 R	0.74	+0.05/-0	1.8	1.8	10°	2°	3	●	○	●	1600...	
	1610-0.85-0.9 L	1610-0.85-0.9 R	0.85	+/-0.02	0.9	0.9	10°	2°	3	●	○	●	1600...	
	1610-0.85-1.2 L	1610-0.85-1.2 R	0.85	+/-0.02	1.2	1.2	10°	2°	3	○	○	○	1600...	
	1610-0.94-2.3 L	1610-0.94-2.3 R	0.94	+0.05/-0	2.3	2.3	10°	2°	3	●	○	●	1600...	
	1610-0.95-1.0 L	1610-0.95-1.0 R	0.95	+/-0.02	1	1.0	10°	2°	3	●	○	●	1600...	
	1610-1.00-1.14 L	1610-1.00-1.14 R	1.00	+/-0.02	1.14	1.14	10°	2°	3	●	○	●	1600...	
	1610-1.05-2.3 L	1610-1.05-2.3 R	1.05	+0.08/-0	2.3	2.3	10°	2°	3	●	○	●	1600...	
	1610-1.15-2.8 L	1610-1.15-2.8 R	1.15	+0.08/-0	2.8	2.8	10°	2°	3	●	○	●	1600...	
1610-1.2-1.34 L	1610-1.2-1.34 R	1.20	+/-0.02	1.34	1.34	10°	2°	3	●	○	●	1600...		
1610-1.25-2.8 L	1610-1.25-2.8 R	1.25	+0.08/-0	2.8	2.8	10°	2°	3	●	○	●	1600...		
1610-1.35-3.3 L	1610-1.35-3.3 R	1.35	+0.08/-0	3.3	3.3	10°	2°	3	●	○	●	1600...		
1610-1.4-1.53 L	1610-1.4-1.53 R	1.40	+/-0.02	1.53	1.53	10°	2°	3	●	○	●	1600...		
1610-1.55-3.8 L	1610-1.55-3.8 R	1.55	+0.08/-0	3.8	3.8	10°	2°	3	●	○	●	1600...		
1610-1.70-1.82 L	1610-1.70-1.82 R	1.70	+/-0.02	1.82	1.82	10°	2°	3	●	○	●	1600...		
1610-1.95-2.0 L	1610-1.95-2.0 R	1.95	+/-0.02	2	2	10°	2°	3	●	○	●	1600...		
1610-2.25-2.0 L	1610-2.25-2.0 R	2.25	+/-0.02	2	2	10°	2°	3	●	○	●	1600...		
1610-2.75-2.0 L	1610-2.75-2.0 R	2.75	+/-0.02	2	2	10°	2°	3	●	○	●	1600...		

●=Standard Item ○=Semi-Standard

Multidec®-CUT 1600 Holders



	Left Hand	Right Hand	x	y	z
	1600-07x100 L	1600-07x100 R	7	7	100
	1600-07x150 L	1600-07x150 R	7	7	150
	1600-08x100 L	1600-08x100 R	8	8	100
	1600-08-150 L	1600-08-150 R	8	8	150
	1600-3/8"x100 L	1600-3/8"x100 R	.375"	.375"	100
	1600-10x100 L	1600-10x100 R	10	10	100
	1600-10x150 L	1600-10x150 R	10	10	150
	1600-12x100 L	1600-12x100 R	12	12	100
	1600-12x150 L	1600-12x150 R	12	12	150
	1600-1/2"x100 L	1600-1/2"x100 R	.500"	.500"	100
	1600-5/8"x125 L	1600-5/8"x125 R	.625"	.625"	125
	1600-16x125 L	1600-16x125 R	16	16	125
	1600-16x150 L	1600-16x150 R	16	16	150
	1600-20x125 L	1600-20x125 R	20	20	125
	1600-20x150 L	1600-20x150 R	20	20	150

Multidec®-CUT 1600 Offset Holders



	Left Hand	Right Hand	x	y	z	w
	1600-08x100 LAV	1600-08x100 RAV	8	8	100	6
	1600-08x150 LAV	1600-08x150 RAV	8	8	150	6
	1600-3/8"x100 LAV	1600-3/8"x100 RAV	.375"	.375"	100	6
	1600-10x100 LAV	1600-10x100 RAV	10	10	100	6
	1600-10x150 LAV	1600-10x150 RAV	10	10	150	6
	1600-12x100 LAV	1600-12x100 RAV	12	12	100	6
	1600-12x150 LAV	1600-12x150 RAV	12	12	150	6
	1600-1/2"x100 LAV	1600-1/2"x100 RAV	.500"	.500"	100	6
	1600-5/8"x125 LAV	1600-5/8"x125 RAV	.625"	.625"	125	6
	1600-16x125 LAV	1600-16x125 RAV	16	16	125	6

Multidec®-CUT 1600 Shifted Holders



	Left Hand	Right Hand	x	y	z	w
	1600-08x100 LA	1600-08x100 RA	8	8	100	6
	1600-08x150 LA	1600-08x150 RA	8	8	150	6
	1600-3/8"x100 LA	1600-3/8"x100 RA	.375"	.375"	100	6
	1600-10x100 LA	1600-10x100 RA	10	10	100	6
	1600-10x150 LA	1600-10x150 RA	10	10	150	6
	1600-12x100 LA	1600-12x100 RA	12	12	100	6
	1600-12x150 LA	1600-12x150 RA	12	12	150	6
	1600-1/2"x100 LA	1600-1/2"x100 RA	.500"	.500"	100	6
	1600-5/8"x150 LA	1600-5/8"x150 RA	.625"	.625"	150	6

Multidec®-CUT 1600 Axial Holders

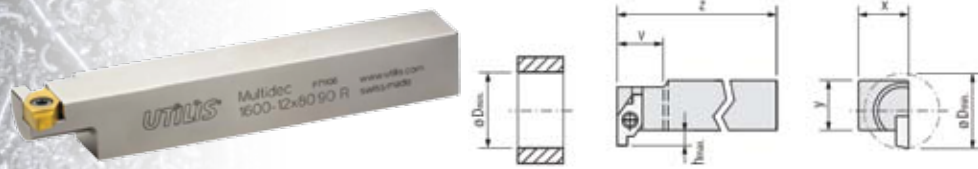
*Note: These Holders Require Opposite Insert (ie: Right hand holder uses left hand insert!)



	Left Hand	Right Hand	x	y	z	v	w	h max	a
	1600-10x100 90 ST LA	1600-10x100 90 ST RA	10	10	100	17.5	14.5	4	4.5
	1600-12x100 90 ST LA	1600-12x100 90 ST RA	12	12	100	17.5	14.5	4	4.5
	1600-3/8"x100 90 ST LA	1600-3/8"x100 90 ST RA	.375"	.375"	100	17.5	14.5	4	4.5
	1600-1/2"x100 90 ST LA	1600-1/2"x100 90 ST RA	.500"	.500"	100	17.5	14.5	4	4.5
	1600-5/8"x125 90 ST LA	1600-5/8"x125 90 ST RA	.625"	.625"	125	17.5	14.5	4	4.5

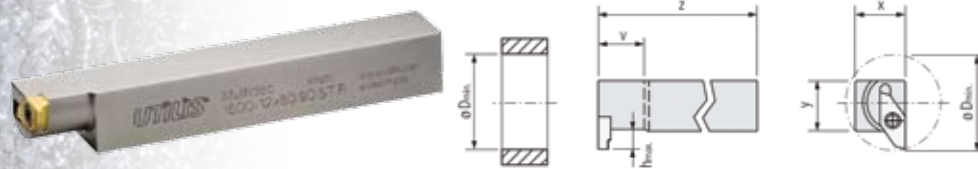
Multidec®-CUT-1600 ID Holders

*Note: These Holders Require Opposite Insert (ie: Right hand holder uses left hand insert!)
These holders require 1699 series inserts - refer to the full Multidec® Catalog for details



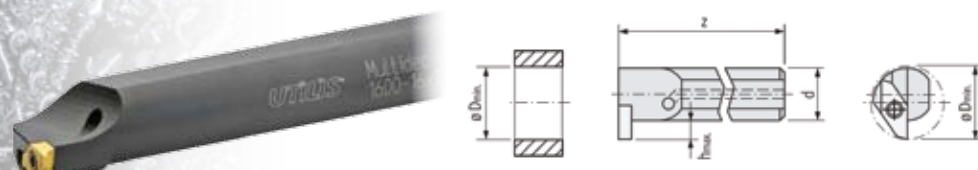
	Left Hand	Right Hand	x	y	z	v	hmax	D min
	1600-10x80 90 L	1600-10x80 90 R	10	10	80	10	4	17
	1600-12x80 90 L	1600-12x80 90 R	12	12	80	10	4	17

*Note: These Holders Require Opposite Insert (ie: Right hand holder uses left hand insert!)



	Left Hand	Right Hand	x	y	z	v	hmax	D min
	1600-10x80 90 ST L	1600-10x80 90 ST R	10	10	80	10	4	20
	1600-12x80 90 ST L	1600-12x80 90 ST R	12	12	80	10	4	20


*Note: These Holders Require Opposite Insert (ie: Right hand holder uses left hand insert!)




	Left Hand	Right Hand	d	z	hmax	D min
	1600-12x125 RD L	1600-12x125 RD R	12	125	2	17
	1600-16x150 RD L	1600-16x150 RD R	16	150	2.5	21
	1600-20x180 RD L	1600-20x180 RD R	20	180	3	25

1600 Series - Spare Parts


Spare Screws

	Part No.	Fits Holders...	Desc.	Dimension
	MSP 25060 T08	1600...	Torx T8 Screw	M2x6 T08

TORX Screw Drivers

	Part No.	Fits Holders...	Desc.	Dimension
	WTF-T08-S	1600...	T8 Torx Driver	T8

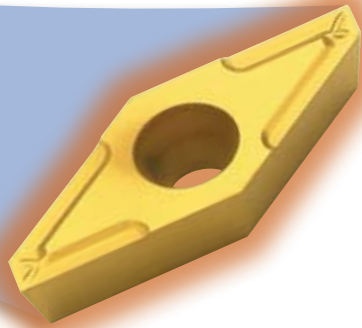
Precision Calibrated Torque-Drivers

	Part No.	Fits Holders...	Desc.	Dimension
	MSP T08 D	1600...	(1.3nm) .95 ft lb. Torque Driver	T8

Notes



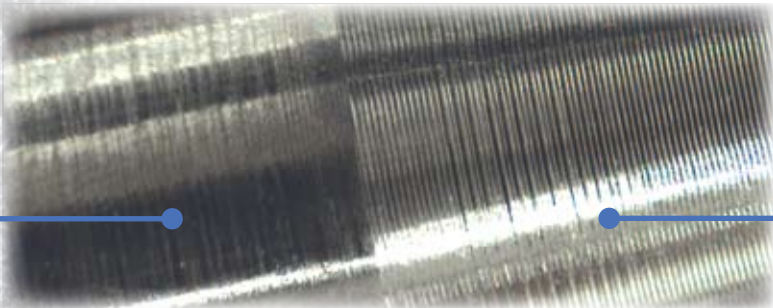
UTILIS
multidec[®]
swiss type tools
TOP Series



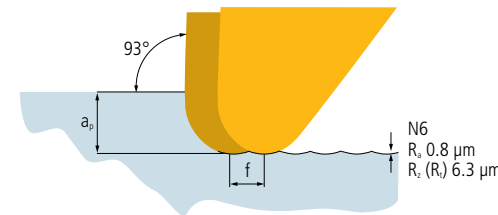
- Wiper Geometry enables faster feeds while maintaining good surface finish
- Holders especially designed for Front Turning and Backturning in Swiss-Type Machines
- Versatile Cutting Geometry and chipbreaker enables turning in three directions
- Decreases cycle time by enabling up to 2X feed rate while maintaining surface quality

**Turned with a
multidec®-TOP Wiper Insert**

**Turned with a
Standard VCGT insert**

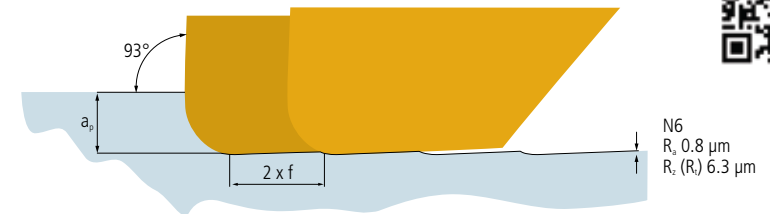


Multidec®-TOP inserts feature a trailing wiper geometry which produces a stronger cutting edge. This allows for faster feeds while simultaneously increasing surface finish by burnishing the high-points of the turn pattern.



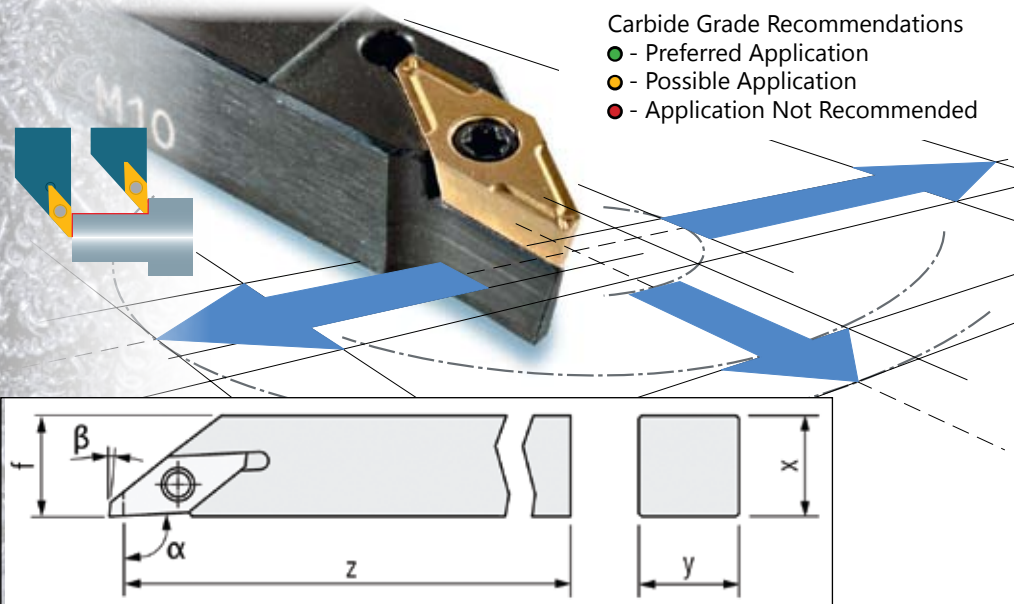
Halter/Porte-outil/Holder 93°
Eckenradius/Rayon/Corner radius 0.8 mm

Multidec®-Top-Schneide/Plaquette Multidec®-Top/Multidec®-Top insert



The Multidec-TOP line features a sharp tool nose radius of 0mm, .08mm and .2mm with chip control geometry and is ideal for precision small parts turning in tough materials.





TOP Series - 90° Holders

Left Hand	Right Hand	x	y	z	f	α	β
SVAPL 0707 H10	SVAPR 0707 H10	7	7	100	8	90	4
SVAPL 0807 H10	SVAPR 0807 H10	8	7	100	8	90	4
SVAPL 0808 H10	SVAPR 0808 H10	8	8	100	8	90	4
SVAPL 1010 H10	SVAPR 1010 H10	10	10	100	10	90	4
SVAPL 1212 H10	SVAPR 1212 H10	12	12	100	12	90	4
SVAPL 3/8" H10	SVAPR 3/8" H10	.375"	.375"	100	.375"	90	4
SVAPL 1/2" H10	SVAPR 1/2" H10	.500"	.500"	100	.500"	90	4

TOP Series - 93° Holders

Left Hand	Right Hand	x	y	z	f	α	β
SVJPL 0707 H10	SVJPR 0707 H10	7	7	100	7	93	1
SVJPL 0807 H10	SVJPR 0807 H10	8	7	100	8	93	1
SVJPL 0808 H10	SVJPR 0808 H10	8	8	100	10	93	1
SVJPL 1010 H10	SVJPR 1010 H10	10	10	100	10	93	1
SVJPL 1212 H10	SVJPR 1212 H10	12	12	100	12	93	1
SVJPL 1616 K10	SVJPR 1616 K10	16	16	125	16	93	1
SVJPL 2020 K10	SVJPR 2020 K10	20	20	125	20	93	1
SVJPL 3/8" H10	SVJPR 3/8" H10	.375"	.375"	100	.375"	93	1
SVJPL 1/2" H10	SVJPR 1/2" H10	.500"	.500"	100	.500"	93	1

Multidec TOP Insert Specs	VPGT	VPET	VPXT
<p>d = 6.35mm L = 10mm L1 = 4.5mm</p>	d tol = +/- .025mm s tol = +/- .13mm	d tol = +/- .025mm s tol = +/- .025mm	d tol = +/- .04mm s tol = +/- .10mm

Additional Holders Available
See genswiss.com for more.

TOP Series - VPGT Wiper Inserts

Materials	Grade App. Guide				Suggested Type of Cut (all grades)			
	UHM 30	UHM 30 SX	UHM30 HX	UHM 30 MZ				
Steels	●	●	●	●	SV... μ Finishing			
Stainless Steels	●	●	●	●				
Titanium	●	●	●	●				
Non-Ferrous	●	●	●	●				
Insert Grade	UHM 30	UHM 30 SX	UHM30 HX	UHM 30 MZ	● ● ● μ Finishing			
Left Hand	Right Hand	Edge	Nose Radius	Holder				
VPGT 1003008 EL TOP	VPGT 1003008 ER TOP	Honed	0.08mm / .0031"	●	○	●	-	SV...
VPGT 100302 EL TOP	VPGT 100302 ER TOP	Honed	0.2mm / .0078"	-	-	-	●	SV...
VPGT 1003ZZ FL TOP	VPGT 1003ZZ FR TOP	Sharp	Zero Radius - Sharp	●	○	●	-	SV...
---	VPGT 1003005 FR TOP	Sharp	0.05mm / .0019"	●	○	●	-	SV...
VPGT 1003008 FL TOP	VPGT 1003008 FR TOP	Sharp	0.08mm / .0031"	●	○	●	-	SV...
VPGT 100302 FL TOP	VPGT 100302 FR TOP	Sharp	0.2mm / .0078"	●	○	●	-	SV...

●=Standard Item ○=Semi-Standard

TOP Series - VPET Wiper Inserts

Materials	Grade App. Guide			Suggested Type of Cut (all grades)			
	UHM 30	UHM 30 SX	UHM30 HX				
Steels	●	●	●	SV... μ Finishing			
Stainless Steels	●	●	●				
Titanium	●	●	●				
Non-Ferrous	●	●	●				
Insert Grade	UHM 30	UHM 30 SX	UHM30 HX	● ● ● μ Finishing			
Left Hand	Right Hand	Edge	Nose Radius	Holder			
VPET 1003ZZ FL TOP	VPET 1003ZZ FR TOP	Sharp	Zero Radius - Sharp	●	○	●	SV...
---	VPET 1003003 FR TOP	Sharp	0.03mm / .0011"	●	-	-	SV...
VPET 1003008 FL TOP	VPET 1003008 FR TOP	Sharp	0.08mm / .0031"	●	○	●	SV...
VPET 100302 FL TOP	VPET 100302 FR TOP	Sharp	0.2mm / .0078"	●	○	●	SV...

●=Standard Item ○=Semi-Standard

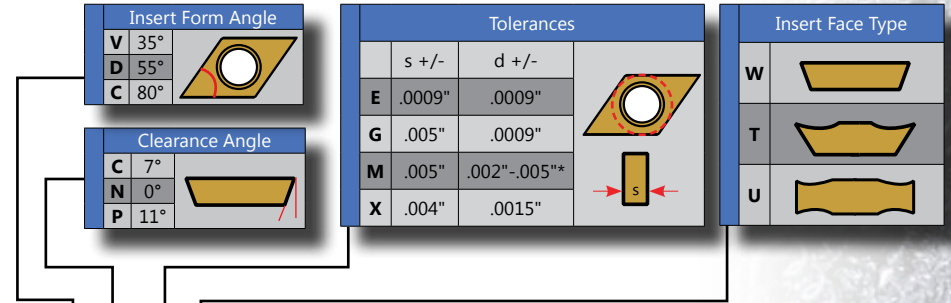
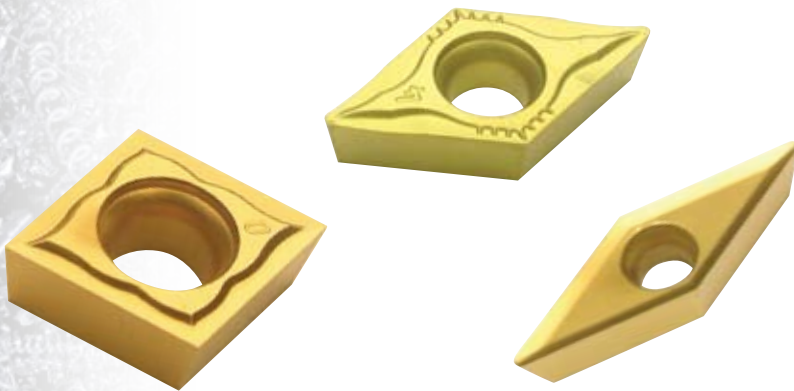
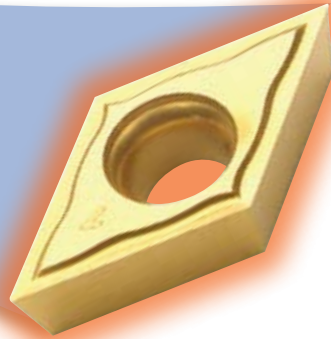
TOP Series - VPXT Wiper Inserts

Materials	Grade App. Guide				Suggested Type of Cut (all grades)		
	UHM 20 HPX						
Steels	●				SV... μ Finishing		
Stainless Steels	●						
Titanium	●						
Non-Ferrous	●						
Insert Grade	UHM 20 HPX				● ● ● μ Finishing		
Left Hand	Right Hand	Edge	Nose Radius	Holder			
VPXT 1003015 EL TOP	VPXT 1003015 ER TOP	Honed	0.15mm / .0059"	●			SV...
VPXT 1003035 EL TOP	VPXT 1003035 ER TOP	Honed	0.35mm / .0137"	●			SV...

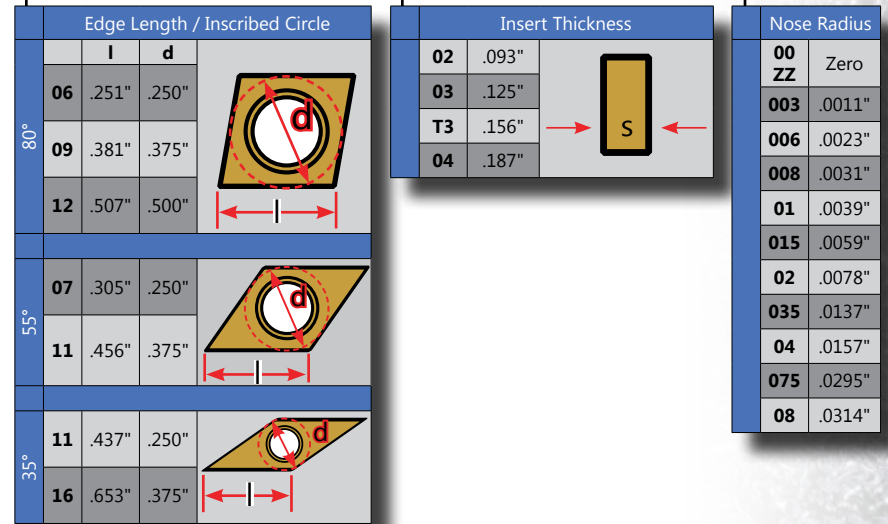
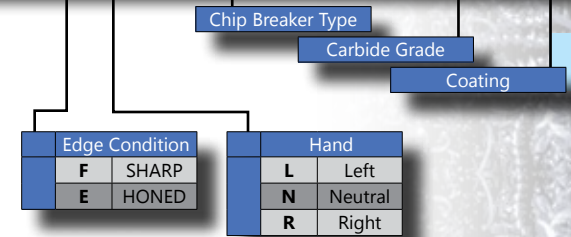
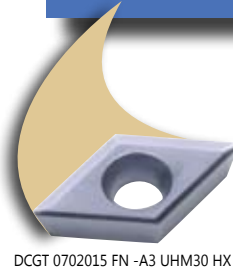
UTILIS
multidec[®]
swiss type tools
ISO Series

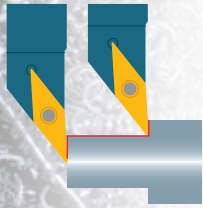


- Highly focused ISO style insert range collected specifically for Swiss Applications
- Holders especially designed for Swiss Type Machines
- Large choice of carbide grades cover a wide range of materials
- Vast assortment of chipbreaker styles and geometries




DCGT 0702015 FN -A3 UHM 30 HX





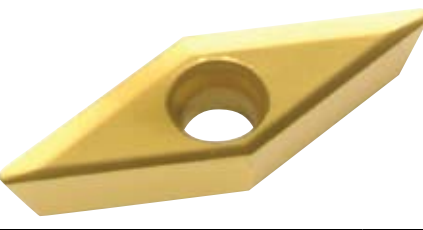
- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended

ISO Series - DCGT-A3 Inserts

Multidec-ISO 55° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)
			Steels		●	○	●	
			Stainless Steels		●	○	●	
			Titanium		○	○	●	
			Non-Ferrous		●	○	●	
	Insert Grade		UHM 10	UHM 10 SX	UHM 10 HX	●● ●●● μ Finishing		
Cat No.	Edge	Nose Radius				Holder		
DCGT 0702006 FN -A3	Sharp	0.06mm / .0023"	●	○	●	SD...07		
DCGT 0702015 FN -A3	Sharp	0.15mm / .0059"	●	○	●	SD...07		
DCGT 0702035 FN -A3	Sharp	0.35mm / .0137"	●	○	●	SD...07		
DCGT 11T3008 FN -A3	Sharp	0.08mm / .0031"	●	○	●	SD...11		
DCGT 11T3015 FN -A3	Sharp	0.15mm / .0059"	●	○	●	SD...11		
DCGT 11T3035 FN -A3	Sharp	0.35mm / .0137"	●	○	●	SD...11		

●=Standard Item ○=Semi-Standard


ISO Series - VCGT -A3 Inserts

Multidec-ISO 35° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)
			Steels		●	○	●	
			Stainless Steels		●	○	●	
			Titanium		○	○	●	
			Non-Ferrous		●	○	●	
	Insert Grade		UHM 10	UHM 10 SX	UHM 10 HX	●● ●●● μ Finishing		
Cat No.	Edge	Nose Radius				Holder		
VCGT 1103008 FN -A3	Sharp	0.08mm / .0031"	●	○	●	SV...11		
VCGT 1103015 FN -A3	Sharp	0.15mm / .0059"	●	○	●	SV...11		
VCGT 1103035 FN -A3	Sharp	0.35mm / .0137"	●	○	●	SV...11		
VCGT 1303015 FN -A3	Sharp	0.15mm / .0059"	●	○	●	SV...13		
VCGT 1303035 FN -A3	Sharp	0.35mm / .0137"	●	○	●	SV...13		
VCGT 1303075 FN -A3	Sharp	0.75mm / .0295"	●	○	●	SV...13		

●=Standard Item ○=Semi-Standard

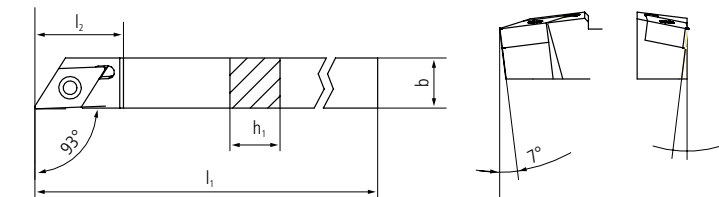
The DNGU series of carbide inserts are ideal for applications where chip control becomes an issue. The high positive geometry insert with negative tool holder creates an ideal situation for rolling chips in a controlled manner.

ISO Series - DNGU -A4 Inserts

Multidec-ISO 55° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)
			Steels		●	○	●	
			Stainless Steels		●	○	●	
			Titanium		○	○	●	
			Non-Ferrous		●	○	●	
	Insert Grade		UHM 30	UHM 30 SX	UHM30 HX	●●● μ Finishing		
Cat No.	Edge	Nose Radius				Holder		
DNGU 1104008 FN A4	Sharp	0.08mm / .0031"	●	○	●	SDJN...11		
DNGU 1104015 FN A4	Sharp	0.15mm / .0059"	●	○	●	SDJN...11		

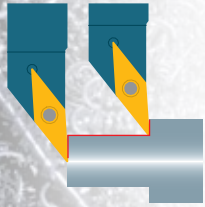
- Features 4 cutting edges per insert
- Ideal for Stainless Steels and Materials that Produce Stringy Chips
- Sharp Tool Nose Radius Intended to benefit Swiss-Style Applications

ISO Series SDJN-A4 Holders



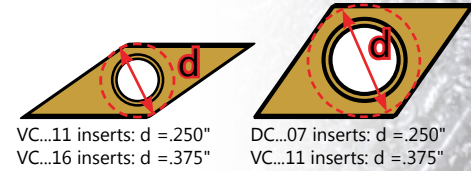
SDJN... Holders	Left Hand		Right Hand		h1	b	l1	l2
	SDJNL 1012 H11	SDJNR 1012 H11	SDJNL 1212 H11	SDJNR 1212 H11				
	SDJNL 1212 H11	SDJNR 1212 H11	12	12	100	21.3		
	SDJNL 1616 K11	SDJNR 1616 K11	16	16	125	21.3		
	SDJNL 2020 K11	SDJNR 2020 K11	20	20	125	21.3		
	SDJNL 2525 M11	SDJNR 2525 M11	25	25	150	21.3		





Carbide Grade Recommendations

- - Preferred Application
- - Possible Application
- - Application Not Recommended



ISO Series - DCGT-PA5 Inserts

Multidec-ISO 55° Inserts		Materials		Application Guide			Suggested Type of Cut (all grades)
		Steels	●	○			
		Stainless Steels	●	○	○		
		Titanium	○	○	○		
		Non-Ferrous	○	○	○		
	Insert Grade	UHM 10	UHM 10 HX			●● Finishing ●●● μ Finishing	
	Cat No.	Edge	Nose Radius				Holder
	DCGT 070202 FN -PA5	Sharp	0.2mm / .0078"	●	●		SD...07
	DCGT 070204 FN -PA5	Sharp	0.4mm / .0157"	●	●		SD...07
	DCGT 11T302 FN -PA5	Sharp	0.2mm / .0078"	●	●		SD...11
DCGT 11T304 FN -PA5	Sharp	0.4mm / .0157"	●	●		SD...11	
DCGT 11T308 FN -PA5	Sharp	0.8mm / .0314"	●	●		SD...11	

●=Standard Item ○=Semi-Standard

ISO Series - DCGT-PA7 Inserts

Multidec-ISO 55° Inserts		Materials		Application Guide			Suggested Type of Cut (all grades)
		Steels	●	○	○		
		Stainless Steels	●	○	○	○	
		Titanium	○	○	○	○	
		Non-Ferrous	○	○	○	○	
	Insert Grade	UHM 10	UHM 10 SX	UHM 10 HX		●● Finishing ●●● μ Finishing	
	Cat No.	Edge	Nose Radius				Holder
	DCGT 070202 FN -PA7	Sharp	0.2mm / .0078"	●	●	●	SD...07
	DCGT 070204 FN -PA7	Sharp	0.4mm / .0157"	●	●	●	SD...07
	DCGT 11T302 FN -PA7	Sharp	0.2mm / .0078"	●	●	●	SD...11
DCGT 11T304 FN -PA7	Sharp	0.4mm / .0157"	●	●	●	SD...11	
DCGT 11T308 FN -PA7	Sharp	0.8mm / .0314"	●	●	●	SD...11	

*Additional nose radii options available for this geometry.

●=Standard Item ○=Semi-Standard

ISO Series - VCGT -PA5 Inserts

Multidec-ISO 35° Inserts		Materials		Application Guide			Suggested Type of Cut (all grades)
		Steels	●	○			
		Stainless Steels	●	○	○		
		Titanium	○	○	○		
		Non-Ferrous	○	○	○		
	Insert Grade	UHM 10	UHM 10 HX			●● Finishing ●●● μ Finishing	
	Cat No.	Edge	Nose Radius				Holder
	VCGT 110302 FN -PA5	Sharp	0.2mm / .0078"	●	●		SV...11
	VCGT 110304 FN -PA5	Sharp	0.4mm / .0157"	●	●		SV...11
	VCGT 160404 FN -PA5	Sharp	0.4mm / .0157"	●	●		SV...16
VCGT 160408 FN -PA5	Sharp	0.8mm / .0314"	●	●		SV...16	

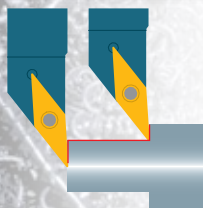
●=Standard Item ○=Semi-Standard

ISO Series - VCGT -PA7 Inserts

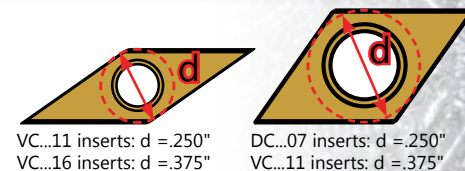
Multidec-ISO 35° Inserts		Materials		Application Guide			Suggested Type of Cut (all grades)
		Steels	●	○	○		
		Stainless Steels	●	○	○	○	
		Titanium	○	○	○	○	
		Non-Ferrous	○	○	○	○	
	Insert Grade	UHM 10	UHM 10 SX	UHM 10 HX		●● Finishing ●●● μ Finishing	
	Cat No.	Edge	Nose Radius				Holder
	VCGT 110302 FN -PA7	Sharp	0.2mm / .0078"	●	●	●	SV...11
	VCGT 110304 FN -PA7	Sharp	0.4mm / .0157"	●	●	●	SV...11
	VCGT 110308 FN -PA7	Sharp	0.8mm / .0314"	●	●	●	SV...11
VCGT 160404 FN -PA7	Sharp	0.4mm / .0157"	●	●	●	SV...16	
VCGT 160408 FN -PA7	Sharp	0.8mm / .0314"	●	●	●	SV...16	

*Additional nose radii options available for this geometry.

●=Standard Item ○=Semi-Standard



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended



ISO Series - DCMT-PF Inserts

Multidec-ISO 55° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)		
			Steels	●	●	●	●		●	Finishing μ Finishing
			Stainless Steels	○	○	○	○		○	
			Titanium	●	●	●	●		●	
			Non-Ferrous	○	○	○	○		○	
Insert Grade		UHM 20 MZ	UHM 20 HZ	UHM 30 MZ						
Cat No.	Edge	Nose Radius				Holder				
DCMT 070204 EN -PF	Honed	0.4mm / .0157"	●	●	●	SD...07				
DCMT 11T304 EN -PF	Honed	0.4mm / .0157"	●	●	●	SD...11				
DCMT 11T308 EN -PF	Honed	0.8mm / .0314"	●	●	●	SD...11				

Additional Insert Grades and Nose Radii for this geometry available, Refer to the Full UTILIS Catalog for details or visit www.genswiss.com

●=Standard Item ○=Semi-Standard

ISO Series - DCGT-PF23 Inserts

Multidec-ISO 55° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)		
			Steels	○	○	○	○		○	Finishing μ Finishing
			Stainless Steels	○	○	○	○		○	
			Titanium	○	○	○	○		○	
			Non-Ferrous	○	○	○	○		○	
Insert Grade		UHM 30	UHM 30 HX							
Cat No.	Edge	Nose Radius				Holder				
DCGT 0702005 FN PF23	Sharp	0.05mm / .0019"	○	○	○	SD...07				
DCGT 070201 FN PF23	Sharp	0.1mm / .0039"	○	○	○	SD...07				
DCGT 070202 FN PF23	Sharp	0.2mm / .0078"	○	○	○	SD...07				
DCGT 11T3005 FN PF23	Sharp	0.05mm / .0019"	○	○	○	SD...11				
DCGT 11T301 FN PF23	Sharp	0.1mm / .0039"	○	○	○	SD...11				
DCGT 11T302 FN PF23	Sharp	0.2mm / .0078"	○	○	○	SD...11				

●=Standard Item ○=Semi-Standard

ISO Series - VCGT 11... -PF Inserts

Multidec-ISO 35° Inserts			Materials		Application Guide					Suggested Type of Cut (all grades)			
			Steels	●	●	●	●	●	●		●	●	Finishing μ Finishing
			Stainless Steels	○	○	○	○	○	○		○	○	
			Titanium	○	○	○	○	○	○		○	○	
			Non-Ferrous	○	○	○	○	○	○		○	○	
Insert Grade		UHM 20 HZ	UHM 20 MZ	UHM 30 MZ	UCM 10 HX	UCM 10 MZ							
Cat No.	Edge	Nose Radius						Holder					
VCGT 110302 EN -PF	Honed	0.2mm / .0078"	●	●	●	●	●	SV...11					
VCGT 110304 EN -PF	Honed	0.4mm / .0157"	●	●	●	●	●	SV...11					
VCGT 110308 EN -PF	Honed	0.8mm / .0314"	●	●	●	-	-	SV...11					

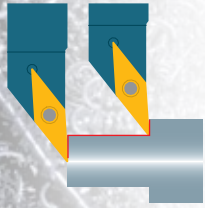
Additional Insert Grades and Nose Radii for this geometry available, Refer to the Full UTILIS Catalog for details or visit www.genswiss.com

●=Standard Item ○=Semi-Standard

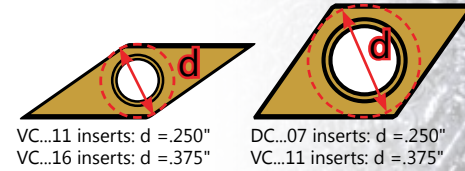
ISO Series - VCGT -PF23 Inserts

Multidec-ISO 35° Inserts			Materials		Application Guide			Suggested Type of Cut (all grades)		
			Steels	○	○	○	○		○	Finishing μ Finishing
			Stainless Steels	○	○	○	○		○	
			Titanium	○	○	○	○		○	
			Non-Ferrous	○	○	○	○		○	
Insert Grade		UHM 30	UHM30 HX							
Cat No.	Edge	Nose Radius				Holder				
VCGT 1103005 FN -PF23	Sharp	0.05mm / .0019"	○	○	○	SV...11				
VCGT 110301 FN -PF23	Sharp	0.1mm / .0039"	○	○	○	SV...11				
VCGT 110302 FN -PF23	Sharp	0.2mm / .0078"	○	○	○	SV...11				
VCGT 1604005 FN -PF23	Sharp	0.05mm / .0019"	○	○	○	SV...16				
VCGT 160401 FN -PF23	Sharp	0.1mm / .0039"	○	○	○	SV...16				
VCGT 160402 FN -PF23	Sharp	0.2mm / .0078"	○	○	○	SV...16				

●=Standard Item ○=Semi-Standard



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended



ISO Series - DCMT-PF43 Inserts

Multidec-ISO 55° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●				●● Finishing ●●● μ Finishing
	Stainless Steels		●				
	Titanium		●				
	Non-Ferrous		●				
	Insert Grade		UHM 30 MZ				
Cat No.	Edge	Nose Radius	Holder				
DCMT 070202 EN -PF43	Honed	0.2mm / .0078"	●			SD...07	
DCMT 070204 EN -PF43	Honed	0.4mm / .0157"	●			SD...07	
DCMT 11T302 EN -PF43	Honed	0.2mm / .0078"	●			SD...11	
DCMT 11T304 EN -PF43	Honed	0.4mm / .0157"	●			SD...11	
DCMT 11T308 EN -PF43	Honed	0.8mm / .0314"	●			SD...11	

●=Standard Item ○=Semi-Standard

ISO Series - DCGT-PM Insert

Multidec-ISO 55° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	●			●●● Finishing ●●● μ Finishing
	Stainless Steels		○	●			
	Titanium		●	●			
	Non-Ferrous		●	●			
	Insert Grade		UHM 20 MZ	UHM 30 MZ			
Cat No.	Edge	Nose Radius	Holder				
DCGT 070202 EN -PM	Honed	0.2mm / .0078"	●	●		SD...07	
DCMT 070204 EN -PM	Honed	0.4mm / .0157"	●	●		SD...07	
DCMT 070208 EN -PM	Honed	0.8mm / .0314"	-	●		SD...07	
DCMT 11T304 EN -PM	Honed	0.4mm / .0157"	●	●		SD...11	
DCMT 11T308 EN -PM	Honed	0.8mm / .0314"	●	●		SD...11	

●=Standard Item ○=Semi-Standard

ISO Series - VCMT -PF43 Inserts

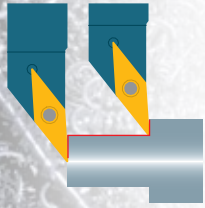
Multidec-ISO 35° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●				●● Finishing ●●● μ Finishing
	Stainless Steels		●				
	Titanium		●				
	Non-Ferrous		●				
	Insert Grade		UHM 30 MZ				
Cat No.	Edge	Nose Radius	Holder				
VCMT 110302 EN -PF43	Honed	0.2mm / .0078"	●			SV...11	
VCMT 110304 EN -PF43	Honed	0.4mm / .0157"	●			SV...11	
VCMT 160404 EN -PF43	Honed	0.4mm / .0157"	○			SV...16	
VCMT 160408 EN -PF43	Honed	0.8mm / .0314"	○			SV...16	

●=Standard Item ○=Semi-Standard

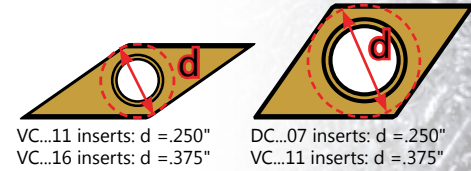
ISO Series - VCMT-PM Inserts

Multidec-ISO 35° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	●	●		●●● Finishing ●●● μ Finishing
	Stainless Steels		○	○	○		
	Titanium		●	●	●		
	Non-Ferrous		●	●	●		
	Insert Grade		UHM 20 HZ	UHM 20 MZ	UHM 30 MZ		
Cat No.	Edge	Nose Radius	Holder				
VCMT 160404 EN -PM	Honed	0.4mm / .0157"	●	●	●	SV...16	
VCMT 160408 EN -PM	Honed	0.8mm / .0314"	●	●	●	SV...16	

●=Standard Item ○=Semi-Standard



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended



ISO Series - DCMT-PMF Inserts

Multidec-ISO 55° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	●	●		● Roughing ●● Finishing
	Stainless Steels		○	●	○		
	Titanium		●	●	●		
	Non-Ferrous		●	●	●		
Insert Grade		UHM 20 MZ	UHM 30 MZ	UCM 10			
Cat No.	Edge	Nose Radius				Holder	
DCMT 070204 EN -PMF	Honed	0.4mm / .0157"	○	○	-	SD...07	
DCMT 11T304 EN -PMF	Honed	0.4mm / .0157"	○	○	○	SD...11	
DCMT 11T308 EN -PMF	Honed	0.8mm / .0314"	○	○	○	SD...11	

●=Standard Item ○=Semi-Standard

ISO Series - DCGT-TOP5 Wiper Inserts

Multidec-ISO 55° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	○	○		●●● μ Finishing
	Stainless Steels		●	○	○		
	Titanium		○	○	○		
	Non-Ferrous		○	○	○		
Insert Grade		UHM 10	UHM 10 HX				
Left Hand	Right Hand	Edge	Nose Radius				Holder
DCGT 11T304 FL -TOP5	DCGT 11T304 FR -TOP5	Sharp	0.4mm / .0157"	●	●		SD...11
DCGT 11T308 FL -TOP5	DCGT 11T308 FR -TOP5	Sharp	0.8mm / .0314"	●	●		SD...11
Neutral		Edge	Nose Radius				Holder
DCGT 11T304 FN -TOP5		Sharp	0.4mm / .0157"	●	●		SD...11
DCGT 11T308 FN -TOP5		Sharp	0.8mm / .0314"	●	●		SD...11

●=Standard Item ○=Semi-Standard

ISO Series - VCMT-PMF Inserts

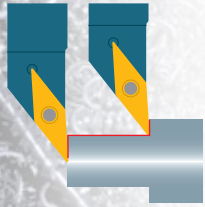
Multidec-ISO 35° Inserts	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	●	●		● Roughing ●● Finishing
	Stainless Steels		○	●	○		
	Titanium		●	●	●		
	Non-Ferrous		●	●	●		
Insert Grade		UHM 20 MZ	UHM 30 MZ	UCM 10	UCM 10 MZ		
Cat No.	Edge	Nose Radius				Holder	
VCMT 110304 EN -PMF	Honed	0.4mm / .0157"	○	●	●	-	SV...11
VCMT 160404 EN -PMF	Honed	0.4mm / .0157"	○	●	●	○	SV...16
VCMT 160408 EN -PMF	Honed	0.8mm / .0314"	○	○	○	-	SV...16

●=Standard Item ○=Semi-Standard

ISO Series - VCGT-TOP5 Wiper Inserts


Multidec-ISO 35°	Materials		Application Guide			Suggested Type of Cut (all grades)	
	Steels		●	●	○		●●● μ Finishing
	Stainless Steels		●	○	○		
	Titanium		○	○	○		
	Non-Ferrous		○	○	○		
Insert Grade		UHM 10	UHM 10 SX	UHM 10 HX			
Left Hand	Right Hand	Edge	Nose Radius				Holder
VCGT 110304 FL TOP5	VCGT 110304 FR TOP5	Sharp	0.4mm / .0157"	●	●	●	SV...11

●=Standard Item ○=Semi-Standard



- Carbide Grade Recommendations
- - Preferred Application
 - - Possible Application
 - - Application Not Recommended

ISO Series - DCET-U Inserts

Multidec-ISO 55° Inserts				Materials		Application Guide					Suggested Type of Cut (all grades)	
				Steels	Stainless Steels	Titanium	Non-Ferrous	UHM 10	UHM 10 HX	UCM 10		UCM 10 HX
				●	●	●	●	●	●	●		●
				●	●	●	●	●	●	●		●
				●	●	●	●	●	●	●		●
Insert Grade			μ Finishing		●	●	●	●	●			
Left Hand	Right Hand	Edge	Nose Radius	Holder								
---	DCET 0702003 FR -U	Sharp	0.03mm / .0011"	○	○	○	○	○	SD...07			
DCET 070201 FL -U	DCET 070201 FR -U	Sharp	0.1mm / .0039"	○	○	○	○	SD...07				
DCET 070202 FL -U	DCET 070202 FR -U	Sharp	0.2mm / .0078"	○	○	○	○	SD...07				
DCET 070204 FL -U	DCET 070204 FR -U	Sharp	0.4mm / .0157"	○	○	-	-	SD...07				
DCET 11T300 FL -U	DCET 11T300 FR -U	Sharp	Zero Radius - Sharp	-	-	○	○	SD...11				
DCET 11T3003 FL -U	DCET 11T3003 FR -U	Sharp	0.03mm / .0011"	-	-	○	○	SD...11				
DCET 11T301 FL -U	DCET 11T301 FR -U	Sharp	0.1mm / .0039"	○	○	○	○	SD...11				
DCET 11T302 FL -U	DCET 11T302 FR -U	Sharp	0.2mm / .0078"	○	○	○	○	SD...11				
DCET 11T304 FL -U	DCET 11T304 FR -U	Sharp	0.4mm / .0157"	○	○	-	-	SD...11				

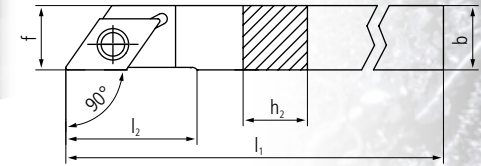
●=Standard Item ○=Semi-Standard

ISO Series - DCET-US Inserts

Multidec-ISO 55° Inserts				Materials		Application Guide					Suggested Type of Cut (all grades)		
				Steels	Stainless Steels	Titanium	Non-Ferrous	UHM 10	UHM 10 SX	UHM 10 HX		UCM 10	UCM 10 HX
				●	●	●	●	●	●	●		●	●
				●	●	●	●	●	●	●		●	●
				●	●	●	●	●	●	●		●	●
Insert Grade			μ Finishing		●	●	●	●	●				
Left Hand	Right Hand	Edge	Nose Radius	Holder									
---	DCET 0702003 FR -US	Sharp	0.03mm / .0011"	○	○	○	-	-	SD...07				
DCET 070201 FL -US	DCET 070201 FR -US	Sharp	0.1mm / .0039"	○	○	○	-	-	SD...07				
DCET 070202 FL -US	DCET 070202 FR -US	Sharp	0.2mm / .0078"	○	○	○	○	○	SD...07				

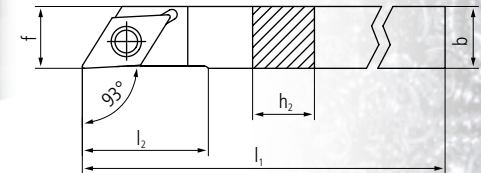
●=Standard Item ○=Semi-Standard

ISO Series 55° Insert Holders



SDAC...(90°) ISO DC...Insert Holders

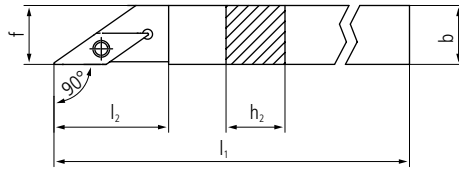
	Left Hand	Right Hand	h2	b	l1	l2	f	Insert
	SDACL 0808 K07 U	SDACR 0808 K07 U	8	8	125	9	8	DC...0702
	SDACL 1010 M07 U	SDACR 1010 M07 U	10	10	150	9	10	DC...0702
	SDACL 1212 M07 U	SDACR 1212 M07 U	12	12	150	13	12	DC...0702
	SDACL 1212 M11 U	SDACR 1212 M11 U	12	12	150	21	12	DC...11T3
	SDACL 1616 K11 U	SDACR 1616 K11 U	16	16	125	33	16	DC...11T3



SDJCL...(93°) ISO DC...Insert Holders

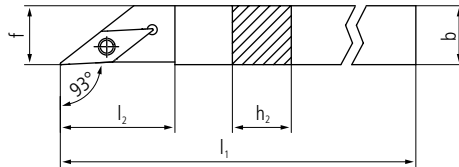
	Left Hand	Right Hand	h2	b	l1	l2	f	Insert
	SDJCL 0808 H07 U	SDJCR 0808 H07 U	8	8	100	13	8	DC...0702
	SDJCL 1010 H07 U	SDJCR 1010 H07 U	10	10	100	13	10	DC...0702
	SDJCL 1212 H07 U	SDJCR 1212 H07 U	12	12	100	14.5	12	DC...0702
	SDJCL 1616 K07 U	SDJCR 1616 K07 U	16	16	125	33	16	DC...0702
	SDJCL 1212 H11 U	SDJCR 1212 H11 U	12	12	100	22	12	DC...11T3
	SDJCL 1616 K11 U	SDJCR 1616 K11 U	16	16	125	33	16	DC...11T3
	SDJCL 3/8" H07	SDJCR 3/8" H07	.375"	.375"	100	22	.375"	DC...0702
	SDJCL 3/8" H11	SDJCR 3/8" H11	.375"	.375"	100	22	.375"	DC...11T3
	SDJCL 1/2" H07	SDJCR 1/2" H07	.500"	.500"	100	22	.500"	DC...0702
	SDJCL 1/2" H11	SDJCR 1/2" H11	.500"	.500"	100	22	.500"	DC...11T3

ISO Series 35° Insert Holders



SVAC...(90°) ISO VC...Insert Holders

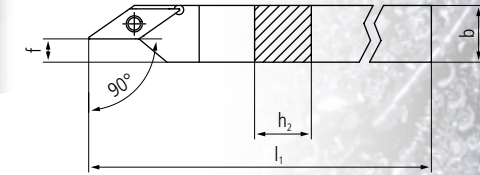
Left Hand	Right Hand	h2	b	l1	l2	f	Insert
SVACL 0808 H11 U	SVACR 0808 H11 U	8	8	100	17	8	VC...1103
SVACL 1010 H11 U	SVACR 1010 H11 U	10	10	100	22	10	VC...1103
SVACL 1212 H11 U	SVACR 1212 H11 U	12	12	100	22	12	VC...1103



SVJC...(93°) ISO VC...Insert Holders

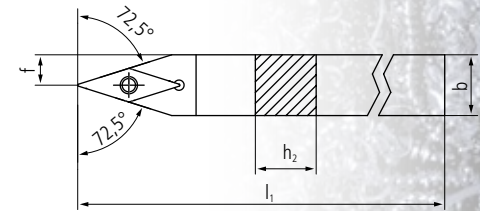
Left Hand	Right Hand	h2	b	l1	l2	f	Insert
SVJCL 0808 H11 U	SVJCR 0808 H11 U	8	8	100	13	8	VC...1103
SVJCL 1010 H11 U	SVJCR 1010 H11 U	10	10	100	13	10	VC...1103
SVJCL 1212 H11 U	SVJCR 1212 H11 U	12	12	100	14.5	12	VC...1103
SVJCL 1616 K11 U	SVJCR 1616 K11 U	16	16	125	33	16	VC...1103
SVJCL 1212 K11 U	SVJCR 1212 K11 U	12	12	125	22	12	VC...1103
SVJCL 1616 K16 U	SVJCR 1616 K16 U	16	16	125	33	16	VC...1604
SVJCL 3/8" H11 U	SVJCR 3/8" H11 U	.375"	.375"	100	22	.375"	VC...1103
SVJCL 1/2" H11 U	SVJCR 1/2" H11 U	.500"	.500"	100	22	.500"	VC...1103
SVJCL 3/4" K16 U	SVJCR 3/4" K16 U	.750"	.750"	125	33	.750"	VC...1604

ISO Series 35° Back Turning Holders



SVXC...(91°) ISO VC...Insert Holders

Left Hand	Right Hand	h2	b	l1	f	Insert
SVXCL 1010 H11 U	SVXCR 1010 H11 U	10	10	100	3.4	VC...1103
SVXCL 1212 H11 U	SVXCR 1212 H11 U	12	12	100	5.4	VC...1103
SVXCL 1616 K11 U	SVXCR 1616 K11 U	16	16	125	8.9	VC...1103
SVXCL 2020 K16 U	SVXCR 2020 K16 U	20	20	125	10.4	VC...1604



SVVC...(72.5°) ISO VC...Insert Holders

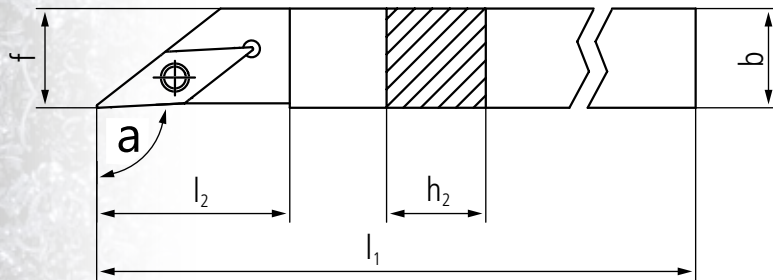
Neutral	h2	b	l1	f	Insert
SVVCN 0808 H11 U	8	8	100	4	VC...1103
SVVCN 1010 H11 U	10	10	100	5	VC...1103
SVVCN 1212 F11 U	12	12	80	6	VC...1103
SVVCN 1212 H11 U	12	12	125	6	VC...1103
SVVCN 1616 H11 U	12	12	125	8	VC...1103
SVVCN 2020 K11 U	20	20	125	10	VC...1103
SVVCN 2525 M11 U	25	25	150	12.5	VC...1103
SVVCN 2020 K16 U	20	20	125	10	VC...1604
SVVCN 2525 M16 U	25	25	150	12.5	VC...1604

Other Holder Styles Available
 - www.genswiss.com -

ISO Series - Coolant Thru

Designed for 80°, 55° & 35° UTILIS & other ISO style Swiss-Type cutting tools

Standard NPT Line Connection



Shanks fit standard gang plates. No retrofitting or aftermarket proprietary tool mounting plate required.

Designation	h ₂	a	b&f	l ₁	l ₂	NPT	ISO Insert
SVJPR 1/2" H10 GT	.500"	93°	.625"	4.5"	.950"	1/8"	VP...10 / IC .250"
SVJPR 5/8" H10 GT	.625"	93°	.750"	5.0"	1.0"	1/8"	VP...10 / IC .250"
SCLCR 1/2" H09 GT	.500"	95°	.625"	4.5"	.889"	1/8"	CC...09 / IC .375"
SCLCR 5/8" H09 GT	.625"	95°	.750"	5.0"	1.0"	1/8"	CC...09 / IC .375"
SDJCR 1/2" H11 GT	.500"	93°	.625"	4.5"	.950"	1/8"	DC...11 / IC .375"
SDJCR 5/8" H11 GT	.625"	93°	.750"	5.0"	1.0"	1/8"	DC...11 / IC .375"
SVJCR 1/2" H11 GT	.500"	93°	.625"	4.5"	.950"	1/8"	VC...11 / IC .250"
SVJCR 5/8" H11 GT	.625"	93°	.750"	5.0"	1.0"	1/8"	VC...11 / IC .250"

ISO Series - Spare Parts

Spare Screws

Part No.	Fits Holders...	Desc.	Dimension
MSP 25060 T08	SC...06 / SD...07 / SV...11	Torx T8 Screw	M2x6 T08
MSP 35110 T15	SC...09 / SD...11 / SV...16	Torx T15 Screw	M3.5x11 T15
MSP 40110 TP15	SDJN...11	TorxPLUS® 15 Screw	M4x11 TP15
MSP 45120 T15	SC...12	Torx T15 Screw	M4.5x12 T15

TORX Screw Drivers

Part No.	Fits Holders...	Desc.	Dimension
WTF-T08-S	SC...06 / SD...07 / SV...11	T8 Torx Driver	T8
WTF-T15-S	SC...09 / SC...12 SD...11 / SV...16	T15 Torx Driver	T15
MSP TXP15	SDJN...11	TorxPLUS Driver	TP15

Precision Calibrated Torque-Drivers

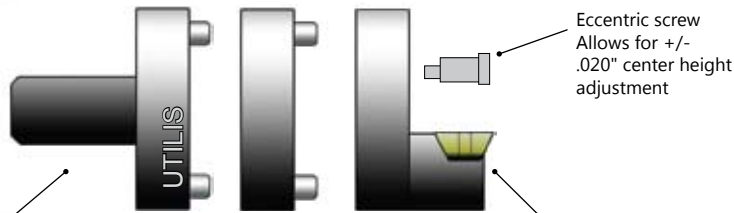
Part No.	Fits Holders...	Desc.	Dimension
MSP T08 D	SC...06 / SD...07 / SV...11	(1.3Nm) .95 ft. lb. Torque Driver	T8
MSP T15 D	SC...09 / SC...12 SD...11 / SV...16	(3 Nm) 2.2 ft. lb. Torque Driver	T15





Multidec®-BACKTURN holders enable turning operations to be performed from an ID tool position and are ideal for performing turning operations on the sub-spindle of your machine. Each holder is center height adjustable and is modular to allow usage of a variety of 35, 55 & 80 degree ISO turning inserts; as well as Multidec-TOP inserts & 1600 series OD grooving inserts

- Center Height Adjustable to Ensure Precision Setup
- Modular system uses MULTIDEC® ISO, TOP & CUT Series Inserts
- Perform turning operations on the subspindle
- Rigid design ensures good finish results as well as extended tool life



MBG... (Shank)
Shanks for nearly all Swiss machine makes available

MBZ... (Spacer)
10, 20 & 30mm spacers increase length for common set point

MBS... (Tool Module)
A variety of modules for most applications are available

AVAILABLE MODULE TYPES



ISO Turning Insert Holder
80° 55° & 35°
LH & RH

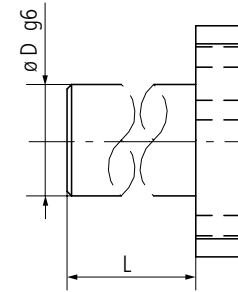


12mm Square
Turning Shank Holder



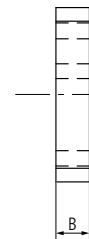
ER11 or ER16
Collet Holder

BackTools - MBG...Shank Modules



Swiss Machine - Make & Model		Cat No.	D _{g6}	L	MBZ	MBS
Citizen	C16, L20, M16, K16	MBG 1905 060 B02	.750"	60mm	MBZ ST 02...	MBS...I02
	A20, A32, C32, L32, M32	MBG 2540 070 B02	1.00"	70mm	MBZ ST 02...	MBS...I02
STAR	SA16, SB16	MBG 2200 070 B02	22mm	70mm	MBZ ST 02...	MBS...I02
	SR10J	MBG 1600 010 B05	16mm	10mm	MBZ ST 05...	MBS...C05
	SR10J	MBG 2200 015 B06	22mm	15mm	MBZ ST 06...	MBS...C06
	SR16, SR20	MBG 1600 021 B01	16mm	21mm	MBZ ST 02...	MBS...I02
	SR16R, SR20R, ECAS12/20	MBG 2200 025 B02	22mm	25mm	MBZ ST 02...	MBS...I02
	SR32, SR32J	MBG 2200 030 B03	22mm	30mm	MBZ ST 02...	MBS...I02
	SR32J	MBG 2200 025F B02	22mm	25mm	MBZ ST 02...	MBS...I02
TORNOS	DECO 7, 10, 13, 20	MBG 2000 100 B02	20mm	100mm	MBZ ST 02...	MBS...I02
	DECO 7, 10, 13, 20	MBG 2500 100 B02	25mm	100mm	MBZ ST 02...	MBS...I02
TSUGAMI	BS12, 20, 26, 32	MBG 2000 100 B02	20mm	100mm	MBZ ST 02...	MBS...I02
	SS20, SS32	MBG 2200 070 B02	22mm	70mm	MBZ ST 02...	MBS...I02
MAIER	ML12C, ML16C, ML16D ML20/26/32	MBG 3400 030 B04 IC	34mm	30mm	MBZ ST 02...	MBS...I02
HANWHA	SL12H	MBG 2000 070 B02	20mm	40mm	MBZ ST 02...	MBS...I02
	STL32/35H & J	MBG 2500 060 B02	25mm	60mm	MBZ ST 02...	MBS...I02
	SL26/35HPD	MBG 2800 006 B02	28mm	6mm	MBZ ST 02...	MBS...I02
	XD20/32H & J	MBG 3300 040 B02	33mm	40mm	MBZ ST 02...	MBS...I02
	SL20/26/35HPII	MBG 3400 044 B02	34mm	44mm	MBZ ST 02...	MBS...I02

MBZ...Spacer Modules



Cat No.	Thickness	Shank Module	Insert Module
MBZ ST 02-10	10mm	MBG...B02	MBS...02
MBZ ST 02-20	20mm		
MBZ ST 02-30	30mm		
MBZ ST 05-10	10mm	MBG...B05	MBS...05
MBZ ST 05-20	20mm		
MBZ ST 06-10	10mm	MBG...B06	MBS...06
MBZ ST 06-20	20mm		

MBS...CC...80° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 090-CC L 06 I02	MBS 090-CC R 06 I02	90°	20	CC...0602	MBG...B02	MBZ ST 02
MBS 090-CC L 09 I02	MBS 090-CC R 09 I02	90°	20	CC...09T3	MBG...B02	MBZ ST 02
MBS 093-CC L 09 I02	MBS 093-CC R 09 I02	93°	20	CC...09T3	MBG...B02	MBZ ST 02

MBS...VC...35° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 095-VC L 11 I02	MBS 095-VC R 11 I02	95°	20	VC...1103	MBG...B02	MBZ ST 02
MBS 110-VC L 11 I02	MBS 110-VC R 11 I02	110°	20	VC...1103	MBG...B02	MBZ ST 02

MBS...CC...80° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 095-CC LA 09 I02	MBS 095-CC RA 09 I02	95°	20	CC...09T3	MBG...B02	MBZ ST 02

MBS...VP...35° TOP Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 093-VP L 10 I02	MBS 093-VP R 10 I02	93°	20	VP...1003	MBG...B02	MBZ ST 02

MBS...DC...55° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 093-DC L 07 I02	MBS 093-DC R 07 I02	93°	20	DC...0702	MBG...B02	MBZ ST 02
MBS 093-DC L 11 I02	MBS 093-DC R 11 I02	93°	20	DC...11T3	MBG...B02	MBZ ST 02

MBS...1600 Series Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 090-CUT L 16 I02	MBS 090-CUT R 16 I02	90°	21	Cut 1600	MBG...B02	MBZ ST 02

MBS...DC...55° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 093-DC LA 07 I02	MBS 093-DC RA 11 I02	93°	20	DC...11T3	MBG...B02	MBZ ST 02

MBS...1600 Series Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 090-CUT LA 16 I02	MBS 090-CUT RA 16 I02	90°	21	Cut 1600	MBG...B02	MBZ ST 02

MBS...TC...60° ISO-Insert Modules

Left Hand	Right Hand	α	L	Inserts	Shank	Spacer
MBS 090-TC L 11 I02	MBS 090-TC R 11 I02	90°	20	TC...1102	MBG...B02	MBZ ST 02

MBS...Thread Insert Modules

Right Hand	α	L	Inserts	Shank	Spacer
MBS 090-16 ER I02	90°	20	16ER	MBG...B02	MBZ ST 02

MBS...Square Shank Modules

Right Hand	α	L	Sq. Shank	Shank	Spacer
MBS 090 1212 T02	90°	22	12x12mm	MBG...B02	MBZ ST 02



MBS...ER Collet Holder Modules

Cat No.	L	ER Collet	Shank	Spacer
MBS E11 043 C02	43	ER11	MBG...B02	MBZ ST 02
MBS E11 043 C05	43	ER11	MBG...B05	MBZ ST 05
MBS E11 043 C06	43	ER11	MBG...B06	MBZ ST 06
MBS E16 043 C02	43	ER16	MBG...B02	MBZ ST 02
MBS E16 043 C06	43	ER16	MBG...B06	MBZ ST 06
MBS E20 043 C02	43	ER20	MBG...B02	MBZ ST 02

Backtools Spare Parts

Spare Screws

	Part No.	For Holding Inserts...	Desc.	Dimension
	MSP 25060 T08	CC06, DC07, TC11, VC11, VP10, 1600	Torx T8 Screw	M2x6 T08
	MSP 35090 T15	CC09, DC11	Torx T15 Screw	M3,5x11 T15

TORX Screw Drivers

	Part No.	Fits Screws	Desc.	Dimension
	WTF-T08-S	MSP 25060 T08	T8 Torx Driver	T8
	WTF-T15-S	MSP 35090 T15	T15 Torx Driver	T15

Precision Calibrated Torque-Drivers

	Part No.	Fits Holders...	Desc.	Dimension
	MSP T08 D	SC...06 / SD...07 / SV...11	(1.3nm) .95 ft lb. Torque Driver	T8
	MSP T15 D	SC...09 / SC...12 SD...11 / SV...16	(3 Nm) 2.2 ft. lb. Torque Driver	T15

	Part No.	Description
	MBV E04	Eccentric Adjustment Bolt

TURBO-CHARGE Your Medical Implant Production



UTILIS
Tooling for High Technology

Thread Whirling is a fast & accurate method of producing long threaded parts on a Swiss-Type Machine. By employing more cutting teeth, the GenSwiss/UTILIS Whirling system greatly enhances productivity by allowing increased speeds and feeds while maintaining rigid finish qualities required by the medical implant industry.

Double edge indexable inserts provide excellent tool life

Custom precision thread forms can be generated in a single pass from bar-stock diameter.

Inserts repeat within .0004"

Single-piece or modular cutter bodies/rings available

Increased surface finish and improved thread quality can be achieved by minimizing cut interruption and vibration



High Pressure Coolant required for adequate chip evacuation in 12 insert configuration




Available in 9 or 12 insert configurations for more machine models



Application Examples



Why Choose UTILIS Thread Whirling? Speed & Accuracy

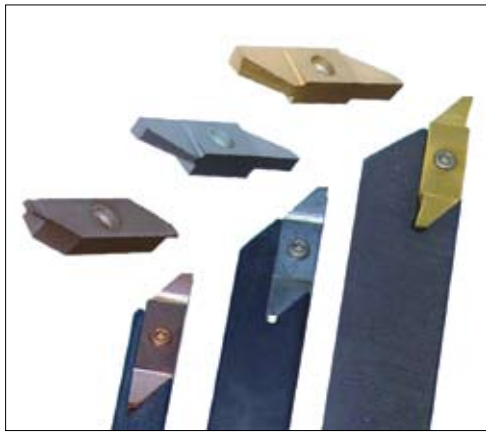
~ Example Whirling Application ~		3 Insert	6 Insert	High Output 12 insert
Sample Thread Parameters	Sample Machine Parameters:			
Maj: .250"	Cutter RPM: 3833	C-Axis RPM: 8	C-Axis RPM: 16	C-Axis RPM: 32
Min: .190"	Chipload: .0005"	Cycle Time: 5 mins	Cycle Time: 2.5 mins	Cycle Time: 1.25 mins
Length: 3.2"	SFM: 600			
Pitch: .080	Stock Size: .375"			

Performance Thread Whirling Rings

Machine Make	Machine Model	Spindle Make	Spindle Model	Cutters	Part No. (Ring Assembly)	Max. Thread Diameter	Mounting Diameter
Citizen	L20/25/30/32 M20/32	PCM	LSW101 LSW215 KSW101	9 12	MWT12 164 4046 130 09 MWT12 164 4046 130 12	12mm	40mm
	K16	PCM	GSW101	7 9	MWT06 164 2035 165 07 MWT06 164 2035 165 09	6mm	20mm
	C16 M12/16	PCM	LSW424	9 12	MWT12 164 3546 169 09 MWT12 164 3546 169 12	12mm	40mm
	M1-20 / M3-16	JARVIS	LTR 0131	9 12	MWT12 164 3746 121 09 MWT12 164 3746 121 12	12mm	37mm
STAR	ECAS20	PCM	E20-WI	7 9	MWT06 164 2035 165 07 MWT06 164 2035 165 09	6mm	20mm
	SR/SV/ECAS	STAR	548-78 681-72	9 12	MWT12 164 4045 170 09 MWT12 164 4045 170 12	12mm	40mm
Tsugami	BH20/38	Tsugami	---	9 12	MWT12 164 5265 220 09 MWT12 164 5265 220 12	12mm	52mm
	BS20/26	Tsugami	---	9 12	MWT12 164 5062 210 09 MWT12 164 5062 210 12	12mm	50mm
	SS20/32	Tsugami	---	9 12	MWT12 164 5264 166 09 MWT12 164 5264 166 12	12mm	52mm
	BU20/26	Tsugami	---	9 12	MWT12 164 5265 166 09 MWT12 164 5265 166 12	12mm	52mm
TORNOS	DECO 10	Tornos	305217	7 9	MWT06 164 4242 135 07 MWT06 164 4242 135 09	6mm	42mm
	DECO 13	Madaula	9999.0444	9 12	MWT12 164 4055 115 09 MWT12 164 4055 115 12	12mm	40mm
	DECO 13	PCM	TDM-D13	9 12	MWT12 164 4055 103 09 MWT12 164 4055 103 12	12mm	40mm
	DECO 13 DECO 20 Gamma 20	Tornos	307087 306101	9 12	MWT15 164 4057 105 09 MWT15 164 4057 105 12	15mm	40mm
	Sigma 20	Tornos	417627	9 12	MWT12 164 5067 120 09 MWT12 164 5067 120 12	12mm	50mm
NEXTURN	SA20D/E SA26D/E SA32D/E	PCM	NESA-32	9 12	MWT12 164 4046 172 09 MWT12 164 4046 172 12	12mm	40mm
MAIER	ML 20/26	WTO	---	12	MWT15 164 4044 135 12	15mm	40mm

Additional Thread Whirling Rings Available. Visit www.genswiss.com for more information

GenCut Double Ended Turning Holders



Genevieve Swiss turning tools feature double ended holders in both right hand, left hand, or combination of both right and left hand configurations. This simple innovation allows for twice the life for the holder as well as adding application flexibility.

- Cost Effective Dual Pocket Designs
- Provides Longer Tool Holder Life
- Reduces Tool Inventory Cost



Double Right Handed Holder



Combination Right / Left Hand Holder

Added benefits of this Swiss-turning system are universal insert pocket designs which hold all styles of turning inserts. Cut-off, front turn, back turn, groove and thread inserts all can use the same holder design adding to the versatility of the system.



GenCut Double Ended Swiss-Type Holders

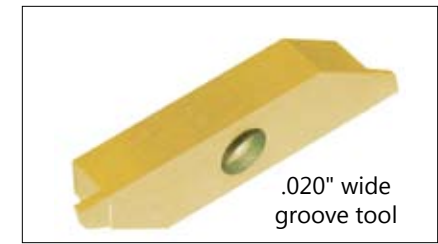
Shank Size	Double Right Hand	Double Left Hand	Right Hand / Left Hand
5/16" Square	TSH-SWDR-312	TSH-SWDL-312	TSH-SWAC-312
3/8" Square	TSH-SWDR-375	TSH-SWDL-375	TSH-SWAC-375
1/2" Square	TSH-SWDR-500	TSH-SWDL-500	TSH-SWAC-500
5/8" Square	TSH-SWDR-625	TSH-SWDL-625	TSH-SWAC-625
3/4" Square	TSH-SWDR-750	TSH-SWDL-750	TSH-SWAC-750
8mm Square	TSH-SWDR-08M	TSH-SWDL-08M	TSH-SWAC-08M
10mm Square	TSH-SWDR-010M	TSH-SWDL-010M	TSH-SWAC-010M
12mm Square	TSH-SWDR-012M	TSH-SWDL-012M	TSH-SWAC-012M

GenCut Swiss-Type Turning Inserts

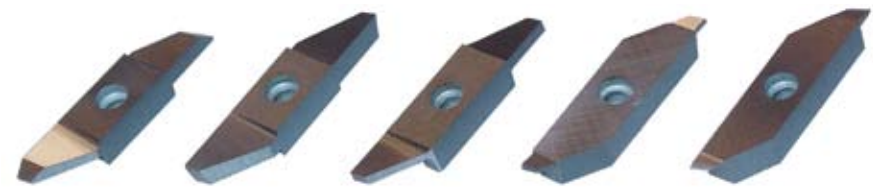
A cost effective solution for small parts turning, the GenCut line of Swiss-type cutting tools feature double ended micro-grain carbide inserts in a variety of standard geometries and widths. All insert styles fit a universal holder, eliminating the need for special tool holders for each turning insert style.

- Inserts Provide 2 Cutting Edges
- One Holder Fits All Insert Types
- Custom Thin Groove Tools Available

Precision Thin Grooving Solution



The GenCut line of thin-width grooving tools satisfies the need for hard to find miniature groove inserts. GenCut groove inserts are available down to .015" wide and can be ground after coating to maintain a sharp cutting edge and sharp tool nose radius.



GenCut Standard Inserts

**Listed Part Numbers are for RIGHT HAND Inserts - To specify LEFT HAND, replace the 'R' with an 'L' **

Front Turn	Back Turn	Plunge & Turn	Width	DOC
TUI-SFTR-1250	TUI-CBTR-1250	TUI-CWPR-1250	.125"	.320"
TUI-SFTR-0940	TUI-CBTR-0940	TUI-CWPR-0940	.094"	.300"
TUI-SFTR-0780	TUI-CBTR-0780	TUI-CWPR-0780	.078"	.275"
TUI-SFTR-0630	TUI-CBTR-0630	TUI-CWPR-0630	.063"	.250"
TUI-SFTR-0470	TUI-CBTR-0470	TUI-CWPR-0470	.047"	.125"
TUI-SFTR-0310	TUI-CBTR-0310	TUI-CWPR-0310	.031"	.093"

Groove	Threading	Parting / Cutoff	Width	DOC
TGI-SWGR-1250	TTI-SWTR-1250	TPI-STCR-1250	.125"	.320"
TGI-SWGR-0940	TTI-SWTR-0940	TPI-STCR-0940	.094"	.300"
TGI-SWGR-0780	TTI-SWTR-0780	TPI-STCR-0780	.078"	.275"
TGI-SWGR-0630	TTI-SWTR-0630	TPI-STCR-0630	.063"	.250"
TGI-SWGR-0470	TTI-SWTR-0470	TPI-STCR-0470	.047"	.125"
TGI-SWGR-0310	TTI-SWTR-0310	TPI-STCR-0310	.031"	.093"

Insert Grade	Designation
Uncoated Micro-Grain Carbide	-MG
Micro-Grain Carbide w/ TiN Coating	-TiN
Micro-Grain Carbide w/ TiAlN Coating	-TiAlN
Micro-Grain Carbide w/ AlTiN Coating	-AlTiN



Compact Straddle Knurl Holders

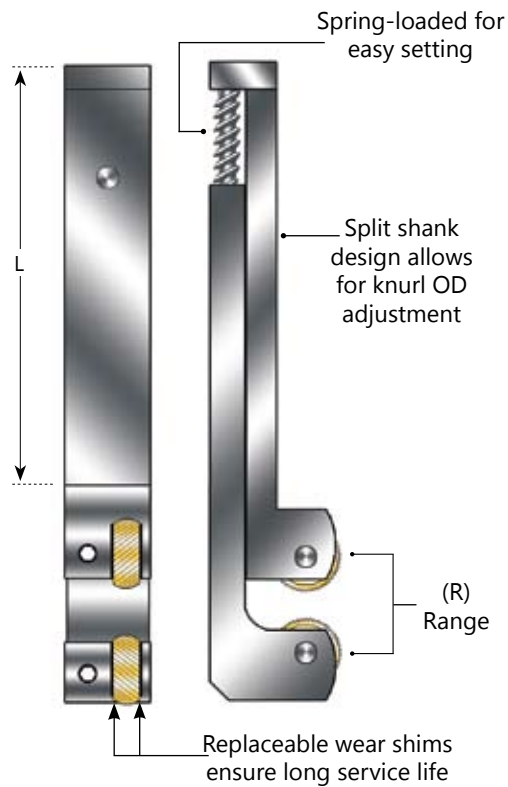
Knurling Solution for small parts



Specifically designed for Swiss-type machines; our low profile straddle knurl holders keep interference to a minimum within the tooling envelope of most machines while ensuring adjacent tool positions are available to maximize tooling capacity.



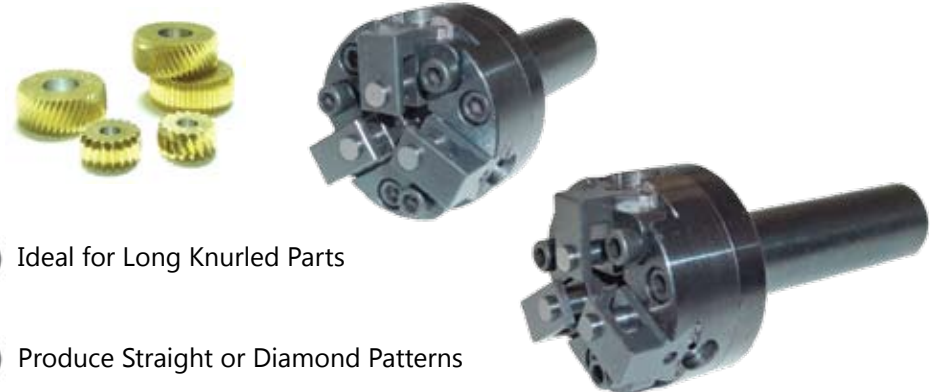
- Create Perfect Knurls
- Eliminates Workpiece Deflection
- Low Interference



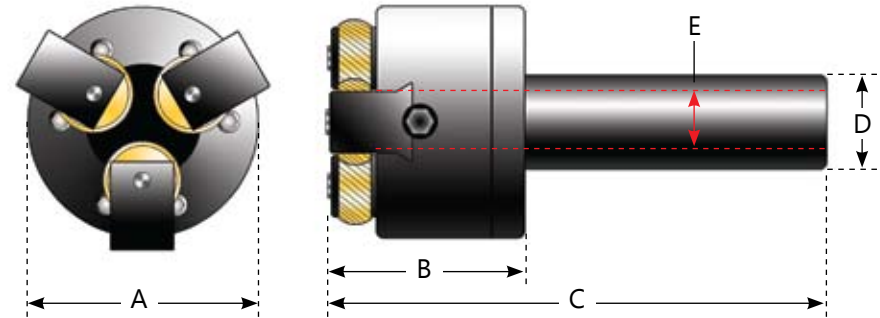
Part No.	Shank	L	R	Wheel Dimensions
KHS-2BPR-375.1	.375"	2.7"	0-.394"	5/16" x 1/8" x 5/32"
KHS-2EPR-500.3	.500"	3.24"	0-.750"	1/2" x 3/16" x 3/16"
KHS-2EPR-625.3	.625"	3.24"	0-.750"	1/2" x 3/16" x 3/16"

Axial Feed Knurling Holders

Compact design makes it ideal for use on screw machines and CNC lathes when axial feed knurling from the turret. Parts are self supported and they can extend through the shank for long jobs. We recommend using CONVEX Knurl Dies with this style Knurl Holder. Can also be adapted for burnishing and internal knurling



- Ideal for Long Knurled Parts
- Produce Straight or Diamond Patterns
- Adjustable for a Range of Part Diameters



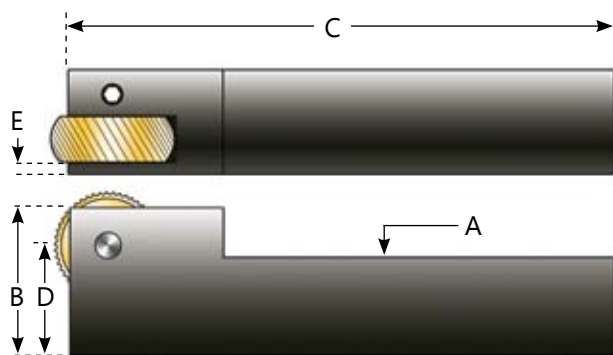
Part Number	Knurl Series	Knurl Range	A	B	C	D	E
KHE-3DBP-625	BP	.060- .475	1.75	1.25	3.855	.625	.390
KHE-3DBP-750			1.75	1.25	3.855	.750	.475
KHE-3DEP-625	EP	.090- .475	1.75	1.25	3.855	.625	.390
KHE-3DEP-750			1.75	1.25	3.855	.750	.475
KHE-3DGK-625	GK	.140-.940	3.00	1.60	4.90	.625	.390
KHE-3DGK-750			3.00	1.60	4.90	.750	.475
KHE-3DGK-1000			3.00	1.60	4.90	1.00	.718

Compact Bump-Knurling Holders

Conventional "bump" knurling is a cost effective way to produce knurled features on the outer diameter of parts.

Single Die Bump Knurling Holders

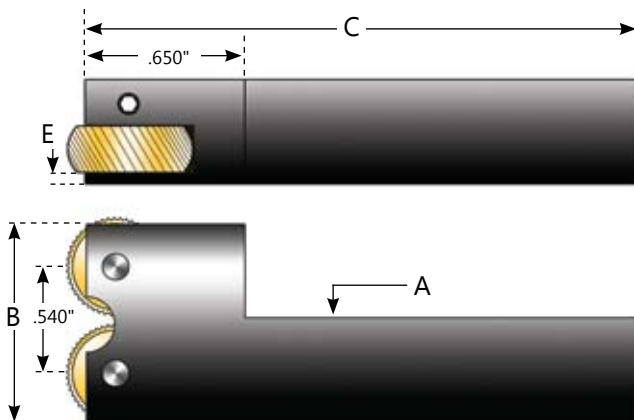
Part Number	Knurl Series	A	B	C	D	E
KHB-1BPR-312	BP	.312	.500	4.0	.312	.050
KHB-1BPR-375		.375	.562	4.0	.375	.050
KHB-1EPR-500	EP	.500	.750	3.5	.500	.090
KHB-1GKR-625	GK	.625	.937	4.0	.625	.090



Holder Features:
 - Carbide Axles
 - Ground Shanks
 - Left Handed Available

Compact Double-Die Bump Style Knurl Holders

Part Number	Knurl Series	A	B	C	D	E
KHB-2EPR-500	EP	.500	1.0	4.0	.312	.075
KHB-2EPR-625		.625	1.0	4.0	.375	.075

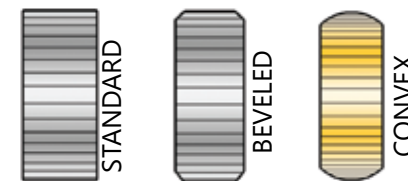


Cost effective solution for producing diamond pattern knurls on Swiss-Type Machines.

Holder Features:
 - Carbide Axles
 - Ground Shanks
 - Axial Feed Capability

Standard and Axial Feed Knurl Dies

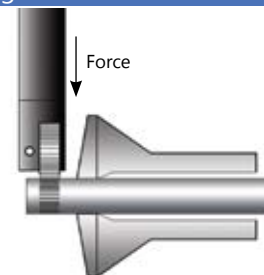
Genevieve Swiss offers a full line of precision knurling tools for Swiss-Type applications. Optional wheel geometries are available to suit your specific needs. More options are available in addition to what is listed below. Call for details or to discuss applications.



Standard Knurl Dies for Bump Knurling



- Precision Lapped Tooth Forms Provide Superior Knurled Surfaces
- HSS Vacuum Hardened to Approximately 63 Rockwell C.
- Sides and Bore are Finish Ground to Maintain Close Tolerances
- Available Coated on Request



Knurl Series	Wheel Dimensions	Straight Tooth	30° Right Hand	30° Left Hand	30° Male	30° Female	Available Pitch Teeth per Inch (TPI)
	OD x ID x Width						
BP	5/16 x 1/8 x 5/32	KDS-BPS0-	KDR-BPR0-	KDL-BPL0-	KDD-BPM0-	KDD-BPF0-	20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100
EP	1/2 x 3/16 x 3/16	KDS-EPS0-	KDR-EPR0-	KDL-EPL0-	KDD-EPM0-	KDD-EPF0-	16, 20, 25, 30, 32, 35, 40, 50, 80
GK	5/8 x 1/4 x 1/4	KDS-GKS0-	KDR-GKR0-	KDL-GKL0-	KDD-GKM0-	KDD-GKF0-	12, 16, 20, 25, 30, 32, 35, 40, 50, 80
KN	3/4 x 1/4 x 1/4	KDS-KNS0-	KDR-KNR0-	KDL-KNL0-	KDD-KNM0-	KDD-KNF0-	16, 20, 25, 30, 32, 35, 40, 50, 80

All Wheels Also Available in DIAMETRAL PITCH Configurations: 64DP, 96DP, 128DP, 160DP

CONVEX Series Knurl Dies for Axial Feeding



- Hi-Cobalt HSS w/ TiN Coat is Standard on all CONVEX Knurls.
- Full-Form Convex Relief Spreads Out Forces Providing Smoother Finish
- The ULTIMATE Knurling Die for Swiss-Type Straddle Knurling



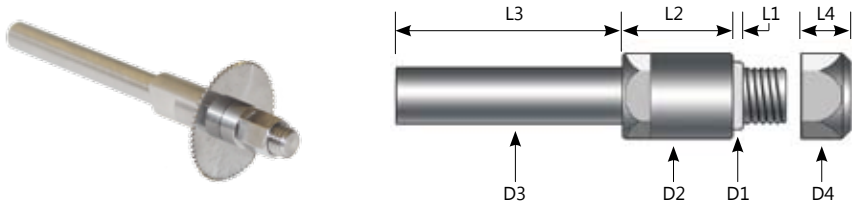
Knurl Series	Wheel Dimensions	Straight Tooth	30° Right Hand	30° Left Hand	Available Pitch Teeth per Inch (TPI)
	OD x ID x Width				
EP	1/2 x 3/16 x 3/16	KDS-EPSV-	KDR-EPRV-	KDL-EPLV-	16, 20, 25, 30, 32, 35, 40, 50, 80
GK	5/8 x 1/4 x 1/4	KDS-GKSV-	KDR-GKRV-	KDL-GKLV-	12, 16, 20, 25, 30, 32, 35, 40, 50, 80
KN	3/4 x 1/4 x 1/4	KDS-KNSV-	KDR-KNRV-	KDL-KNLV-	16, 20, 25, 30, 32, 35, 40, 50, 80

All Wheels Also Available in DIAMETRAL PITCH Configurations: 64DP, 96DP, 128DP, 160DP

PRECISION SLITTING SAW ARBORS

Standard Precision Metric Arbors

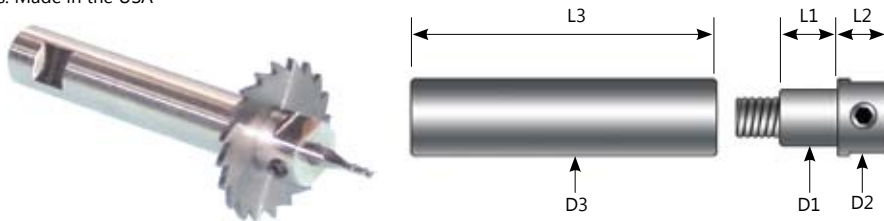
Economical and ready for use, these pre-hardened hex nut saw arbors provide the average application with a cost effective solution to hold saws with TIR less than .0005". Made in the USA



Part No.	D1 x L1	D2 x L2	D3 x L3	D4 x L4
SAS-N1970-1970	5 x 3mm	7 x 16mm	5 x 35mm	7 x 9.5mm
SAS-N0507-0738	5 x 3mm	N/A	7 x 32mm	7 x 9.5mm

Standard Precision Combination Arbors - Screw Type

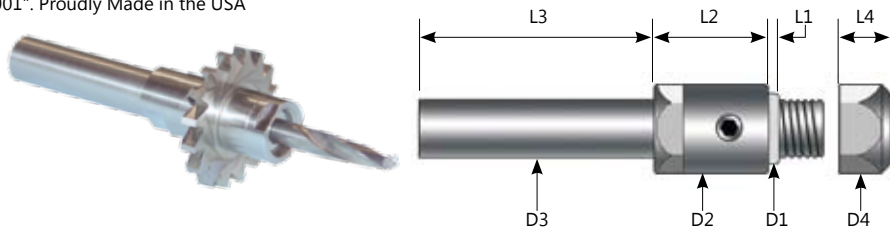
Combination Arbors provide added flexibility to hold an extra tool such as an end mill or drill in combination with a saw, perfect for Swiss Type Machines & Gang-style lathes with limited live tool capacity. The tool is held centered with two set screws at 180° positions. The pre-hardened material provides excellent wear and durability for most applications with minimal saw run-out. The shoulder screw design provides increased mounting length for wider saws. Made in the USA



Part No.	D1 x L1	D2 x L2	D3 x L3	Max Saw width	Tool Bore
SAC-S2500-276125	.2495" x .300"	.394" x .200"	.276" x 1.25"	~ .110"	.125"
SAC-S2500-394125	.2495" x .375"	.394" x .200"	.394" x 2.00"	~ .150"	

Ultra Precision Combination Arbors - Hex Nut Type (inch & metric)

The Nut Mount Combination Arbor provides additional precision and holding power by applying pressure only on the outer edge of the mounting nut. This eliminates any chance of eccentricity from high-spots. The addition of the combined mill or center drill provides additional tool capacity and setup flexibility. TIR measured at less than .0001". Proudly Made in the USA

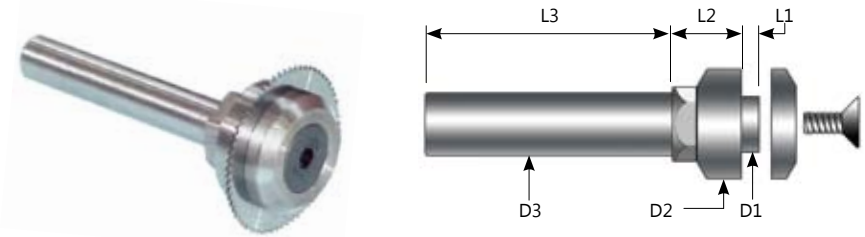


Part No.	D1 x L1	D2 x L2	D3 x L3	D4 x L4	Tool Bore
SAC-N315-315125	8 x 3mm	9.5 x 16mm	8 x 35mm	9.5 x 9.5mm	.1250"
SAC-N375-375125	.3748" x .115"	.500" x .625"	.375" x 1.375	.500" x .374"	
SAC-N315-315187	8 x 3mm	9.5 x 16mm	8 x 35mm	9.5 x 9.5mm	.1875"
SAC-N375-375187	.3748" x .115"	.500" x .625"	.375" x 1.375	.500" x .374"	
SAC-N394-394187	10 x 3mm	12.7 x 16mm	10 x 35mm	12.7 x 9.5mm	

INCH & METRIC SIZES FOR SWISS MACHINES

High Precision Metric Saw Arbors - Flange Mount Type

Hard to find metric saw arbors provide maximum saw balance and stability with the flange mount design. The unique design applies pressure to the outward edge of the flange ensuring the greatest gripping power at the outer most edge to prevent slipping. Uses countersunk screw and flange washer to apply holding force. Measured TIR is less than .0004". Swiss Made

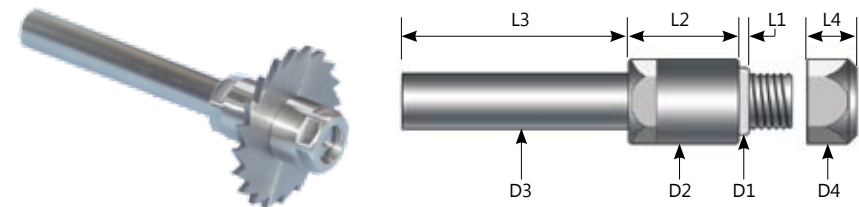


Part No.	D1 x L1	D2 x L2	D3 x L3
SAM-F0510-1000	5.0 x 1.0 mm	9 x 9mm	5 x 38
SAM-F0510-1001	5.0 x 1.0 mm	12 x 10mm	7 x 38
SAM-F0813-1007	8.0 x 1.3 mm	18 X 14mm	7 x 38
SAM-F0815-1010	8.0 x 1.5 mm	14 x 14mm	10 x 52
SAM-F0840-1012	8.0 x 4.0 mm	14 x 14mm	10 x 52
SAM-F1025-1015	10.0 x 2.5 mm	20 x 20mm	13 x 52
SAM-F1325-1016	13.0 x 2.5 mm	22 x 22mm	13 x 52
SAM-F1625-1019	16.0 x 2.5 mm	25 x 25mm	13 x 52



Ultra Precision Saw Arbors - Hex Nut Type

These ultra precision saw arbors are made to gage quality standards. The hub mount and shank are hardened and ground for the most precise applications where true precision is required. The manufacturer guarantees run-out to be less than .0001" TIR. The nut design applies gripping pressure on the outside edge eliminating any chance of eccentricity from high-spots. Made in the USA



Part No. (Inch)	D1 x L1	D2 x L2	D3 x L3	D4 x L4
SAP-N1250-1250	.1249 x .016	.197 x .625	.125 x 1.0	.197 x .185
SAP-N1875-1875	.1874 x .032	.316 x .440	.187 x 1.5	.316 x .312
SAP-N2500-2500	.2499 x .039	.394 x .440	.250 x 1.5	.394 x .312
SAP-N3125-3125	.3124 x .039	.451 x .438	.312 x 1.4	.450 x .312
SAP-N3750-3750	.3749 x .034	.500 x .600	.375 x 1.2	.500 x .375
SAP-N5000-5000	.4999 x .052	.625 x .437	.500 x 1.437	.625 x .375
Part No. (Metric)	D1 x L1	D2 x L2	D3 x L3	D4 x L4
SAP-N0500-0500	5 x 1mm	8 x 11mm	5 x 38mm	8.0 x 8.0mm
SAP-N0600-0600	6 x 1mm	9.2 x 11.5mm	6 x 38mm	9.2 x 5.0mm
SAP-N0800-0800	8 x 1.2mm	11.5 x 11.3mm	8 x 35mm	11.5 x 8.0mm
SAP-N1000-1000	10 x 1.2mm	13.5 x 16.6mm	10 x 30mm	13.5 x 8.0mm



Solid Carbide Slitting Saws



Friedrich Gloor Company is known worldwide for their precision grinding capabilities & the manufacturing of specialized carbide cutting tools with logarithmic relief grinding.

- Gloor Carbide Saws Feature:
- Precision Ground Accuracy
- Superior Surface Finish
- High Tooth Count for Cutting Hard Metals
- Side Clearance

Common Metric Sizes and Widths are USA Stocked



Solid Carbide Slitting Saws

Inch Sized Carbide Saws - Coarse Tooth Configuration - MADE IN USA								
	OD →	1/4"	1/2"	5/8"	3/4"	1.00"	1-1/4"	
	ID →	1/8"	1/8" or 3/16"	1/4"	1/4" or 5/16"	1/4" or 3/8"	5/16" or 3/8"	
Width		NUMBER OF TEETH						
Range = .010" - .065"		12	14	16	18	20	24	
Standard Width Tolerance: +/- .0005"								

- Special Tooth Geometries Available:
- Full Radius Teeth
- V-Cutter Teeth
- Staggered Teeth
- Custom Saws available as well.
- Call to discuss your application



All Custom Saws Quoted Upon Request

Metric Carbide Saws - Standard Tooth Configuration - Swiss Made

	OD →	15	20	25	25	30	30	40	50
	ID →	5	5	5	8	5	8	10	13
Width	NUMBER OF TEETH								
0,10 (.0039")	64	60	60	60	80	80	96	120	
0,15 (.0059")	64	60	60	60	80	80	96	120	
0,20 (.0078")	64	60	60	80	80	80	96	120	
0,25 (.0098")	64	60	60	60	80	80	96	120	
0,30 (.0118")	64	60	60	60	80	80	96	120	
0,35 (.0137")	64	60	60	60	80	80	96	120	
0,40 (.0157")	64	60	60	60	80	80	96	120	
0,50 (.0196")	48	60	60	60	70	70	80	96	
0,55 (.0216")	48	60	60	60	70	70	80	96	
0,60 (.0236")	48	60	60	60	70	70	80	96	
0,70 (.0275")	48	60	60	60	70	70	80	96	
0,80 (.0314")	40	48	48	48	60	60	70	80	
0,85 (.0334")	40	48	48	48	60	60	70	80	
0,90 (.0354")	40	48	48	48	60	60	70	80	
1,00 (.0393")	40	48	48	48	60	60	70	80	
1,05 (.0413")	40	48	48	48	60	60	70	80	
1,125 (.0442")	40	48	48	48	60	60	70	80	
1,15 (.0452")	40	48	48	48	60	60	70	80	
1,20 (.0472")	40	48	48	48	60	60	70	80	
1,25 (.0492")	40	48	48	48	60	60	70	80	
1,30 (.0511")	80	80	80	80	100	100	60	70	
1,40 (.0551")	40	40	40	40	48	48	60	70	
1,50 (.0590")	80	80	80	80	100	100	60	70	
1,60 (.0629")	80	80	80	80	100	100	60	70	
1,70 (.0669")	80	80	80	80	100	100	60	70	
2,00 (.0787")	80	80	80	80	100	100	60	70	
2,20 (.0866")	80	80	80	80	100	100	60	70	
2,50 (.0984")	80	80	80	80	100	100	60	70	
3,00 (.1181")	80	80	80	80	100	100	60	70	
USA Stocked Sizes		Typical Width Tolerance: +/- .0002"							

Metric Carbide Saws - Ultra Fine Tooth Configuration - Swiss Made

	OD →	15	20	25	25	30	30
	ID →	5	5	5	8	5	8
Width	NUMBER OF TEETH						
0,10 (.0039")	64	80	80	80	100	100	
0,15 (.0059")	64	80	80	80	100	100	
0,20 (.0078")	64	80	80	80	100	100	
0,25 (.0098")	64	80	80	80	100	100	
0,30 (.0118")	64	80	80	80	100	100	
0,35 (.0137")	64	80	80	80	100	100	
0,40 (.0157")	80	80	80	80	100	100	
0,50 (.0196")	80	80	80	80	100	100	
0,55 (.0216")	80	80	80	80	100	100	
0,60 (.0236")	80	80	80	80	100	100	
0,70 (.0275")	80	80	80	80	100	100	
0,80 (.0314")	80	80	80	80	100	100	
0,85 (.0334")	80	80	80	80	100	100	
0,90 (.0354")	80	80	80	80	100	100	
1,00 (.0393")	80	80	80	80	100	100	
1,05 (.0413")	80	80	80	80	100	100	
1,125 (.0442")	80	80	80	80	100	100	
1,15 (.0452")	80	80	80	80	100	100	
1,20 (.0472")	80	80	80	80	100	100	
1,25 (.0492")	80	80	80	80	100	100	
1,30 (.0511")	80	80	80	80	100	100	
1,40 (.0551")	80	80	80	80	100	100	
1,50 (.0590")	80	80	80	80	100	100	
1,60 (.0629")	80	80	80	80	100	100	
1,70 (.0669")	80	80	80	80	100	100	
2,00 (.0787")	80	80	80	80	100	100	
2,20 (.0866")	80	80	80	80	100	100	
2,50 (.0984")	80	80	80	80	100	100	
3,00 (.1181")	80	80	80	80	100	100	
USA Stocked Sizes		Typical Width Tolerance: +/- .0002"					

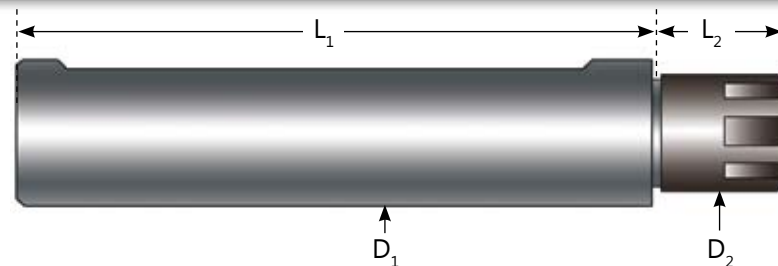
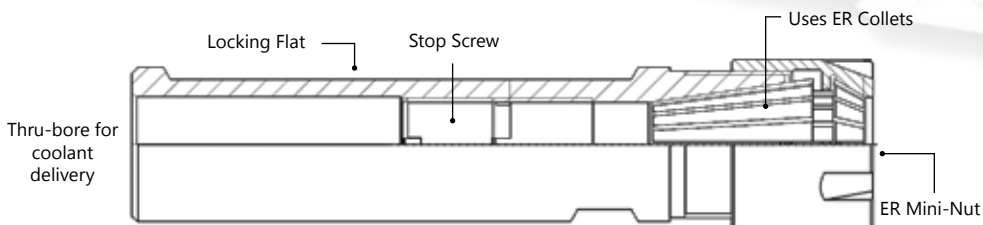
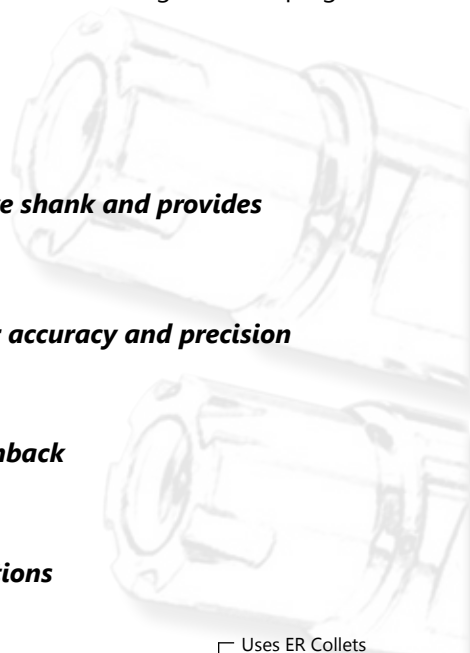
Precision Swiss Tool Holding



ER Style Collets are the tool holding system of choice for use in Swiss-Type machine applications.

Swiss Precision collet sleeves provide rigid & accurate holding of ID tooling. These collet sleeves feature ground shanks and tapers. Mini nuts are used to reduce interference and to make setup and tool changing easier than collet sleeves with hexagonal clamping nuts.

- **Locking flat prevents damage to sleeve shank and provides orientation for use with boring bars.**
- **Precision ground & case hardened for accuracy and precision**
- **Internal stop screw prevents tool pushback**
- **Can be used for coolant-thru applications**



Precision ER Collet Sleeves - Inch Shanks

Part No.	Collet	D1	D2	L1	L2
CS-11G-158-030	ER11	.625"	16mm	30mm	12mm
CS-11P-158-050	ER11	.625"	16mm	50mm	12mm
CS-11P-158-100	ER11	.625"	16mm	100mm	12mm
CS-11P-190-070	ER11	.750"	16mm	70mm	12mm
ER16					
CS-16P-158-075	ER16	.625"	22mm	75mm	18mm
CS-16P-190-035	ER16	.750"	22mm	35mm	18mm
CS-16P-190-050	ER16	.750"	22mm	50mm	18mm
CS-16P-190-070	ER16	.750"	22mm	70mm	18mm
CS-16P-190-100	ER16	.750"	22mm	100mm	18mm
CS-16i-190-120*	ER16	.750"	22mm	120mm	18mm
ER16					
CS-16P-254-045G	ER16	1.00"	22mm	21.6mm	18mm
CS-16i-254-065	ER16	1.00"	22mm	65mm	18mm
CS-16i-254-075	ER16	1.00"	22mm	75mm	18mm
CS-16P-254-080	ER16	1.00"	22mm	80mm	18mm
CS-16P-254-100	ER16	1.00"	22mm	100mm	18mm
CS-16P-254-130	ER16	1.00"	22mm	130mm	18mm
ER20					
CS-20i-254-065	ER20	1.00"	28mm	65mm	28mm
CS-20i-254-140	ER20	1.00"	28mm	140mm	28mm

*No stop screw

Precision ER Collet Sleeves - Metric Shanks

Part No.	Collet	D1	D2	L1	L2
CS-11P-200-070	ER11	20mm	16mm	70mm	12mm
ER16					
CS-16P-200-035	ER16	20mm	22mm	35mm	18mm
CS-16P-200-050	ER16	20mm	22mm	50mm	18mm
CS-16P-200-070	ER16	20mm	22mm	70mm	18mm
CS-16P-200-100	ER16	20mm	22mm	100mm	18mm
CS-16R-220-098	ER16	22mm	22mm	98mm	18mm
CS-16P-250-060*	ER16	25mm	28mm	60mm	18mm
CS-16P-250-100*	ER16	25mm	28mm	100mm	18mm
CS-16P-250-160*	ER16	25mm	28mm	160mm	18mm
ER20					
CS-20i-220-080	ER20	22mm	28mm	80mm	28mm
ER25					
CS-25R-220-070	ER25	22mm	35mm	70mm	47mm

*Includes hex-style nut

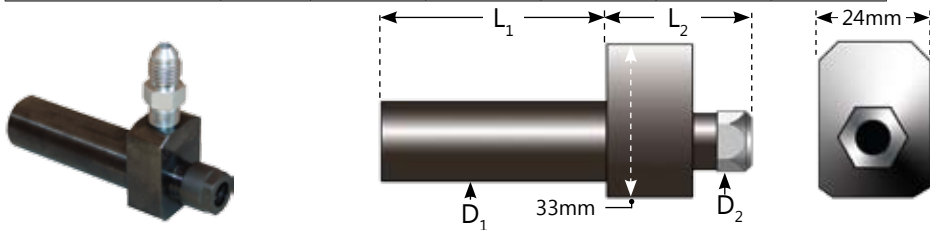
COOLANT FED COLLET SLEEVES

Specifically designed for use with High-Pressure coolant delivery systems, these collet sleeves feature NPTs built in for easy integration into your coolant system. A cost effective way to add coolant-thru capability to your drilling or boring applications.

These can be used with sealed coolant style ER collets or with standard ER collets. When using standard collets, it is recommended that a coolant sealing disc and coolant nut be used to facilitate the coolant flow through the tool.



Part No.	Collet	D1	D2	L1	L2	NPT
CS-11G-190-045C	ER11	.750"	16mm	36mm	14mm	1/8"
CS-11G-190-072C	ER11	.750"	16mm	63mm	14mm	1/8"
CS-16B-190-040C	ER16	.750"	22mm	40mm	18mm	1/4"
CS-16B-190-060C	ER16	.750"	22mm	60mm	18mm	1/4"
CS-16B-190-085C	ER16	.750"	22mm	85mm	18mm	1/4"
CS-20B-254-050C	ER20	1.00"	28mm	50mm	19mm	3/8"
CS-20B-254-085C	ER20	1.00"	28mm	85mm	19mm	3/8"



Part No.	Collet	D1	D2	L1	L2	Coolant Fitting
CS-11M-200-075*	ER11	20mm	16mm	75mm	13mm	#4JIC M10x1
CS-11M-200-055	ER11	20mm	16mm	55mm	30mm	#4JIC 1/8" NPT
CS-16M-200-055	ER16	20mm	22mm	55mm	31mm	#4JIC 1/8" NPT
CS-16M-220-055	ER16	22mm	22mm	55mm	31mm	#4JIC 1/8" NPT

*Coolant fitting located on back end of shank, also excludes 33x24mm 'head'

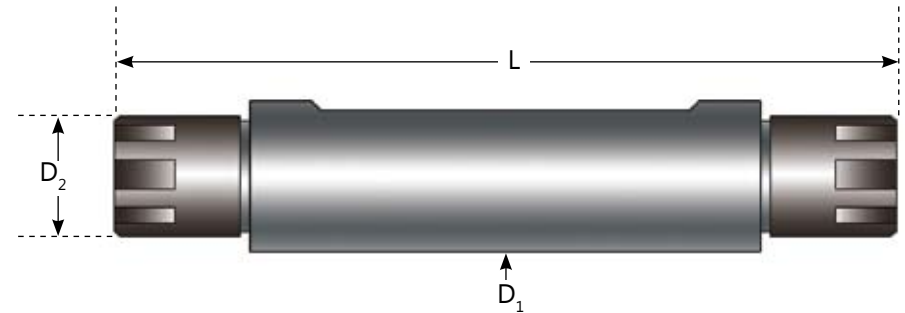
DOUBLE ENDED COLLET SLEEVES



Double ended collet sleeves increase ID tooling capacities as well as enable simultaneous main and subspindle operations to be performed.

Genevieve Swiss tool holder shanks are precision ground and case hardened to ensure a high level of accuracy.

Adds Additional ID Tool Positions



Inch Shanks

Part No.	Collet	D1	D2	L
CS-11G-158-075D	ER11	.625"	16mm	75mm
CS-11T-190-065D	ER11	.750"	16mm	65mm
CS-11T-190-085D	ER11	.750"	16mm	85mm
CS-11T-190-100D	ER11	.750"	16mm	100mm
CS-11T-190-125D	ER11	.750"	16mm	125mm
CS-16i-190-110D	ER16	.750"	22mm	110mm
CS-16P-254-085D	ER16	1.00"	22mm	85mm
CS-16P-254-120D	ER16	1.00"	22mm	120mm

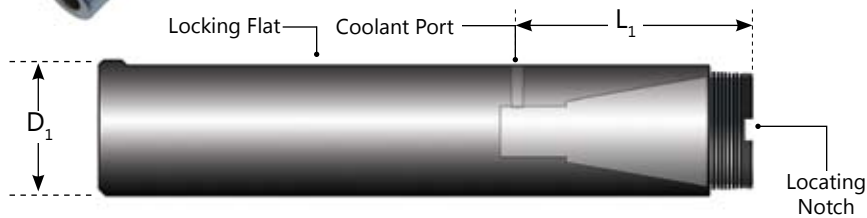
Metric Shanks

Part No.	Collet	D1	D2	L
CS-11i-160-090D	ER11	16mm	16mm	90mm
CS-11i-200-070D	ER11	20mm	16mm	70mm
CS-16i-220-110D	ER16	22mm	22mm	110mm
CS-16i-220-130D	ER16	22mm	22mm	130mm
CS-16i-250-120D	ER16	25mm	22mm	120mm
CS-20R-320-110D	ER20	32mm	28mm	110mm
CS-20R-320-130D	ER20	32mm	28mm	130mm



Quick Change Tool Holding Solutions

These collet sleeves are cost effective solutions to tool holding and are available in a variety of both Inch and Metric sized shank diameters. Also featuring a solid shank for rigidity and a side coolant port for connection to a high-pressure coolant delivery system. Every unit has a notched collet taper for easy tool orientation when combined with Quick-Change boring bar adaptors.



Shank ONLY



Part No.	Collet	D1	L1	OAL
CQS-SS-160500	ER16	.500"	1.1"	4.5"
CQS-SS-160625	ER16	.625"	1.1"	4.5"
CQS-SS-160750	ER16	.750"	1.1"	4.5"
CQS-SS-161000	ER16	1.00"	1.1"	4.5"
CQS-SS-200750	ER20	.750"	1.2"	4.5"
CQS-SS-201000	ER20	1.00"	1.2"	4.5"
CQS-SS-201250	ER20	1.25"	1.2"	4.5"
Metric Shanks				
CQS-SS-160787	ER16	20mm	28mm	71mm
CQS-SS-160866	ER16	22mm	28mm	118mm
CQS-SS-160984S	ER16	25mm	28mm	60mm
CQS-SS-160984	ER16	25mm	28mm	95mm
CQS-SS-200866	ER20	22mm	30mm	114mm
CQS-SS-201260	ER20	32mm	30mm	118mm

Shank w/ nut



Part No.	Collet	D1	L1	OAL
CQS-S16-0500-CSE	ER16	.500"	1.1"	4.5"
CQS-S16-0625-CSE	ER16	.625"	1.1"	4.5"
CQS-S16-0750-CSE	ER16	.750"	1.1"	4.5"
CQS-S16-1000-CSE	ER16	1.00"	1.1"	4.5"
CQS-S20-0750-CSE	ER20	.750"	1.2"	4.5"
CQS-S20-1000-CSE	ER20	1.00"	1.2"	4.5"
CQS-S20-1250-CSE	ER20	1.25"	1.2"	4.5"
Metric Shanks				
CQS-S16-0787-CSE	ER16	20mm	28mm	71mm
CQS-S16-0866-CSE	ER16	22mm	28mm	118mm
CQS-S16-0984-CSE	ER16	25mm	28mm	95mm
CQS-S20-0866-CSE	ER20	22mm	30mm	114mm
CQS-S20-1260-CSE	ER20	32mm	30mm	118mm

ER25, 32 & 40 sizes are available as well, Call for details



Double Ended Shanks w/ clamping nuts

Part No.	Collet	D1	OAL
CQS-S16-0750-CDE	ER16	.750"	4.5"
CQS-S16-1000-CDE	ER16	1.00"	4.5"
CQS-S20-1000-CDE	ER20	1.00"	4.5"
Metric Shanks			
CQS-S16-0866-CDE	ER16	22mm	114mm
CQS-S16-0984-CDE	ER16	25mm	95mm
CQS-S20-1259-CDE	ER20	32mm	118mm



Braided Steel High-Pressure Coolant Lines

For use with all Quick-Change Collet sleeves and Tool Holders

Part No.	Description	37° flared 1/4" tube w/ JIC fitting (female) M5x.8 straight fitting (male)
CQS-CB6	6" Stainless Coolant Line	
CQS-CB8	8" Stainless Coolant Line	
CQS-CB12	12" Stainless Coolant Line	
CQS-CB16	16" Stainless Coolant Line	

Spare ER Collet Nuts

For use with all Quick-Change Collet sleeves and Tool Holders

Part No.	ER Size	Nut Thread
CQS-NT160001	ER16	M19 x 1.0
CQS-NT200001	ER20	M24 x 1.0
CQS-NT250001	ER25	M32 x 1.5



Quick Change Collets

Presetable collets for use with ANY ER-Style collet holder. Enables quick changeover of ID tools in ANY machine using ER collets for tool holding.

See Page 106 for details



Quick Change Bore Adaptors

These adaptors are designed for use with the notched Quick-Change collet holders. They provide easy locating of axial and radial position for boring tools

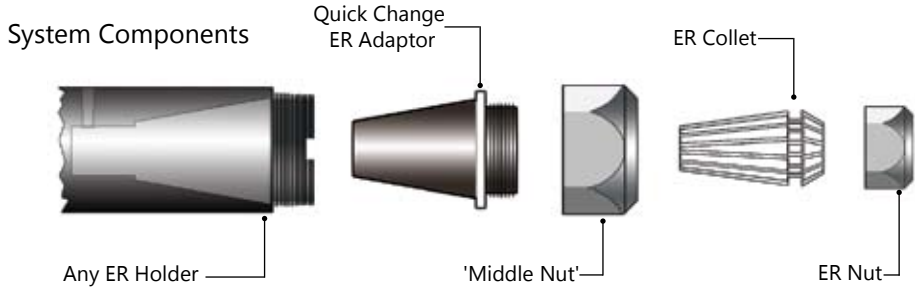
See Page 107 for details

Quick Change Collet Adaptors

Simplifies Setup and Decreases Downtime



Quick Change collet adaptors make it easier to control quality in your shop. These adaptors make it simple to have preset tooling available, eliminating the need to touch off the tool after a routine change. This also enables less experienced machine operators to be more productive.



- Preset spare tooling
- Decreases downtime
- Can be used as an extension



Part No w/ Collet (specify size)	Adaptor	Collet	Middle Nut Thread
CQS-AS11-0801-xxx	ER11 to ER8	ER8	M13 x .75
CQS-AS11-0802-xxx	ER11 to ER8	ER8	M14 x .75
CQS-AS16-1101-xxx	ER16 to ER11	ER11	M19 x 1
CQS-AS16-1102-xxx	ER16 to ER11	ER11	M22 x 1.5
CQS-AS20-1601-xxx	ER20 to ER16	ER16	M24 x 1
CQS-AS20-1601-xxx	ER20 to ER16	ER16	M25 x 1.5

*replace xxx with desired collet size in nominal inch or mm sizes

Part No. Assembly Only	Adaptor	Collet	Middle Nut Thread
CQS-AS11-0803	ER11 to ER8	ER8	M13 x .75
CQS-AS11-0804	ER11 to ER8	ER8	M14 x .75
CQS-AS16-1102	ER16 to ER11	ER11	M19 x 1
CQS-AS16-1104	ER16 to ER11	ER11	M22 x 1.5
CQS-AS20-1603	ER20 to ER16	ER16	M24 x 1
CQS-AS20-1604	ER20 to ER16	ER16	M25 x 1.5

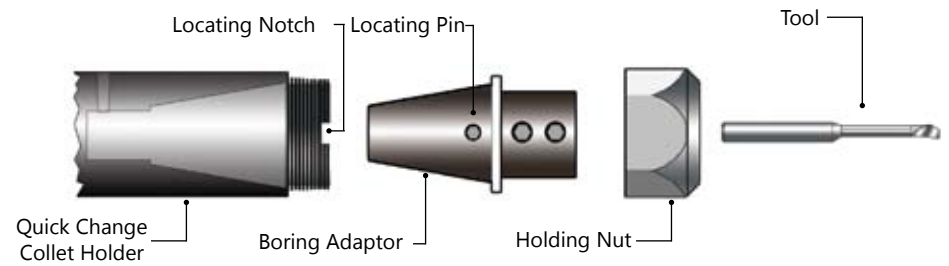
All Quick Change assemblies can be ordered with or without an ER collet. Specify collet size at time of order if needed.

Quick Change Collet Adaptors

Easily Locate Boring Bar Axial & Radial Position



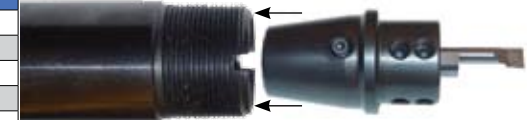
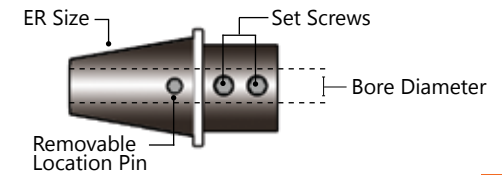
Quick Change Boring adaptors make it fast and simple to locate center position for boring bars when combined with notched ER holders. A simple locating pin rests within the notched holder ensuring accurate centering. These solid bushings utilize the ER collet system to securely hold a boring bar in a rigid fashion. Axial length can be easily set using any form of presetting device.



Part No.	ER Size	Bore	Nut Thread
CQS-SH16-12501	ER16	.125"	M19 x 1
CQS-SH16-18701		.1875"	M19 x 1
CQS-SH16-25001		.250"	M19 x 1
CQS-SH16-31201		.3125"	M19 x 1
CQS-SH16-37501		.375"	M19 x 1

Additional Size Options Available, please call.

Part No.	ER Size	Bore	Nut Thread
CQS-SH20-125	ER20	.125"	M24 x 1
CQS-SH20-1875		.1875"	M24 x 1
CQS-SH20-250		.250"	M24 x 1
CQS-SH20-3125		.3125"	M24 x 1
CQS-SH20-375		.375"	M24 x 1



Other Uses:



Endmilling

Solid ER holders can be used as a rigid holding device for carbide endmills, reducing chatter and helping increase surface finishes. Can also be used as an extension to get closer to the work piece.



Punch Broaching

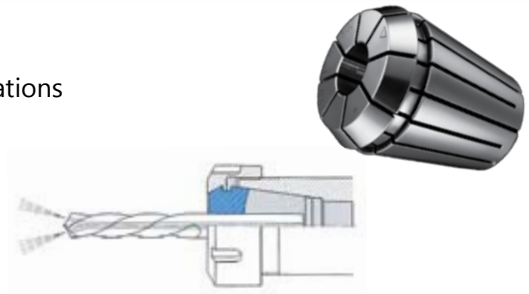
When orientation of an internal polygon profile is crucial, a solid ER holder can be used to securely hold a punch broach tool to accurately align the tool to center and ensure perfect alignment of the profile orientation

- T.I.R. ≤ .0004" Standard
T.I.R. ≤ .0002" Ultra-Precision
- The Best ER Collet on the Market
- Add 'UP' to Part No. for *ULTRA-PRECISION*



Coolant-Thru ER Collets

- For High Pressure Coolant Applications
- No Rubber Seals to Blow Out
- Rated to 2000 psi of pressure
- Ultra-Precision T.I.R. ≤ .0002"



rego fix	Size	ER08	ER11	ER16	ER20	Range
INCH ER COLLETS	1/16"	CC-ER08i-1/16	CC-ER11i-1/16	CC-ER16i-1/16		.0425" - .0625"
	3/32"		CC-ER11i-3/32	CC-ER16i-3/32		.0738" - .0938"
	1/8"	CC-ER08i-1/8	CC-ER11i-1/8	CC-ER16i-1/8	CC-ER20i-1/8	.1050" - .1250"
	5/32"		CC-ER11i-5/32	CC-ER16i-5/32		.1363" - .1563"
	3/16"	CC-ER08i-3/16	CC-ER11i-3/16	CC-ER16i-3/16	CC-ER20i-3/16	.1675" - .1875"
	7/32"		CC-ER11i-7/32	CC-ER16i-7/32		.1988" - .2188"
	1/4"		CC-ER11i-1/4	CC-ER16i-1/4	CC-ER20i-1/4	.2300" - .2500"
	9/32"			CC-ER16i-9/32		.2413" - .2813"
	5/16"			CC-ER16i-5/16	CC-ER20i-5/16	.2725" - .3125"
	11/32"			CC-ER16i-11/32		.3038" - .3438"
	3/8"			CC-ER16i-3/8	CC-ER20i-3/8	.3350" - .3750"
	13/32"			CC-ER16i-13/32		.3663" - .4063"
	7/16"				CC-ER20i-7/16	.3975" - .4375"
	1/2"				CC-ER20i-1/2	.4600" - .5000"

rego fix	Size	ER08	ER11	ER16	ER20	Range
METRIC ER COLLETS	1mm	CC-ER08-01.0	CC-ER11-01.0	CC-ER16-01.0	CC-ER20-01.0	0.50 - 1.00
	1.5mm	CC-ER08-01.5	CC-ER11-01.5	CC-ER16-01.5	CC-ER20-01.5	1.00 - 1.50
	2mm	CC-ER08-02.0	CC-ER11-02.0	CC-ER16-02.0	CC-ER20-02.0	1.50 - 2.00
	2.5mm	CC-ER08-02.5	CC-ER11-02.5	CC-ER16-02.5	CC-ER20-02.5	2.00 - 2.50
	3mm	CC-ER08-03.0	CC-ER11-03.0	CC-ER16-03.0	CC-ER20-03.0	2.50 - 3.00
	3.5mm	CC-ER08-03.5	CC-ER11-03.5	CC-ER16-03.5	CC-ER20-03.5	3.00 - 3.50
	4mm	CC-ER08-04.0	CC-ER11-04.0	CC-ER16-04.0	CC-ER20-04.0	3.50 - 4.00
	4.5mm	CC-ER08-04.5	CC-ER11-04.5	CC-ER16-04.5	CC-ER20-04.5	4.00 - 4.50
	5mm	CC-ER08-05.0	CC-ER11-05.0	CC-ER16-05.0	CC-ER20-05.0	4.50 - 5.00
	5.5mm		CC-ER11-05.5	CC-ER16-05.5	CC-ER20-05.5	5.00 - 5.50
	6mm		CC-ER11-06.0	CC-ER16-06.0	CC-ER20-06.0	5.50 - 6.00
	6.5mm		CC-ER11-06.5	CC-ER16-06.5	CC-ER20-06.5	6.00 - 6.50
	7mm		CC-ER11-07.0	CC-ER16-07.0	CC-ER20-07.0	6.50 - 7.00
	7.5mm			CC-ER16-07.5	CC-ER20-07.5	7.00 - 7.50
	8mm			CC-ER16-08.0	CC-ER20-08.0	7.50 - 8.00
	8.5mm			CC-ER16-08.5	CC-ER20-08.5	8.00 - 8.50
	9mm			CC-ER16-09.0	CC-ER20-09.0	8.50 - 9.00
	9.5mm			CC-ER16-09.5	CC-ER20-09.5	9.00 - 9.50
	10mm			CC-ER16-10.0	CC-ER20-10.0	9.50 - 10.00
	10.5mm				CC-ER20-10.5	10.00 - 10.50
11mm				CC-ER20-11.0	10.50 - 11.00	
11.5mm				CC-ER20-11.5	11.00 - 11.50	
12mm				CC-ER20-12.0	11.50 - 12.00	
12.5mm				CC-ER20-12.5	12.00 - 12.50	
13mm				CC-ER20-13.0	12.50 - 13.00	

Metric

Size	ER16	ER20	Range
3mm	CK-ER16-03.0	CK-ER20-03.0	3.00
4mm	CK-ER16-04.0	CK-ER20-04.0	4.00
5mm	CK-ER16-05.0	CK-ER20-05.0	4.50 - 5.00
6mm	CK-ER16-06.0	CK-ER20-06.0	5.50 - 6.00
7mm	CK-ER16-07.0	CK-ER20-07.0	6.50 - 7.00
8mm	CK-ER16-08.0	CK-ER20-08.0	7.50 - 8.00
9mm	CK-ER16-09.0	CK-ER20-09.0	8.50 - 9.00
10mm	CK-ER16-10.0	CK-ER20-10.0	9.50 - 10.00
11mm		CK-ER20-11.0	10.50 - 11.00
12mm		CK-ER20-12.0	11.50 - 12.00
13mm		CK-ER20-13.0	12.50 - 13.00

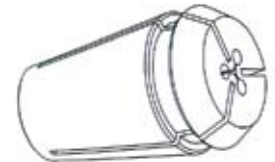
Inch

Size	ER16	ER20	Range
1/8"	CK-ER16i-1/8	CK-ER20i-1/8	.1250"
3/16"	CK-ER16i-3/16	CK-ER20i-3/16	.1875"
1/4"	CK-ER16i-1/4	CK-ER20i-1/4	.2300" - .2500"
5/16"	CK-ER16i-5/16	CK-ER20i-5/16	.2929" - .3125"
3/8"	CK-ER16i-3/8	CK-ER20i-3/8	.3556" - .3750"
7/16"		CK-ER20i-7/16	.4177" - .4375"
1/2"		CK-ER20i-1/2	.4803" - .5000"



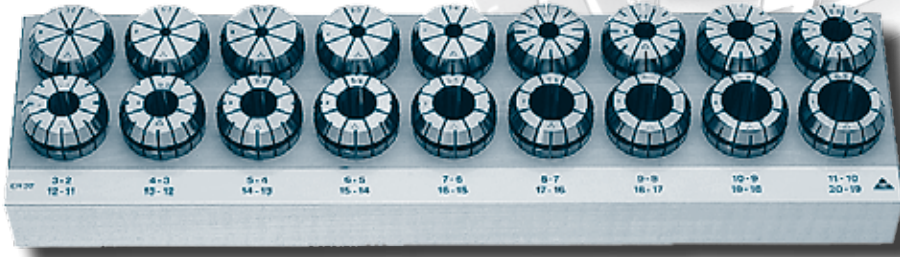
Micro-Bore ER Collets

- Special Design Enables Holding of Micro-Tools
- Clamps Nominal Diameters with h7 Tolerances



rego fix	Size	ER08	ER11	ER16	Clamping Diameter h7	
MICRO COLLETS	0.2mm	CM-ER08-0.20	CM-ER11-0.20	CM-ER16-0.20	0.2mm	.0079"
	0.3mm	CM-ER08-0.30	CM-ER11-0.30	CM-ER16-0.30	0.3mm	.0118"
	0.4mm	CM-ER08-0.40	CM-ER11-0.40	CM-ER16-0.40	0.4mm	.0157"
	0.5mm	CM-ER08-0.50	CM-ER11-0.50	CM-ER16-0.50	0.5mm	.0197"
	0.6mm	CM-ER08-0.60	CM-ER11-0.60	CM-ER16-0.60	0.6mm	.0236"
	0.7mm	CM-ER08-0.70	CM-ER11-0.70	CM-ER16-0.70	0.7mm	.0276"
	0.8mm	CM-ER08-0.80	CM-ER11-0.80	CM-ER16-0.80	0.8mm	.0315"
	0.9mm	CM-ER08-0.90	CM-ER11-0.90	CM-ER16-0.90	0.9mm	.0354"

REGO-FIX® ER Collets are world renowned for their precision accuracy, quality and durability. Featuring the industry standard lowest T.I.R. available, REGO-FIX® ER Collets provide superior tool life while delivering the greater accuracy that Swiss-Type machinists demand.



STANDARD PRECISION Collet Sets - T.I.R. < .0004"

Metric

Part No.	Size	Pieces	Size Range
CC-08R-S09-MSP	ER8	9	.5-5mm
CC-11R-S13-MSP	ER11	13	.5-7mm
CC-16R-S10-MSP	ER16	10	.5-10mm
CC-20R-S12-MSP	ER20	12	1-13mm

Inch

Part No.	Size	Pieces	Size Range
CC-08R-S3-ISP	ER08	3	1/16 - 3/16"
CC-11R-S7-ISP	ER11	7	1/16-1/4"
CC-16R-S12-ISP	ER16	12	1/16-13/32"
CC-20R-S7-ISP	ER20	7	1/8-1/2"

ULTRA PRECISION Collet Sets - T.I.R. < .0002"

Metric

Part No.	Size	Pieces	Size Range
CC-08R-S09-MUP	ER8	9	.5-5mm
CC-11R-S13-MUP	ER11	13	.5-7mm
CC-16R-S10-MUP	ER16	10	.5-10mm
CC-20R-S12-MUP	ER20	12	1-13mm

Inch

Part No.	Size	Pieces	Size Range
CC-08R-S3-IUP	ER08	3	1/16 - 3/16"
CC-11R-S3-IUP	ER11	3	1/8-1/4"
CC-16R-S12-IUP	ER16	12	1/16-13/32"
CC-20R-S7-IUP	ER20	7	1/8-1/2"

THRU-COOLANT Collet Sets - T.I.R. < .0002"

Metric

Part No.	Size	Pieces	Size Range
CK-16R-S08-MSP	ER16	8	3-10mm
CK-20R-S11-MSP	ER20	11	3-13mm

Inch

Part No.	Size	Pieces	Size Range
CK-16R-S05-ISP	ER16	5	1/8" - 3/8"
CK-20R-S07-ISP	ER20	7	1/8" - 1/2"

ER25, ER32, ER40, ER50 are also available. Call for Details & Part Numbers



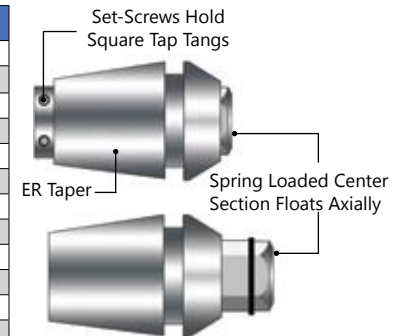
PCM floating tapping collets are an economical solution to replace expensive tapping sleeves and eliminate tapping error. Ideal for use on machines that do not have a rigid tapping function.

The ET1 floating tap collets can also be used with rigid tapping function to compensate for pitch error due to the torsional stress that can occur on small taps eliminating the difference between the tap and the CNC.



Tapping Collets (Inch)

Shank	ER11	ER16	ER20	ER25	ER32
0.141"	ET1-12141	ET1-16141	ET1-20141	ET1-25141	
0.168"		ET1-16168	ET1-20168	ET1-25168	ET1-32168
0.194"		ET1-16194	ET1-20194	ET1-25194	ET1-32194
0.220"		ET1-16220	ET1-20220	ET1-25220	ET1-32220
0.255"			ET1-20255	ET1-25255	ET1-32255
0.318"				ET1-25318	ET1-32318
0.323"				ET1-25323	ET1-32323
0.367"				ET1-25367	ET1-32367
0.381"				ET1-25381	ET1-32381
0.429"					ET1-32429
0.437"					ET1-32437
0.480"					ET1-32480



Tapping Collets (Metric)

Shank	ER11	ER16	ER20	ER25
1mm	ET1-12100AL	ET1-16100AL		
1.4mm	ET1-12140	ET1-16140		
1.5mm	ET1-12150AL	ET1-16150AL		
1.6mm	ET1-12160	ET1-16160		
1.8mm	ET1-12180	ET1-16180		
2mm	ET1-12200	ET1-16200		
2.2mm	ET1-12221	ET1-16221	ET1-20221	
2.24mm	ET1-12224	ET1-16224	ET1-20224	
2.5mm	ET1-12250	ET1-16250	ET1-20250	ET1-25250
2.8mm	ET1-12280	ET1-16280	ET1-20280	ET1-25280
3mm	ET1-12300	ET1-16300	ET1-20300	ET1-25300
3.15mm	ET1-12315	ET1-16315	ET1-20315	ET1-25315
3.5mm	ET1-12350	ET1-16350	ET1-20350	ET1-25350
3.55mm	ET1-12355	ET1-16355	ET1-20355	ET1-25355

Tapping Collets (Metric)

Shank	ER16	ER20	ER25
4mm	ET1-16400	ET1-20400	ET1-25400
4.5mm	ET1-16450	ET1-20450	ET1-25450
5mm	ET1-16500	ET1-20500	ET1-25500
5.5mm	ET1-16550	ET1-20550	ET1-25550
5.6mm	ET1-16560	ET1-20560	ET1-25560
6mm	ET1-16600	ET1-20600	ET1-25600
6.2mm	ET1-16620	ET1-20620	ET1-25620
6.3mm	ET1-16630	ET1-20630	ET1-25630
7mm		ET1-20700	ET1-25700
7.1mm			ET1-25710
8mm			ET1-25800
8.5mm			ET1-25850
9mm			ET1-25900
10mm			ET1-25100

Upgrade your current tool holders with "EzR Swiss-Clamp" ER Collet clamping nuts from GenSwiss. This system eliminates wrench slippage and keeps machine operators clear of sharp, fragile tooling, thus reducing operator injury and preventing accidental breakage of expensive ID micro-tooling. The unique drive feature also eliminates losing clamping nuts in the machine sump/chip bin by affixing to the wrench adaptor.



Balanced for use with Live Tooling Too!

EzR Extended Wrench Adaptor clears sharp tooling keeping your hands safe from injury while enabling accurate tightening of ER Tooling



EzR Swiss Clamp Nuts can be tightened using standard box wrenches or 3/8" drive ratcheting socket wrenches when combined with the positive locking EzR Extended Wrench adaptors or EzR Wrench Adaptors.

The EzR Wrench Adaptor engages and locks to the EzR Clamping Nut by way of a specialized cam system on the face. This locking system delivers positive torque to the nut while eliminating slipping of the wrench.

EzR Swiss Clamp nuts are now included with the

GenBore
See Pages 18-19

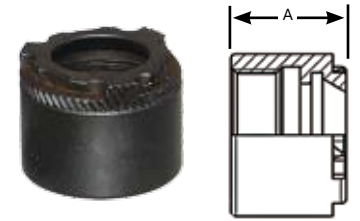
NEVER drop an ER clamping nut in your machine sump again!



EzR Swiss Clamp Nuts

Replaces standard Mini-Nuts

Part No.	Size	A	Thread
EZR08-NUT	ER08	12	M10 x .75
EZR11-NUT	ER11	16	M13 x .75
EZR16-NUT	ER16	22	M19 x 1.00
EZR20-NUT	ER20	28	M24 x 1.00
EZR25-NUT	ER25	35	M30 x 1.00
EZR32-NUT	ER32	43	M38 x 1.00



EzR Wrench Adaptor

Hex-Driver for use with standard box wrenches or sockets.

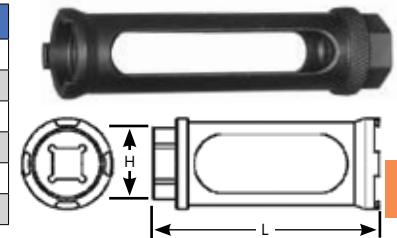
Part No.	Size	H
EZR08-ADP	ER08	12mm
EZR11-ADP	ER11	13mm
EZR16-ADP	ER16	17mm
EZR20-ADP	ER20	19mm
EZR25-ADP	ER25	22mm
EZR32-ADP	ER32	27mm



EzR Extended Wrench Adaptor

Driver for clamping EzR Nuts using standard box wrenches or 3/8" drive ratchets.

Part No.	Size	L	H
EZR08-TQN	ER08	75mm	12mm
EZR11-TQN	ER11	75mm	13mm
EZR16-TQN	ER16	85mm	17mm
EZR20-TQN	ER20	90mm	19mm
EZR25-TQN	ER25	96mm	22mm
EZR32-TQN	ER32	96mm	27mm

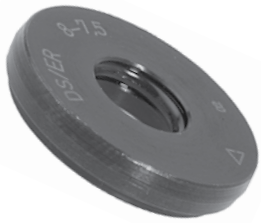


EzR Swiss Clamp Kits

Retro-Fit your existing ER Collet Tool Holders with the EzR Swiss Clamp System. Kits include (6) EzR nuts, (1) Wrench Adaptor, (1) Torque nut and (1) EzR Spanner

Part No.	Size
EZR08-KIT	ER08
EZR11-KIT	ER11
EZR16-KIT	ER16
EZR20-KIT	ER20
EZR25-KIT	ER25
EZR32-KIT	ER32





Coolant Ring Seals

When combined with Coolant mini-nuts, coolant ring seals are ideal for use in high-pressure coolant delivery applications.

- Rated to ~2000 psi of pressure
- Sealing O-ring is resistant to aggressive coolant chemistries

Tool Shank Ø	ER16 Part no.	ER20 Part no.	Sealing Capacity
3/32"	CD-ER16 - 03.0	CD-ER20 - 03.0	3.0 - 2.5mm
1/8"	CD-ER16 - 03.5	CD-ER20 - 03.5	3.5 - 3.0mm
5/32"	CD-ER16 - 04.0	CD-ER20 - 04.0	4.0 - 3.5mm
	CD-ER16 - 04.5	CD-ER20 - 04.5	4.5 - 4.0mm
3/16"	CD-ER16 - 05.0	CD-ER20 - 05.0	5.0 - 4.5mm
7/32"	CD-ER16 - 05.5	CD-ER20 - 05.5	5.5 - 5.0mm
	CD-ER16 - 06.0	CD-ER20 - 06.0	6.0 - 5.5mm
1/4"	CD-ER16 - 06.5	CD-ER20 - 06.5	6.5 - 6.0mm
	CD-ER16 - 07.0	CD-ER20 - 07.0	7.0 - 6.5mm
9/32"	CD-ER16 - 07.5	CD-ER20 - 07.5	7.5 - 7.0mm
5/16"	CD-ER16 - 08.0	CD-ER20 - 08.0	8.0 - 7.5mm
	CD-ER16 - 08.5	CD-ER20 - 08.5	8.5 - 8.0mm
11/32"	CD-ER16 - 09.0	CD-ER20 - 09.0	9.0 - 8.5mm
3/8"	CD-ER16 - 09.5	CD-ER20 - 09.5	9.5 - 9.0mm
	CD-ER16 - 10.0	CD-ER20 - 10.0	10.0 - 9.5mm
13/32"		CD-ER20 - 10.5	10.5 - 10.0mm
		CD-ER20 - 11.0	11.0 - 10.5mm
7/16"		CD-ER20 - 11.5	11.5 - 11.0mm
		CD-ER20 - 12.0	12.0 - 11.5mm
		CD-ER20 - 12.5	12.5 - 12.0mm
1/2"		CD-ER20 - 13.0	13.0 - 12.5mm



Internal Groove for Coolant Ring



Hi-Q® Coolant Mini Nuts

Coolant Mini-nuts are to be used in conjunction with coolant ring seals. The nut includes an internal grooved seat for insertion of coolant discs, allowing the use of standard ER Collets in thru-coolant applications.

IMPORTANT! ER11 Hi-Q® Mini nuts feature built-in coolant seal. Specify tool diameter when ordering - Available Size Range: 3mm - 7mm

Part No.	Size	Thread
CN-ER11-MNC	ER11	M13 x 0.75
CN-ER16-MNC	ER16	M19 x 1.00
CN-ER20-MNC	ER20	M24 x 1.00
CN-ER25-MNC	ER25	M30 x 1.00



Hi-Q® ER Mini Nuts

For use with any ER Collet Chuck or Sleeve

Part No.	Size	Thread
CN-ER08-MNS	ER08	M10 x .75
CN-ER11-MNS	ER11	M13 x .75
CN-ER16-MNS	ER16	M19 x 1.00
CN-ER20-MNS	ER20	M24 x 1.00
CN-ER25-MNS	ER25	M30 x 1.00



Mini-Nut Spanner Wrenches

Ideal for use in tight tooling zones commonly found in CNC Swiss-Type Machines.

Part No.	Size
CW-04620	ER08
CW-04621	ER11
CW-04622	ER16
CW-04623	ER20



Collet Sleeve Bushings

Precision Reduction Sleeves are an inexpensive alternative to purchasing additional collet holders & tooling.

Part No.	OD	ID	OAL
CSB-254-160-040	1"	16mm	40mm
CSB-220-190-050K	22mm	3/4"	55mm
CSB-254-190-050J-M	1"	3/4"	50mm



SWISS SILVER



Swiss Silver is formulated from a highly refined mineral base oil that is as crystal clear as pure water. Low viscosity makes it perfect for Swiss-Type Machines and small parts manufacturing as it provides superior penetration on micro-parts and better flow to the cutting tool.

Swiss Silver HP-A



Swiss Silver Base Oil

- NO STAINING RESINS - Your machine stays cleaner
- HIGH FLASH POINT - Reduces possibility of machine fires
- LOW MIST - Good for high pressure delivery
- LOW VISCOSITY - Reduces air entrainment

**The Right Machine
The Right Tooling
The Right Oil**



Swiss Silver Products are Available in TYPE A or TYPE B

TYPE

- A** Good For All Metals including Brass & Copper
- B** Contains additives to enhance tool life in ferrous materials & tough alloys. Could possibly tarnish brass & copper parts if left uncleaned.



Swiss Silver Premium

Our Standard HIGH PERFORMANCE Premium Product. Ideal for all Swiss-Type Machines or Small Parts Turning Centers. For extended tool life & Medium pressure delivery & package for reduced mist & air entrapment.

Type A: LCO-SS00-A00-MGS ---- Type B: LCO-SS00-B00-MGS



Swiss Silver AB

Specifically designed for Aluminum, Brass and Copper applications. Special features include our Extended Tool Life Formulation for machining Aluminum & Brass with superior finish results. Prevents tarnishing of all yellow metals.

LCO-SSAB-000-MGS



Swiss Silver HM

Formulated for machining of "hard metals" such as high nickel materials, Inconel, Hastaloy and other extreme & exotic alloys. Includes tool life enhancing additives providing the superior finish results that Swiss Silver users expect.

Type A: LCO-SSHM-A00-MGS ---- Type B: LCO-SSHM-B00-MGS



Swiss Silver HP

Specifically designed for High Pressure Coolant Delivery Systems. Provides incredible resistance to foaming while minimizing mist and air entrapment. Available in both TYPE A & TYPE B Grades. Suitable for all applications

Type A: LCO-SSHP-A00-MGS ---- Type B: LCO-SSHP-B00-MGS



Swiss Silver VX

High Performance Vegetable Based alternative product provides pure lubricity and unparalleled surface finish on parts. Biodegradable and environmentally acceptable for fulfilling 'green' machining objectives.

Type A: LCO-SSVX-A00-MGS ---- Type B: LCO-SSVX-B00-MGS

SWISS SILVER - *A Higher Class of Oil*

Custom Formulations Available, Call for Details

Available in 55 gallon drums or 5 gallon pails



Magnetic Finishers remove micro-burrs and improve surface finishes on non ferrous materials and some stainless steels.

First developed for the jewelry industry, this sensitive burnishing device is quickly being adapted for medical, instrument and RF connector applications because of its non distorting method of finishing.

Small steel pins of .007" -.050" in diameter are spun at a high-speed by a magnetic wheel. The size of the pins enable them to travel through fragile parts to remove microscopic burrs that would normally be removed by hand.

The non-aggressive burnishing action enables desirable edge rounding of .002-.003" without part damage to threads, knurls, or other fine edge surfaces.

Complete Sets - Includes Stainless Finishing Media & Supplies

Part No.	Size	Description
FR-CMF-610-S	6"	6" diameter bowl ~ Comes Complete With 6" Dia. Bowl, Turbo Finishing Pins, Burnishing Solution, & Magnetic Separator
FR-CMF-900-S	9"	9" diameter bowl ~ Comes Complete With 9" Dia. Bowl, Turbo Finishing Pins, Burnishing Solution, & Magnetic Separator
FR-CMF-1200-S	12"	12" diameter bowl ~ Comes Complete With 12" Dia. Bowl, Turbo Finishing Pins, Burnishing Solution, & Magnetic Separator

Finisher Units

Part No.	Description
FR-23051	6" Finisher Unit
FR-23052	9" Finisher Unit
FR-24145	12" Finisher Unit

Stainless Steel Media (1kg bins)

Additional sizes available upon request

Part No.	Description
FT-EHD-S01	.2mm Diameter x 5mm OAL
FT-EHD-S02	.3mm Diameter x 5mm OAL
FT-EHD-S04	.5mm Diameter x 5mm OAL
FT-EHD-P01	.3mm Diameter x 3mm OAL
FT-EHD-P04	.5mm Diameter x 3mm OAL

Contact us for a FREE applications trial



Stainless Finishing Media

Suggested Applications



- Ideal for Non-Ferrous Materials
- Automatically Removes Micro-burrs
- Provides a Uniform Burnished Finish



Magnetic Separator Tool

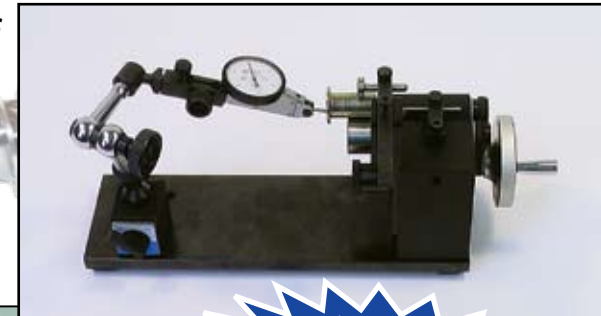




Hi-Precision Concentricity Gage System Features

- System accuracy less than 2 microns.**
- Adjustable from 0.125" through 1.0000"**
- Standard adjustable articulated indicator mounting arm and Tee-slot mounting allows infinite positioning options**
- Adjustable axial stops simplify part positioning and prevent motion during inspection**
- Permanent etched scales on Mounting Stand simplify repeat measurements**
- Accommodates utilization on Optical Comparators or other measurement systems w/optional Fixture Base**

Basic model features magnetic base for easy gage positioning



Mounts to optical comparators

NEW PRODUCT

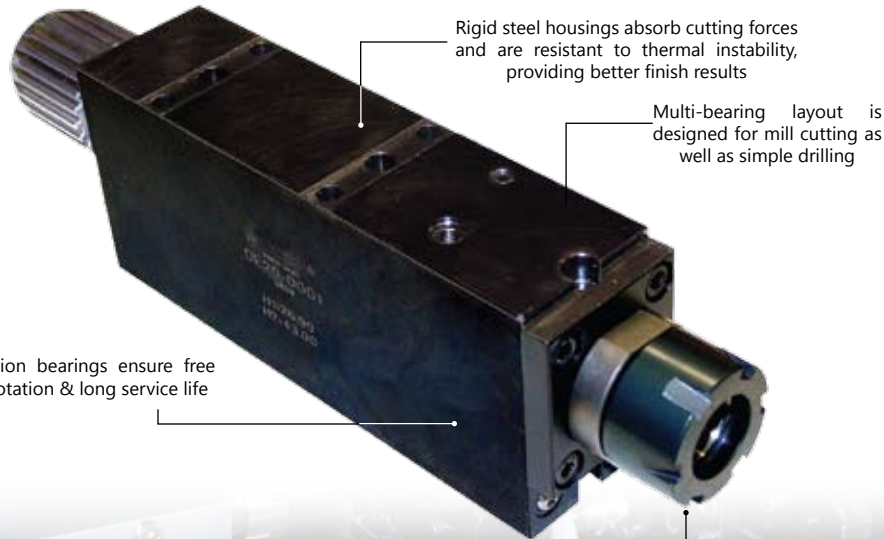
Introducing the GenSwiss Runout and Concentricity Inspection System for the verification of cylindrical features. Precision Datum Rolls, adjustable Upper Tension Roll Assembly, and integral axial stop pins assure proper part staging and absolute gage accuracy. Infinitely adjustable indicator mounting arm with fine-adjustment positioning and variable CMM Tee-Slot Mounting Stand accommodate both part-specific and universal applications. Belt-drive removes operator influence while simplifying operation. Designed for manufacturing or inspection applications, the GenSwiss Concentricity Inspection System delivers accuracy, versatility, and operational simplicity at an affordable price.

Part No.	Description
GAG-JCR0	Basic Runout Gage with Full-Form Cylindrical Rolls - Steel Mounting Plate - Adjustable Magnetic Test Indicator Stand With Mitutoyo Test Indicator
GAG-JCR1	Basic Runout Gage with Full-Form Cylindrical Rolls - Steel Mounting Plate - Multi-Position Tee-Slot Mounting Stand - Adjustable Test Indicator Stand With Mitutoyo Test Indicator
GAG-JCR0C	Basic Runout Gage with Full-Form Cylindrical Rolls and Locking DoveTail Mounting Base For Optical Comparator or Other Inspection Fixtures

Achieve Excellence



Quality manufactured replacement spindles for Tornos-Deco Machines are now available from PCM. These replacement spindles feature rigid steel housings, high-precision bearings & Rego-Fix ER collet nuts. Engineered for optimal performance in your DECO 7/10, 13 & 20/26 models.

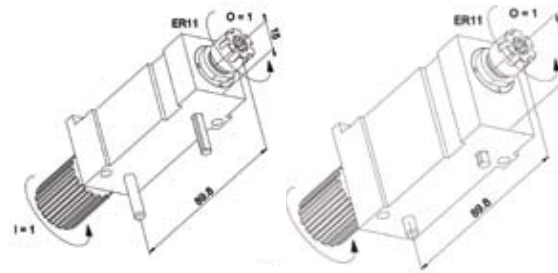


Rigid steel housings absorb cutting forces and are resistant to thermal instability, providing better finish results

Multi-bearing layout is designed for mill cutting as well as simple drilling

High-Precision bearings ensure free spinning rotation & long service life

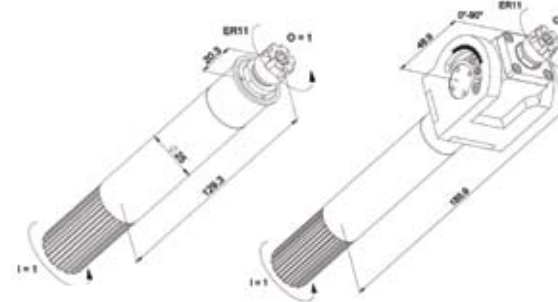
All PCM spindles utilize REGO-FIX ER-collet nuts for tool-holding



TOR-DE10-0001 TOR-DE10-0002

TOR-DE10-0001 & TOR-DE10-0002
Modular live tool attachments for DECO 10. Fits in S2 Axis positions for cross drill/mill or slitting applications.

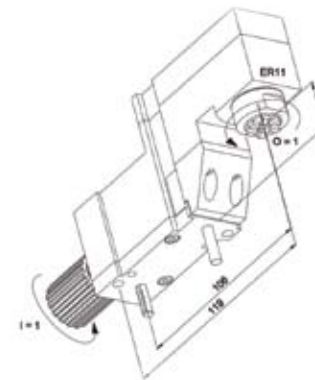
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 12000 RPM



TOR-DE10-0003 TOR-DE10-0004

TOR-DE10-0003 & TOR-DE10-0004
Modular live tool attachments for DECO 10. Fits in S5 Axis positions for subspindle endworking applications.

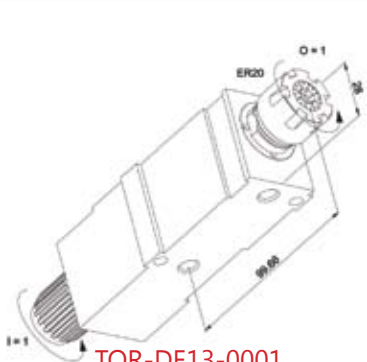
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 12000 RPM



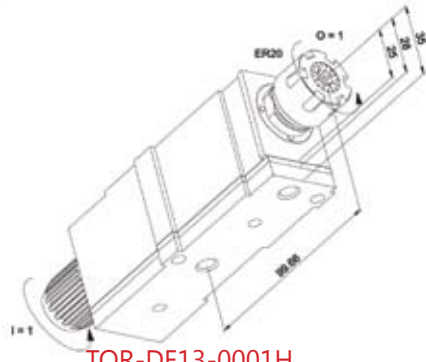
TOR-DE10-0011

TOR-DE10-0011
Modular live tool attachment for DECO 10. Fits in S2 Axis positions for end drill/mill applications.

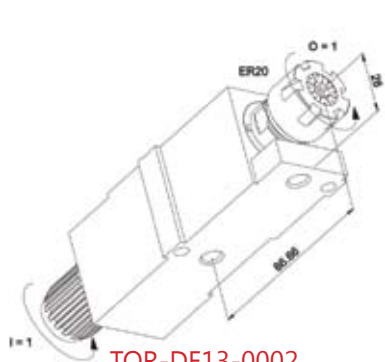
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 12000 RPM



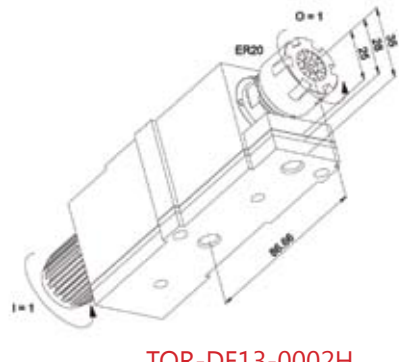
TOR-DE13-0001
Fits ALL live tooling positions



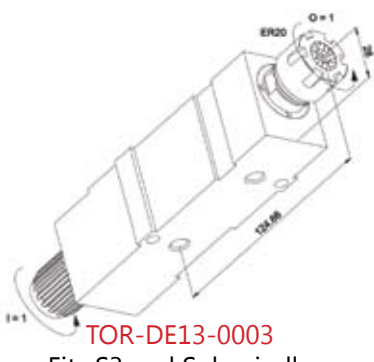
TOR-DE13-0001H
Fits all live tooling positions except S3



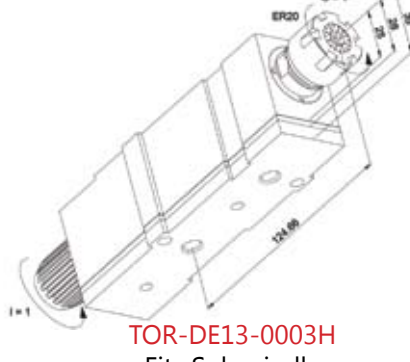
TOR-DE13-0002
Fits ALL live tooling positions



TOR-DE13-0002H
Fits all live tooling positions except S3

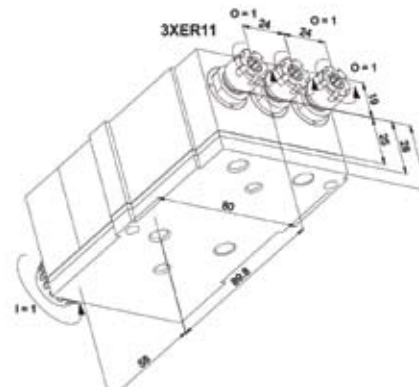


TOR-DE13-0003
Fits S3 and Subspindle live tool positions

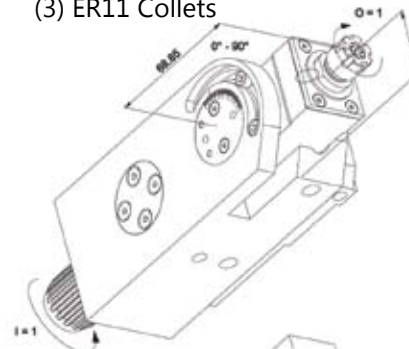


TOR-DE13-0003H
Fits Subspindle live tool positions only

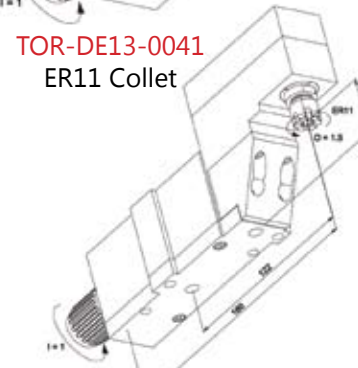
ALL ABOVE UNITS ARE ER20 WITH I/O of 1:1 - Max Rpm: 8000



TOR-DE13-0010
(3) ER11 Collets



TOR-DE13-0041
ER11 Collet



TOR-DE13-0011
ER11 Collet

TOR-DE13-0010
Modular live tool attachment for DECO 13. Triple spindle design for added live tool capacity. Fits S2, S5 & S6 tool positions

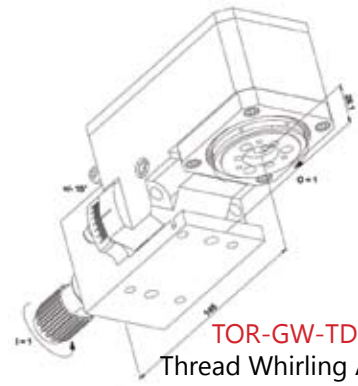
Collet Size: (3) ER11
Output: 1:1 Speed
Max Speed: 8000 RPM

TOR-DE13-0041
Adjustable angle live tool attachment for DECO 13. Fits S2, S6 & Subspindle tool positions.

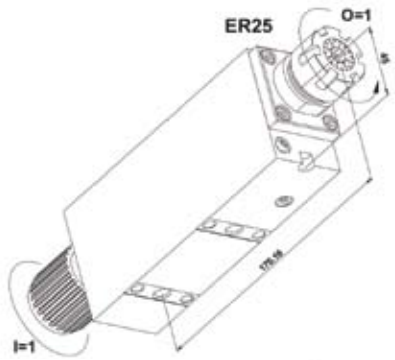
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 8000 RPM

TOR-DE13-0011
Right angle head. Fits S2, S6 & Subspindle tool positions

Collet Size: ER11
Output: 1:1.5 Speed
Max Speed: 8000 RPM



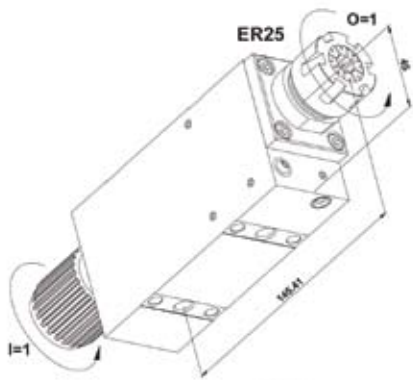
TOR-GW-TDM-D13
Thread Whirling Attachment
+/- 15° Helix Adjustment



TOR-DE20-0001

Modular live tool attachment for DECO 20. Medium spindle housing length for versatility in many drilling and milling applications. Fits all live tool positions.

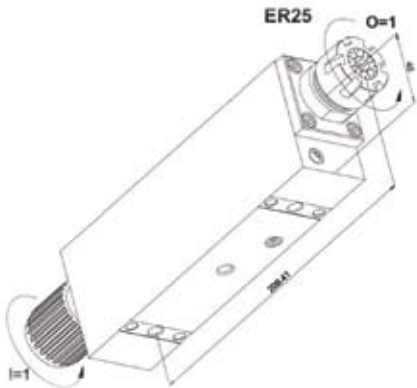
Collet Size: ER25
Output: 1:1 Speed
Max Speed: 8000 RPM



TOR-DE20-0002

Modular live tool attachment for DECO 20. Short spindle housing length for use with extended length cutting tools. Fits all live tool positions.

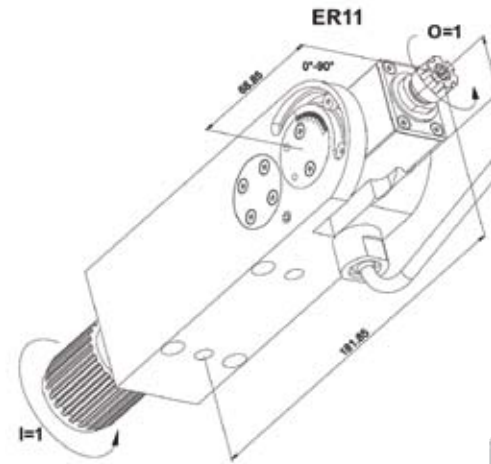
Collet Size: ER25
Output: 1:1 Speed
Max Speed: 8000 RPM



TOR-DE20-0003

Modular live tool attachment for DECO 20. Long spindle housing length for use in subspindle facing and cross drilling live tool positions.

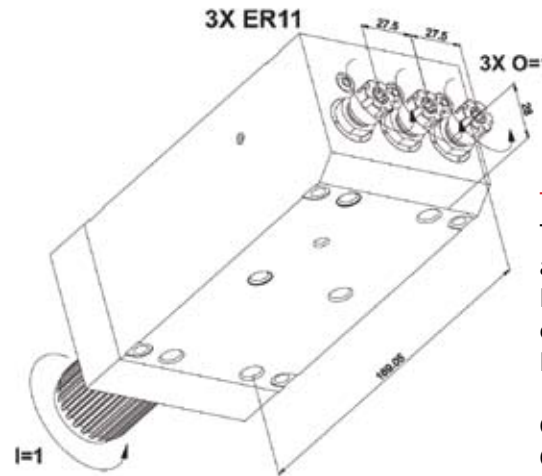
Collet Size: ER25
Output: 1:1 Speed
Max Speed: 8000 RPM



TOR-DE20-0004

Angular adjustment live tool attachment for DECO 20 with coolant delivery port. Adjusts to 0°-90°. Fits subspindle live tool stations.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 8000 RPM



TOR-DE20-0010

Triple position ER11 spindle for additional live tooling positions. Locates several tools close to each other for minimal traverse time. Fits S5 Live Axis positions.

Collet Size: (3) ER11
Output: 1:1 Speed
Max Speed: 8000 RPM



SUPER SPEED

for your Tsugami Super-Swiss 20/32



TSU-HS20-510-3X

High Speed spindle attachment for positions B1, B2, B3, B4 & B5 in Tsugami SS20/32 Machines. Enables faster micro drilling and milling.

Collet Size: REGO-FIX® ER11
Output: 1:3 Speed
Max Speed: 15000 RPM



TSU-HS20-510L-3X

High Speed spindle attachment for positions R1, R2, & R3 in Tsugami SS20/32 Machines. Enables faster micro drilling and milling.

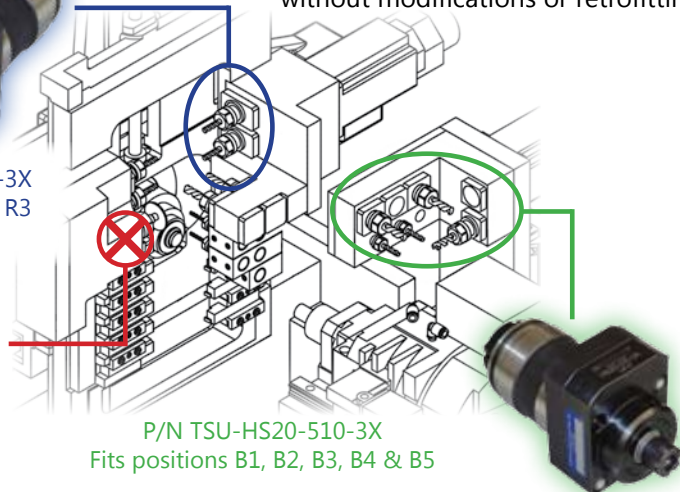
Collet Size: REGO-FIX® ER11
Output: 1:3 Speed
Max Speed: 15000 RPM

High Speed Spindles Featuring 3X Speed Output

Installs in a matter of minutes without modifications or retrofitting.



P/N TSU-HS20-510L-3X
Fits positions R1, R2, R3



P/N TSU-HS20-510-3X
Fits positions B1, B2, B3, B4 & B5

Note: NOT for use in Positions F1, F2 or F3



For Front Tool Post



For Rear Tool Post



TSU-S206-RSC-005-3X

High Speed spindle attachment for positions T11 or T13 in Tsugami S206 Machines. Enables faster micro drilling and milling.

Collet Size: REGO-FIX® ER11
Output: 1:3 Speed
Max Speed: 15000 RPM

TSU-S206-RSE-005-3X

High Speed spindle attachment for positions T31, 32, 33 or 34 in Tsugami S206 Machines. Enables faster micro drilling and milling. Uses lower Static tool position for mounting.



Collet Size: REGO-FIX® ER11
Output: 1:3 Speed
Max Speed: 15000 RPM

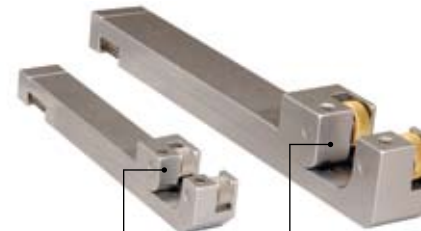
Suggested Accessories



28mm head diameter **Swiss-Type Rotary Broach Holder**

Part No.	Shank Size
RBH-2160-254-120	1" Diameter
RBH-2160-220-100	22mm
RBH-2160-200-100	20mm

Easy Setup, No Center Indicating Required.
*Additional Shank Sizes on Page 5.
*See Pages 8-9 for available broach tools.



Max. stock size: .394"

Max. stock size: .750"

Compact Straddle Knurl Holder

Part No.	Shank Size
KHS-2BPR-375.1	3/8"
KHS-2EPR-500.3	1/2"
KHS-2EPR-625.3	5/8"

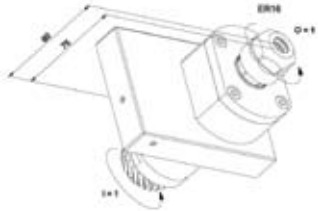
*Additional Information on page 92
*Knurl die selection shown on page 95

Attachments for ECAS20

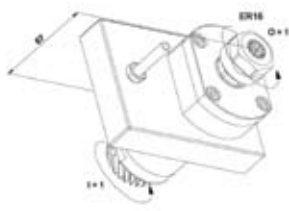
STA-E20-GSC-3X

High Speed 3X output ER11 cross drill live spindle for the ECAS20/32 Machines

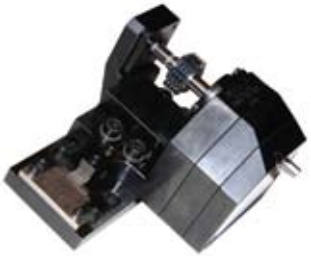
Collet Size: (1) ER11
Output: 1:3 Speed
Max Speed: 15000 RPM



STA-E20C-110-IK
ER16 Spindle w/ thru-coolant



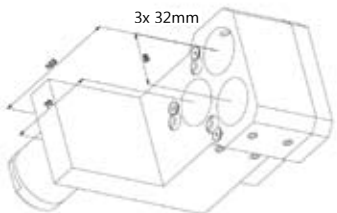
STA-E20C-110K
ER16 Spindle w/ external coolant



STA-E20-RSH-080
Hobbing Attachment for Ø24mm hobs
+/- 5 degree angle adjustment



STA-E20-WI-U09.1
Thread Whirling Attachment
+/-10 degree angle adjustment



STA-E20C-901-AR - Triple ID Tool Holder
Holds (3) 32mm Shank Tool Holders

For SR20/32



STA-SR20J-W20 & SR20J-GS
Whirling Spindle with 1:1 gearing
+/-20 degree helix angle adjustment
Includes drive plug for adjacent station

For SV32

STA-SV32-TSC-210

Double ER16 live spindle for the turret of the SV32 Machine.

Collet Size: (2) ER16
Output: 1:1 Speed
Max Speed: 5000 RPM



Backworking Holders - SR series



CQS-STBW1600
ER16 w/ coolant port



CQS-STBW1609
ER16 Extended



CQS-STBW0500
.500" ID bore



CQS-STBW2000
ER20 w/ coolant port



CQS-STBW1605
ER16 Short

For use with "Quick Change" system. See pages 106 & 107

Swiss-Type Rotary Broach Holder

Part No.	Shank Size
RBH-2160-160-038	16mm
RBH-2160-220-100	22mm

*See Pages 8-9 for available broach tools.



Compact Straddle Knurl Holder


Part No.	Shank Size
KHS-2BPR-375.1	3/8"
KHS-2EPR-500.3	1/2"
KHS-2EPR-625.3	5/8"

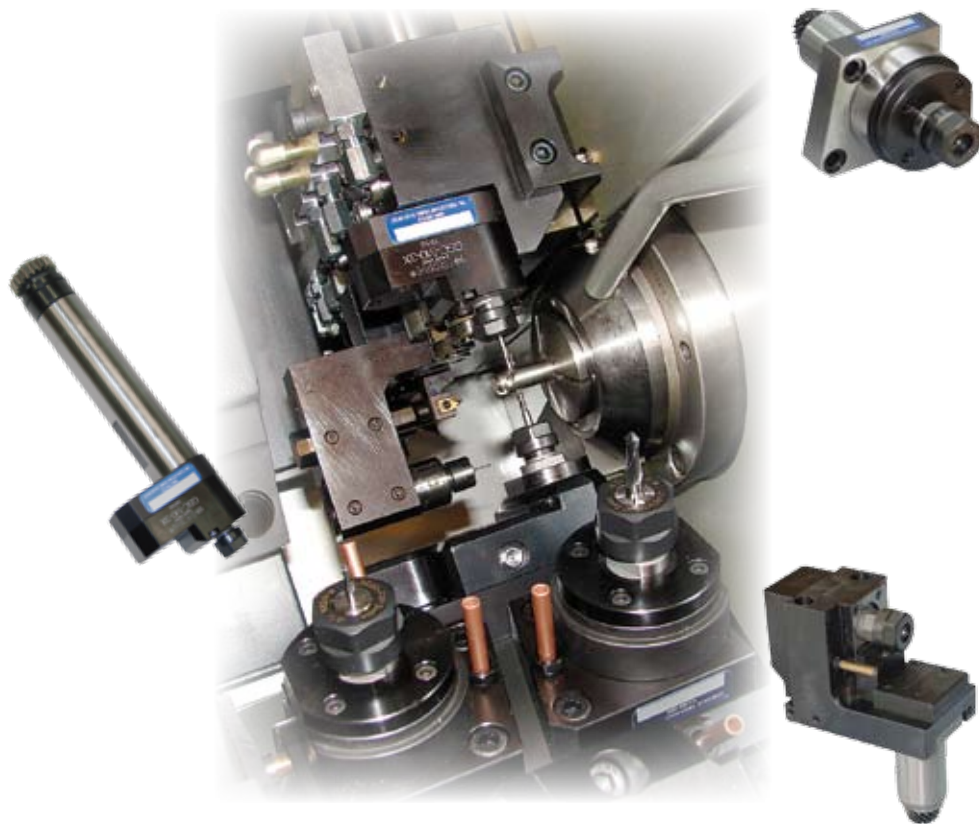


Max. stock size: .394"

Max. stock size: .750"

Tool Holders & Spindles for Citizen-Cincom Machines

Spindles and Tool Holders are
Precision Manufactured in Switzerland by 



Directory of Citizen Tools

A20/32

- High Speed & Z-axis Spindles for A20VII Page 134
- High Speed & Z-axis Spindles for A32VII Page 135

K16

- Live Spindles Page 136-137
- Thread Whirling Spindle Page 137

C16

- HIGH SPEED Spindles & Live Tooling Page 138
- Thread Whirling Spindle Page 139
- Gang Mounted Static ID Tool Blocks Page 141

L20/32 & L25*

- QUINBLOCKS - Adds 10 Tools (L20 ONLY) Page 147
- HIGH SPEED Spindles & Live Tooling Page 148-150
- Thread Whirling Spindles Page 150

*with modification

M12/16

- HIGH SPEED Spindles & Live Tooling Page 138
- Turret Mounted Live & Static Tooling Page 142-146
- Thread Whirling Spindles Page 139 & 144

M20/32 & M20-Y/32-Y

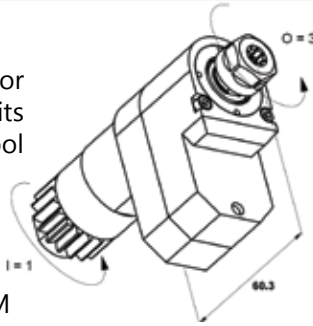
- HIGH SPEED Spindles & Live Gang Slide Tooling Page 147
- Turret Mounted Live & Static Tooling Page 151-157
- Thread Whirling Spindles Page 150 & 154



CIT-BSC510-3X

High Speed X-axis spindle for cross drilling and milling. Fits directly into the modular tool position.

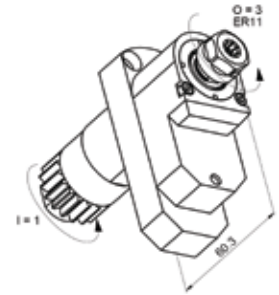
Collet Size: ER 11
Output: 1:3 Speed
Max Speed: 18,000 RPM



CIT-BSC610-3X

High Speed X-axis spindle for cross drilling and milling. Fits directly into the modular tool position.

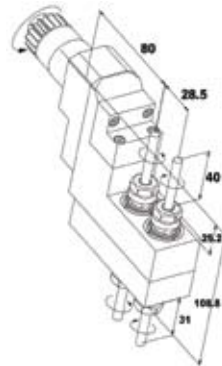
Collet Size: ER 11
Output: 1:3 Speed
Max Speed: 15,000 RPM
GSC-1110 ER16 Units with 1:1 Gearing Available



CIT-BSE2007-DE

Double ended, Double Z-axis spindle for face drilling and milling operations on main and subspindle.

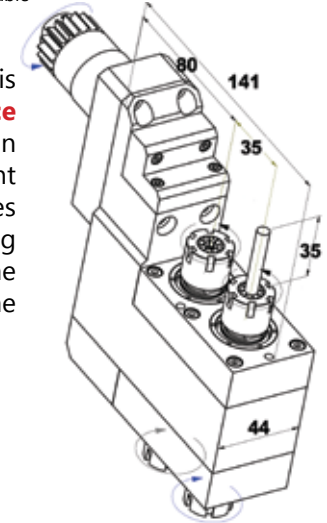
Collet Size: (4) ER11
(Double Ended)
Output: 1:1 Speed
Max Speed: 6000 RPM



CIT-BSE3207-DE

Double ended, Double Z-axis spindle for **light duty face drilling** operations on main and subspindle. Both front and back facing spindles rotate independently, enabling simultaneous work on the guidebushing side as well as the subspindle.

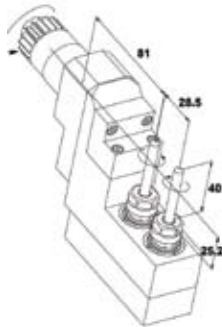
Collet Size: (4) ER16
(Double Ended)
Output: 1:1 Speed
Max Speed: 5000 RPM



CIT-BSE207

Double Z-axis spindle for face drilling and milling operations at the main spindle.

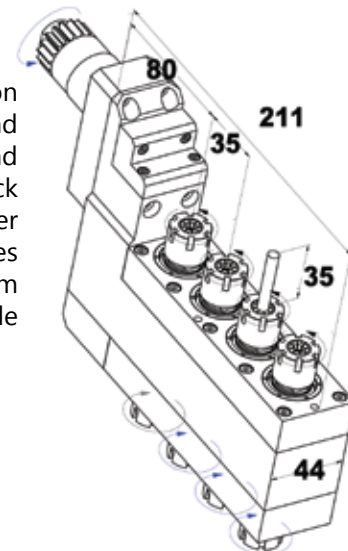
Collet Size: (2) ER11
Output: 1:1 Speed
Max Speed: 6000 RPM



CIT-BSE3208-DE-III

Double ended, 8 position Z-axis spindle for drilling and milling operations on main and subspindle. Both front and back facing spindles rotate together and rotation direction alternates from each position. Can perform work on the guidebushing side as well as the subspindle.

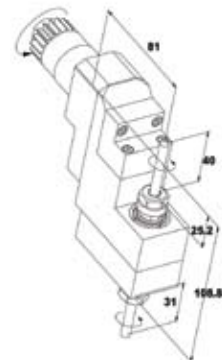
Collet Size: (8) ER16
(Double Ended)
Output: 1:1 Speed
Max Speed: 5000 RPM



CIT-BSE107-DE

Double ended Z-axis spindle for face drilling and milling operations on main and subspindle

Collet Size: (2) ER 11
(Double Ended)
Output: 1:1 Speed
Max Speed: 6000 RPM

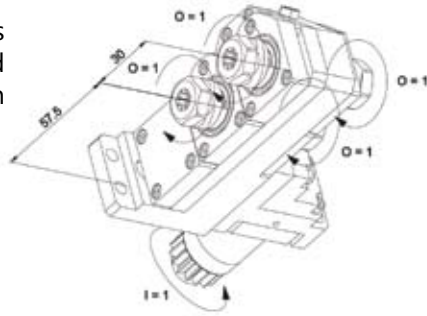


Accessories for Citizen K16 Machines



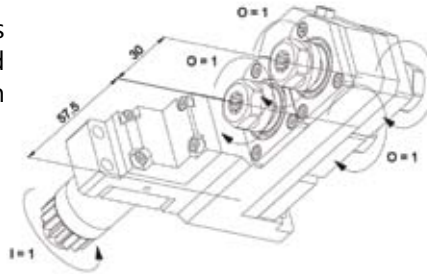
CIT-GSE2007-DE
Doubleended, Doublez-axis spindle for face drilling and milling operations on main and subspindle.

Collet Size: (4) ER11
Output: 1:1 Speed
Max Speed: 6000 RPM

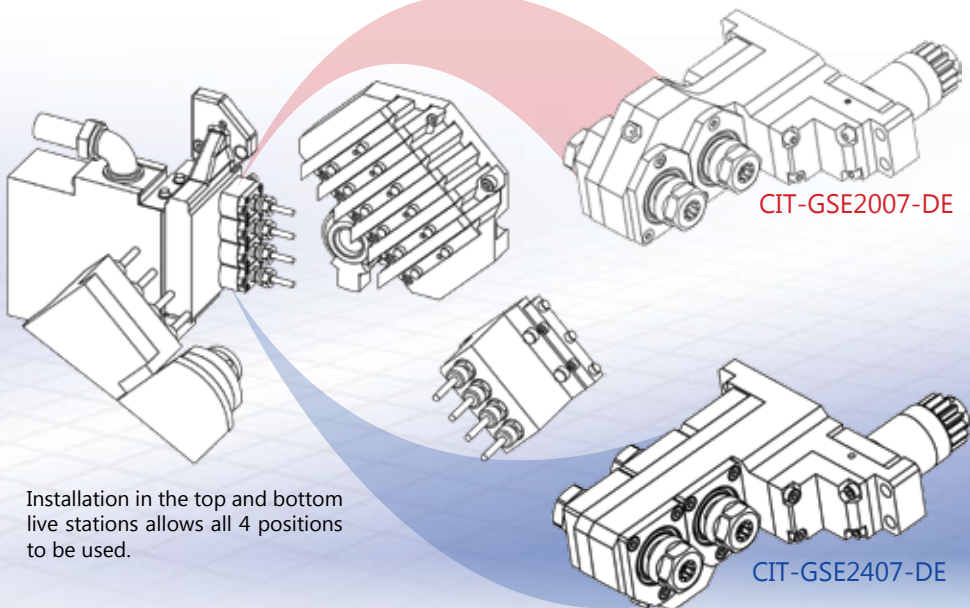


CIT-GSE2407-DE
Doubleended, Doublez-axis spindle for face drilling and milling operations on main and subspindle.

Collet Size: (4) ER11
Output: 1:1 Speed
Max Speed: 6000 RPM



Add up to (8) eight live end working positions to the K16 Machine by combining The GSE2007-DE and GSE2407-DE.



Installation in the top and bottom live stations allows all 4 positions to be used.

CIT-GSE2007-DE

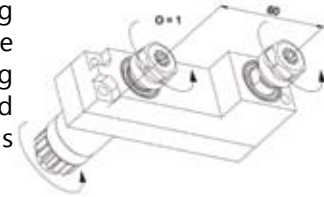
CIT-GSE2407-DE

Accessories for Citizen K16 Machines



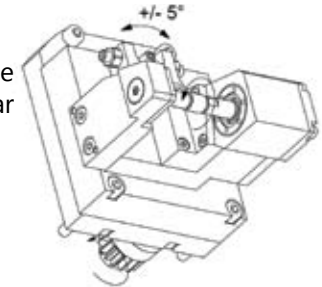
CIT-GSC860
Double cross drilling/milling spindle. Features subspindle facing tool station enabling greater part complexity and adds machine applications flexibility.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6000 RPM



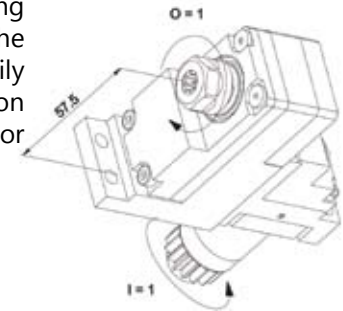
CIT-GSH-035
Hobbing spindle for the generation of small gear teeth.

Arbor: 3.5mm dia.
Output: 1.5:1 Speed
Max Speed: 4,000 RPM



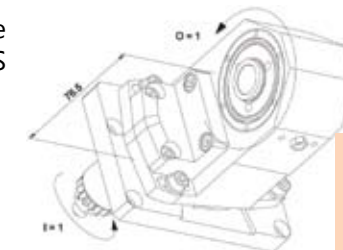
CIT-GSE2207
z-axis spindle for face drilling and milling operations on the sub-spindle side only. Easily installed to live tool position without modifications or retrofitting.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6000 RPM

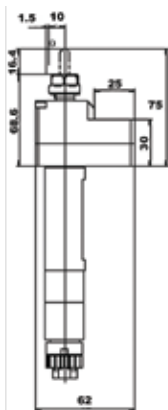


CIT-GSW101-U9
Thread whirling spindle including 9 Insert UTILIS cutter ring

Cutter Ring: 9 Insert
Output: 1:1 Speed
Max Speed: 6000 RPM
Helix Angle: +/- 15°
Max Thread Ø: ~6mm



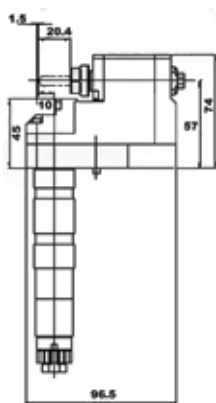
Gang Slide Tooling



CIT-GSC-607-2X
High Speed X-axis spindle designed for cross drilling and milling.

Collet size: ER11
Output: 2X
Max Speed: 16,000 RPM

Directly replaces a standard OEM spindle. No special interface or retrofitting is required.



CIT-GSE-507-2X
High Speed Z-axis spindle designed for face drilling and milling.

Collet Size: ER11
Output: 2X
Max Speed: 16,000 RPM
Max Drill Depth: .625"

Directly replaces a standard OEM spindle. No special interface or retrofit is required.

CIT-GSE-507DE - Double Ended Z-axis spindle
Collet Size: ER11 Main / ER8 Sub
Output: Standard 1:1 gearing
Max Speed: 8,000 RPM
Max Drill Depth: .625"

CIT-GSE-507 - Single Ended Z-axis spindle
Collet Size: ER11
Output: Standard 1:1 gearing
Max Speed: 8,000 RPM
Max Drill Depth: .795"

CIT-GSE-508 - Single Ended Z-axis spindle
Collet Size: ER11
Output: Standard 1:1 gearing
Max Speed: 8,000 RPM
Max Drill Depth: 1.187"

Gang Slide Tooling



+/- 9° helix adjustment



UTILIS 9 or 12 Insert Ring



Standard 3 Insert Ring

CIT-LSW-424-U12.1
Thread whirling spindle including insert UTILIS cutter ring

Cutter Ring: 9 or 12 Insert
Output: 1:1 Speed
Max Speed: 8000 RPM
Helix Angle: +/- 9° Adjustment
Max Thread Ø: ~11mm

CIT-LSW-424
Thread whirling spindle including cutter ring assembly for use with circular form inserts.

Cutter Ring: 3 Form Inserts
Output: 1:1 Speed
Max Speed: 8000 RPM
Helix Angle: +/- 9° Adjustment
Max Thread Ø: ~6mm

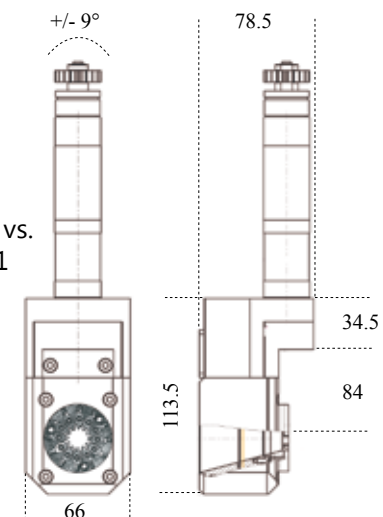


- Provides excellent surface finish
- Decreases cycle times
- Cuts close to guide bushing for support
- Features 1:1 gear ratio for higher output vs. other thread whirling units that run at 2:1

IMPORTANT:
Takes up 2 positions on the live tool gang slide

When used on a Citizen C16 Type VII, simultaneous subspindle work cannot be performed due to existing crash interference.

For additional Thread Whirling Information, see pages 24 & 25



Gang Slide Tooling



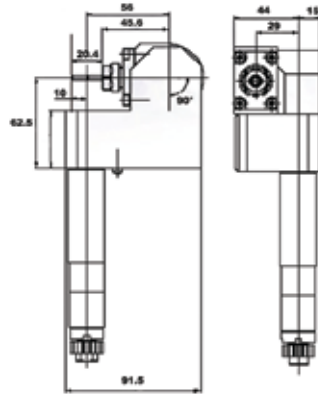
CIT-GSA-407

Adjustable angle spindle with high speed capabilities.

Collet Size: ER11
Output: 2.5X
Max Speed: 20,000 RPM

Takes up 2 live tooling positions

Cannot be used on C16 machines



Gang Slide Tooling

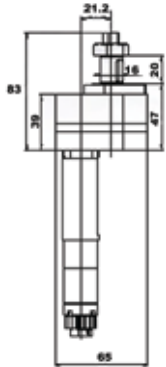
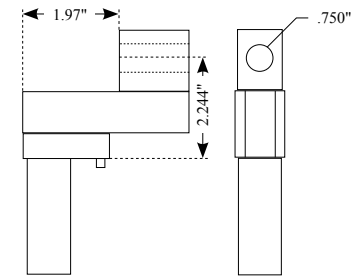


CIT-GDF901

Single Position ID Tool Holder

Bore Size: 3/4"
Max Drill Depth: ~1.97"

Replaces a live tool position for added ID working capability.



CIT-GSS250

Slotting saw spindle for performing axial slotting and grooving operations.

Arbor Size: 16mm
Max Saw OD: 50mm
Output: 2:1 for added torque
Max Speed: 4000 RPM

Program speed is calculated by doubling the desired cutter speed.

**Tool Spindle occupies 2 live tool positions

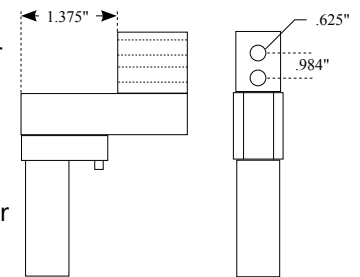


CIT-GDF902

Double Position ID Tool Holder

Bore Size: 5/8"
Max Drill Depth: ~1.375"

Replaces a live tool position for added ID working capability.



Suggested Small Tooling



REGO-FIX ER Collets
See page 108



Hex Broaches
See pages 8-9



Collet Sleeves
See pages 100-107

EXPERIENCE & QUALITY

by



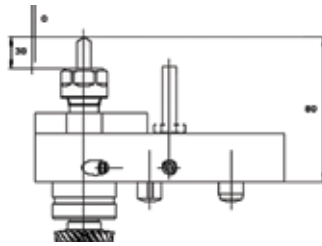
Turret Tooling



CIT-MSC-106K

Live x-axis spindle for cross drilling and milling operations.

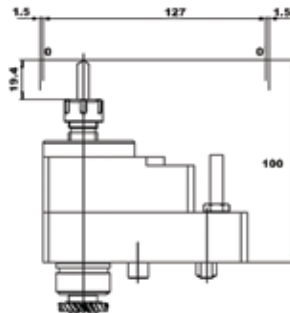
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6500 RPM



CIT-MSC-106-K2X

High Speed live x-axis spindle for cross drilling and milling operations.

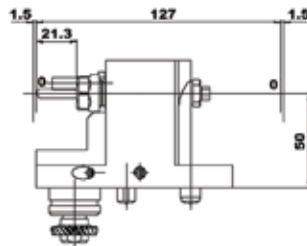
Collet Size: ER11
Output: 2X
Max Speed: 13,000 RPM



CIT-MSE-106-K2X

High Speed live z-axis spindle for end drilling and milling operations.

Collet Size: ER11
Output: 2X
Max Speed: 13,000 RPM
Max Drill Depth: .787"



CIT-MSE-106-K

Live z-axis spindle for end drilling and milling operations.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6,500 RPM
Max Drill Depth: .787"

CIT-MSE-306

Live z-axis spindle for end drilling and milling operations.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6,500 RPM
Max Drill Depth: 1.25"

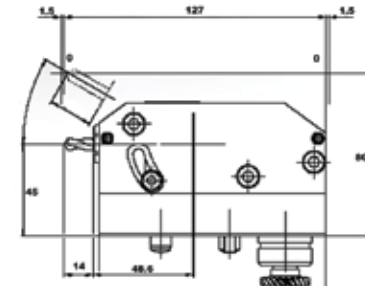
Turret Tooling



CIT-MSA-103

Adjustable angle spindle with 0°-30° adjustment.

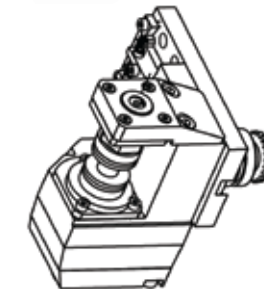
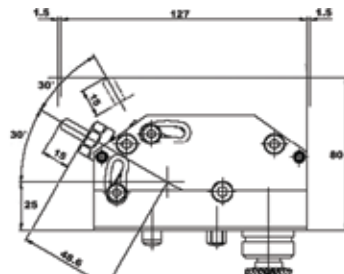
Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6500 RPM



CIT-MSA-203

Adjustable angle spindle with 30°-90° adjustment.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 6500 RPM

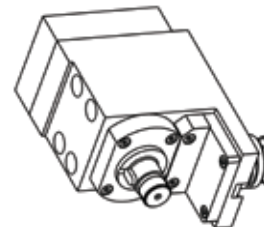
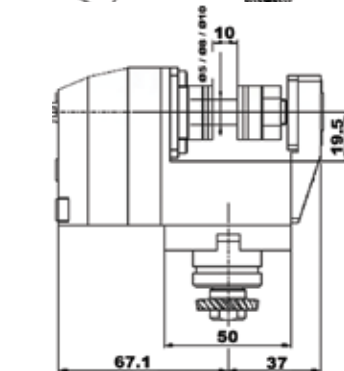


CIT-MSH-132

Live gear hobbing spindle

Angle: +/- 3° Adj.
Output: 3:1 Speed
Max Speed: 2165 RPM

Available with 5, 8 & 10mm spindles

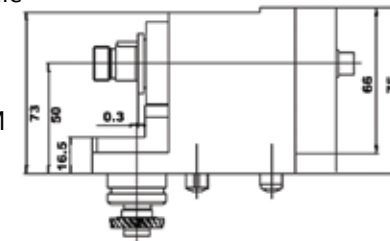


CIT-MSP-106

Live polygon milling spindle

Max cutter size: 32x16mm
Output: 3:1 Speed
Max Speed: 2165 RPM

Capable of milling regular symmetrical polygons.



Turret Tooling



CIT-MSW-101-U12.1

Whirling unit with high performance thread whirling ring from UTILIS.




Cutter Ring: 9 or 12 Insert UTILIS
 Output: 2:1 Speed
 Max Speed: 3250 RPM
 Helix Angle: +/- 10° Adjustment
 Max Thread Ø: ~11mm

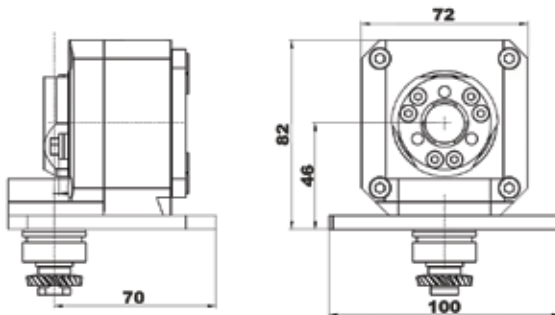
CIT-MSW-101

Whirling unit with standard 3 insert cutter ring assembly for circular form inserts.

Cutter Ring: 3 Form Inserts
 Output: 2:1 Speed
 Max Speed: 3250 RPM
 Helix Angle: +/- 10° Adjustment
 Max Thread Ø: ~6mm



-  Faster than single point turning
-  Create threads in a single pass
-  Provides excellent surface finish



Turret Tooling

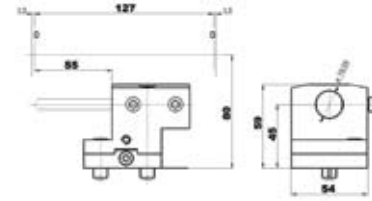


CIT-VDF101R

Tool Holder for ID work with center height adjustment

Bore Diameter: .750"
 Max Drill Depth: 2.125"
 Adjustment: +/- 1mm

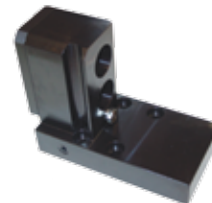
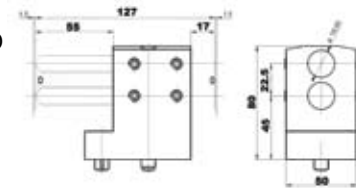
*VDF101 also available without center adjustment feature
 ** Bore centerline location varies from OEM Holders



CIT-VDF401

Double Tool Holder for ID work on the turret.

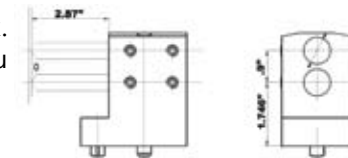
Bore Diameter: .750"
 Max Drill Depth: 2.125"



CIT-VDF4001

Double Tool Holder for ID work. Features coolant delivery (thru & external)

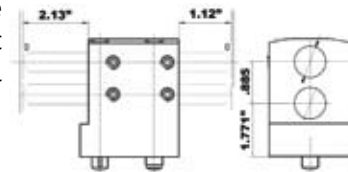
Bore Diameter: .750"
 Max Drill Depth: 2.87"



CIT-VDF4002

Double Tool Holder for ID work. Can be used for subspindle operations. Features coolant delivery capability (thru & external)

Bore Diameter: .750"
 Max Drill Depth: 2.13" Main
 1.12" Sub



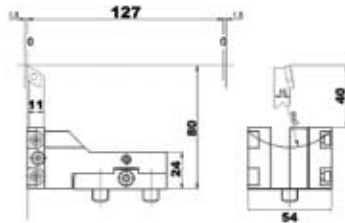
Turret Tooling



CIT-VTF110R-AR

Adjustable turning holder. Can be reversed for subspindle turning. Also features coolant delivery ports.

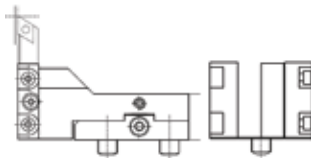
Shank Diameter: 10mm sq.
Adjustment: +/- 1mm



CIT-VTF1012

Adjustable turning holder with coolant delivery ports.

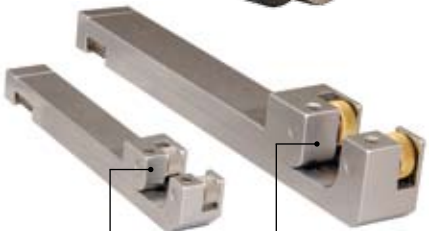
Shank Diameter: 1/2" Square
Adjustment: +/- .040"



Swiss-Type Rotary Broach Holder

Part No.	Shank Size
RBH-2160-254-120	1" Diameter
RBH-2160-190-100	3/4" Diameter
RBH-2160-158-038	5/8" Diameter

*See Pages 8-9 for available broach tools.



Compact Straddle Knurl Holder

Part No.	Shank Size
KHS-2BPR-375.1	3/8"
KHS-2EPR-500.3	1/2"
KHS-2EPR-625.3	5/8"

Max. stock size: .394" Max. stock size: .750"

GenBore® 3 Position ID Tool Holder

Part No.	Shank Size
GBH-000-200.625.1-CS	1/2" w/ shim for 5/8"

*Mounts to 1/2" or 5/8" Gang slide turning station



QuinBlocks



Maximize Productivity on your Citizen L20 Machines



- No modification required for installation
- Adds up to 10 ID tool positions
- Ideal for parts with complex internal work
- Enhances the capabilities of the L20 machine

The quinblock set is designed to affix directly to the standard 3+3 ID tool stations which is standard equipment on most L20 Citizen Machines with no modification to the machine. Ten (10) ER 11 Collet sleeves are included with each Quinblock set and allow a maximum tool diameter of .236".

Once initial setup is complete, it is possible to use the unit as a 'quick-change' holder to quickly setup and break down 10 tools. Multiple blocks can be set up and stored with tooling ready to run, decreasing the amount of time a machine spends idle.

Part No.	Stations	Collet Sleeves	Machine Model
CIT-QB5P5-L520	5 Front Working 5 Back Working	(10) ER11 Included	L5-20 or Higher

Gang Slide Tooling



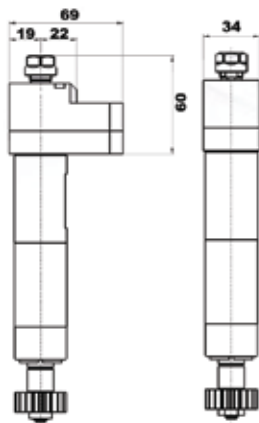
CIT-GSC510-3X

High Speed X-axis spindle designed for cross drilling and milling.

Collet size: ER11
Output: 3X
Max Speed: 15,000 RPM*

Directly replaces a standard OEM spindle. No special interface or retrofitting is required for installation.

*Some machines may only be able to attain 13,500 RPM



Gang Slide Tooling



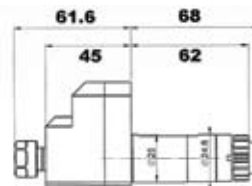
CIT-GSC204-3X

High Speed X-axis spindle designed for cross drilling and milling in Citizen L20 VII Machines

Collet size: ER11
Output: 3X
Max Speed: 15,000 RPM

Directly replaces standard OEM spindles in tool positions T06 & T07
No special interface or retrofitting is required for installation.

*Can be used as a Z-axis spindle when used with Citizen's U151B live end working fixture (except for L20 Type IX)



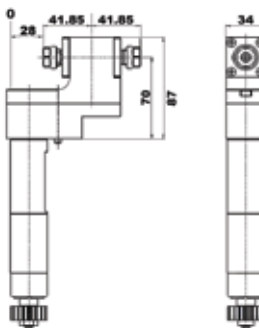
CIT-GSE306-DE312-3X

High Speed double ended Z-axis spindle designed for end drilling and milling.

Collet size: ER11
Output: 3X
Max Speed: 15,000 RPM*

Directly replaces a standard OEM spindle. No special interface or retrofitting is required for installation.

*Some machines may only be able to attain 13,500 RPM

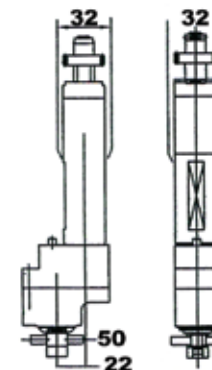


CIT-GSS510

Slitting Saw Spindle designed for axial slotting operations.

Arbor Size: 13mm
Max Saw Dia: 50mm
Output: 1:1
Max Speed: 5000 RPM

May occupy two tool positions depending on saw diameter used.



CIT-GSE306-SE312-3X

High Speed single ended Z-axis spindle designed for end drilling and milling.

Collet size: ER11
Output: 3X
Max Speed: 15,000 RPM*

CIT-GSE306-L520

Standard speed single ended Z-axis spindle designed for end drilling and milling.

Collet size: ER11
Output: 1:1
Max Speed: 5000 RPM

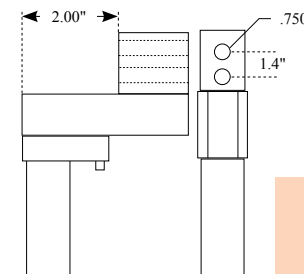


CIT-GDF702

Double ID Collet Sleeve Holder. Installs into (1) live milling spindle position.

Bore Diameter: 3/4"
Max Drill Depth: ~2.00"
Positions: 2

Features optional coolant thru capability. Can also be used with high pressure coolant delivery systems.



Gang Slide Tooling



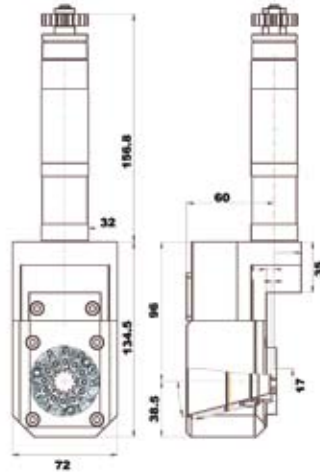
CIT-LSW-215-U12.1

Thread whirling spindle including insert UTILIS cutter ring

- Cutter Ring: 9 or 12 Insert
- Output: 1:1 Speed
- Max Speed: 5000 RPM
- Helix Angle: +/-15° Adjustment
- Max Thread Ø: ~12mm



UTILIS 12 Insert Ring



CIT-BTW-1000-U09.1

Ideal for the most extreme of thread whirling applications. High helix angle adjustability enables double-lead thread whirling as well as single-lead high helix angle whirling.

- Cutter Ring: 9 Insert
- Output: 1:1 Speed
- Max Speed: 5000 RPM
- Helix Angle: +/- 25° Adjustment
- Max Thread Ø: ~12mm



Turret Tooling



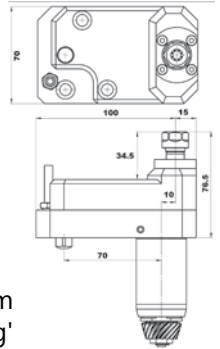
CIT-KSC-DEC 10x3

Live High Speed x-axis spindle for cross drilling and milling operations.

- Collet Size: ER11
- Output: 3X
- Max Speed: 15000 RPM



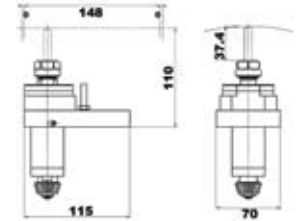
Spindle centerline is 15mm from guidebushing, enabling 'pinch milling' operations between turret and gang tooling.



CIT-KSC110-K

Live x-axis spindle for cross drilling and milling operations. Includes coolant delivery port

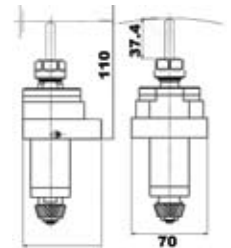
- Collet Size: ER16
- Output: 1:1 Speed
- Max Speed: 5000 RPM



CIT-KSC110-K-ER

Live x-axis spindle for cross drilling and milling operations. Includes coolant delivery port.

- Collet Size: ER16
- Output: 1:1 Speed
- Max Speed: 5000 RPM



Short base design enables use of (2) KSC110-K-ER spindles on a single turret station for increased live tooling capacity.



Turret Tooling



CIT-KSC510

Double x-axis spindle for cross drilling and milling operations on M20-Y & 32-Y Machines

Collet Size: (2) ER16
Output: 1:1.462 Speed
Max Speed: 5000 RPM

CIT-KSC510-10 - Double cross spindle with 10mm offset for pinch mill operations also available.

CIT-KSA307 & CIT-KSA407

Angular adjustment spindle for drilling and milling angled features.

Collet Size: ER11
Output: 1:1 Speed
Max Speed: 5000 RPM
Adjustment: 0-30° (KSA307)
30-90° (KSA407)

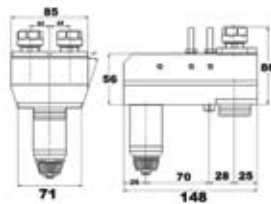
Designed for M20 & M32 Machines with Y-axis capability.

CIT-KSE110KAI

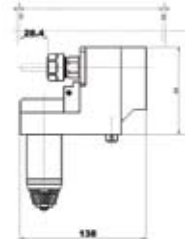
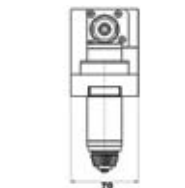
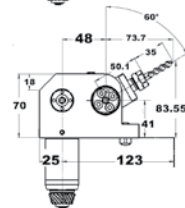
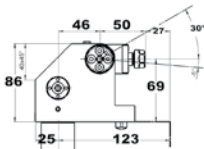
Z-axis spindle for end drilling and milling. Features Thru-Coolant capability.

Collet Size: ER16
Output: 1:1 Speed
Max Speed: 5000 RPM
Max Drill Depth: ~26mm

NEW - Triple-Bearing design withstands greater radial forces during milling operations.



*Note: Rotation direction is the same as standard KSC-110 (Reverse of OEM KSC510)
**Coolant available on main spindle side only



Turret Tooling

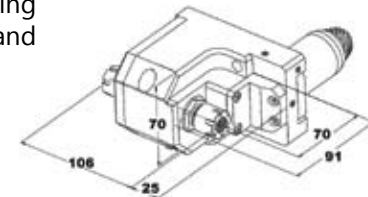


CIT-KSE110-DE

Double ended z-axis spindle for face drilling and milling operations on main and subspindle.

Collet Size: (2) ER16
Output: 1:1 Speed
Max Speed: 5000 RPM

Features coolant delivery port.

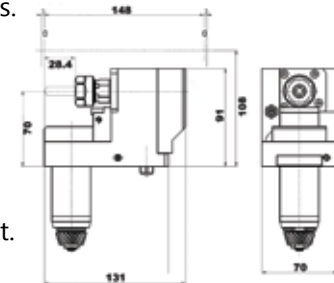


CIT-KSE110-2X

High Speed z-axis spindle for face drilling and milling operations.

Collet Size: ER16
Output: 2X
Max Speed: 10000 RPM
Max Drill Depth: ~26mm

Features coolant delivery port.

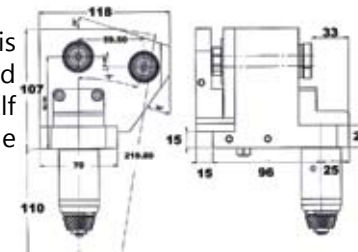


CIT-KSE250-KAI-2X

High Speed Double z-axis spindle for face drilling and milling operations. Utilizes half station index feature to enable use of second tool spindle.

Collet Size: ER16
Output: 2X
Max Speed: 10000 RPM

Features thru-coolant capability on main tool spindle. Both positions are 2X speed.



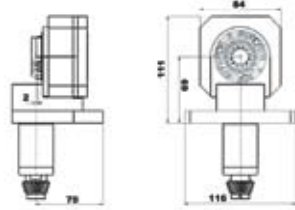
Turret Tooling



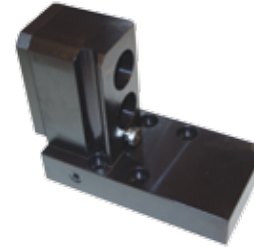
CIT-KSW-101-U12.1

Thread whirling spindle including 9 or 12 insert UTILIS cutter ring

Cutter Ring: 9 or 12 Insert
 Output: 2:1 Speed
 Max Speed: 2500 RPM
 Helix Angle: +/-10° Adjustment
 Max Thread Ø: ~12mm

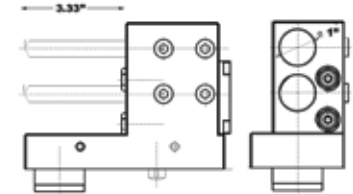


Turret Tooling



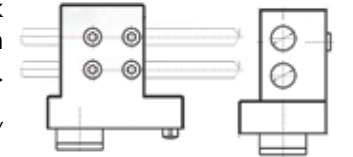
CIT-CDF4001

Coolant fed double ID tool holder. Holds (2) 1" shank collet sleeves. Max tool length = 3.33". Suitable for use with High-Pressure coolant systems. *Unable to use both positions on M32-Y machines due to lack of x-axis stroke.



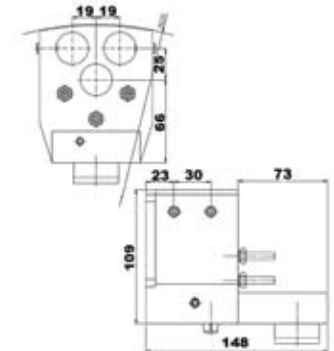
CIT-CDF4002

Coolant fed double ID tool holder for front and back working operations. Use with double ended collet sleeves. Uses (2) 1" sleeves. *Unable to use both positions on M32-Y machines due to lack of x-axis stroke.



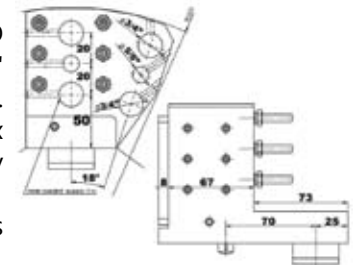
CIT-CDF901-AR

Coolant fed three position ID tool holder. Uses (3) 1" collet sleeves. Designed for M-series machines with Y-axis control. Max tool length = 2.8" *Higher Accuracy than OEM Holders



CIT-CDF905-AR

Coolant fed six position ID tool holder. Features (4) 3/4" positions & (2) 1/2" positions. Utilizes the turret half-index feature to access secondary tool positions. *Unable to use lower positions on Y-Axis machines.

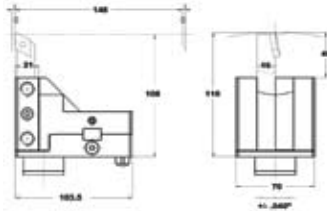


Turret Tooling (Static)



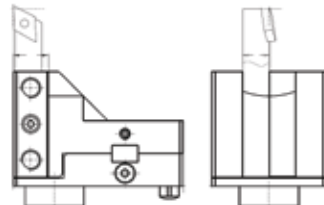
CIT-CTF116-AR

Adjustable center height turning holder for 5/8" square shank turning tools. Center height can be adjusted +/- .040" via set screws. Reversible design enables usage on subspindle applications.



CIT-CTF2019

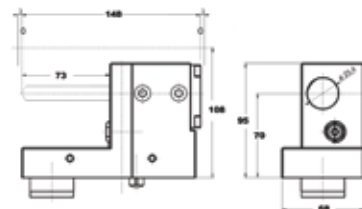
Adjustable center height turning holder for 3/4" square shank turning tools. Center height can be adjusted +/- .040" via set screws. Also features coolant delivery port.



CIT-CDF101-AR

Thru-Coolant single ID position tool holder. Has (1) 1" tool bore for collet sleeves or tool holders.

*Higher Accuracy than OEM Holders

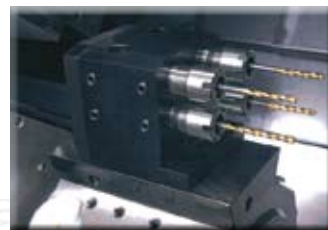


Turret Tooling



CIT-CDF9000 Modular ID Tool Holder System
 Designed for the Citizen M32 Y-axis machine, the CDF9000 Modular ID tool holder system allows for multiple configurations of tool positions.

All blocks feature thru-coolant capability as well as coolant delivery via two external ports.



- | | | |
|---------------------|-----------------------|-----------------------|
| CDF9003 | CDF9005 | CDF9004 |
| (3) Tool Positions | (5) Tool Positions | (4) Tool Positions |
| Shank Diameters: 1" | Shank Diameters: 3/4" | Shank Diameters: 3/4" |

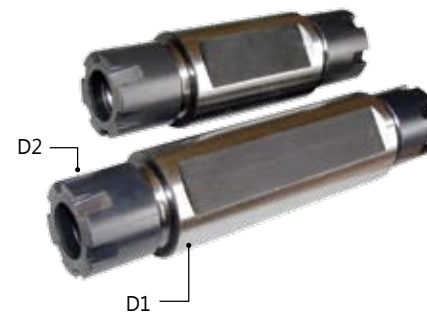
All modular tool blocks can be used facing main or subspindle.
 45mm from holder face to tool tip when in forward position
 75mm from holder face to tool tip when in back position.



Swiss-Type Rotary Broach Holder

Part No.	Shank Size
RBH-2160-190-100	3/4" Diameter
RBH-2160-254-120	1" Diameter

Easy Setup, No Center Indicating Required.
 *Additional information on Page 5.
 *See Pages 8-9 for available broach tools.



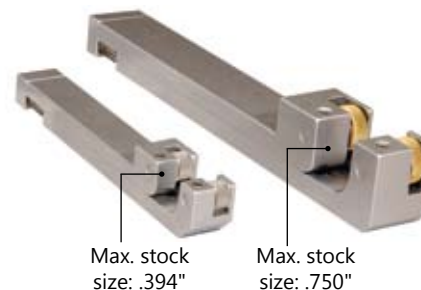
Swiss Precision Collet Sleeves

Single Ended 1" Shank Sleeves

Part No.	Collet	D1	D2	OAL
CS-16P-254-080	ER16	1.00"	22mm	4.0"
CS-16P-254-100	ER16	1.00"	22mm	5.0"
CS-16P-254-130	ER16	1.00"	22mm	6.0"
CS-20B-254-050C	ER20	1.00"	28mm	3.0"
CS-20B-254-085C	ER20	1.00"	28mm	4.0"

Double Ended 1" Shank Sleeves

Part No.	Collet	D1	D2	OAL
CS-16P-254-085D	ER16	1.00"	22mm	3.0"
CS-16P-254-120D	ER16	1.00"	22mm	4.75"



Compact Straddle Knurl Holder

Part No.	Shank Size
KHS-2BPR-375.1	3/8"
KHS-2EPR-500.3	1/2"
KHS-2EPR-625.3	5/8"

GenBore® 3 Position ID Tool Holder

Part No.	Shank Size
GBH-000-500.625.1-CS	1/2" w/ shim for 5/8"

*Mounts to 1/2" or 5/8" Gang slide turning station



Prices All prices are in U.S. dollars and subject to change without notice. Unless otherwise stated, all quotations will expire thirty days from the date of issue. Sales tax due is the responsibility of the consumer and payable as State regulations require.

Credit Credit approval for new accounts may take approximately 2-3 weeks after receipt of the signed Terms & Conditions Agreement and application information. GSI reserves the right to refuse credit based upon changes made by the customer to our standard Terms and Conditions. GSI reserves the right to change or deny credit at any time based upon late payments or changes to your D&B rating.

Payment Upon credit approval, invoices are payable within GSI established terms. Interest will be charge on overdue accounts at 1.5% per month, 18% per annum. Returned checks will incur a \$50 charge. Credit Card payments are due when the item ships. Credit card payments made after 30 days of invoice or later are subject to a 2.75% fee.

Shipping All freight and packing cost will be paid by the customer and shown separately on the invoice. Shipments will be insured at value and included in the shipping cost. A 20% packing fee may be added to the shipping cost at the discretion of GSI. All shipments are FOB Westfield Massachusetts.

Warranty Products are covered by the original manufacturer warranty where applicable. PCM Tool Holders are guaranteed for a period of 12 months or 2000 hours which ever comes first to be free of material defect or poor workmanship. A copy of the full PCM guaranty is available upon request.

Cancellation Cancelled orders and items returned for credit will incur a minimum \$15.00 process charge or up to 20% cancellation or restocking charge. Special orders can not be returned.

Returns We will replace or accept for return items that are not what was ordered or are found to be defective. Claims must be submitted within 30 days and will not be accepted without an approved Return Authorization Form. Items must be returned in new condition and properly packaged. Returned items that are damaged, used or are missing parts may be refused for return or subject to repair charges and restocking charge. Any credit due will be issued as a merchandise credit and applied towards future purchases.

Collection In the event of non-payment within the terms, the customer will be responsible for all collection and attorney costs incurred by the seller in connection with any delinquent account.

Disputes Disputes and litigations arising from the sale of goods shall be governed exclusively by Massachusetts law and venue subject to the Court of Hampshire County, Massachusetts.



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